

# **Western Australian Year Book 1972**

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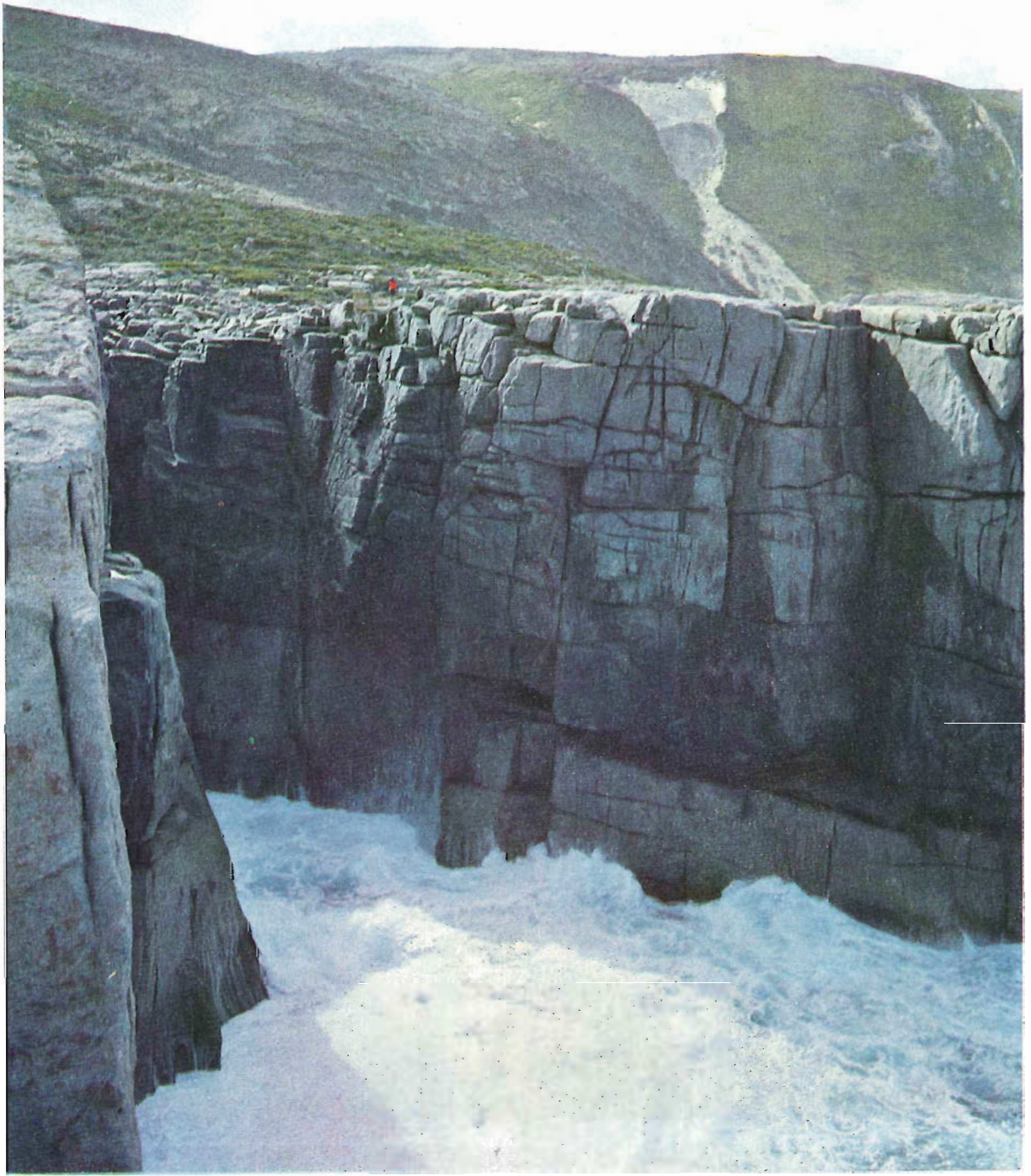
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COMMONWEALTH BUREAU OF CENSUS AND STATISTICS  
WESTERN AUSTRALIAN OFFICE

# WESTERN AUSTRALIAN YEAR BOOK

No. 11 - 1972

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W. M. BARTLETT

Deputy Commonwealth Statistician and Government Statistician

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## PREFACE

This is the eleventh issue of the new series of the *Western Australian Year Book*. The old series, originally published for the year 1886 and discontinued in 1905, developed from the Blue Books of the Colonial Office, London, which contained the earlier statistical records of Western Australia.

The Year Book provides a general description of Western Australia and includes authoritative information on almost every aspect of life in the State. Together with chapters on social and economic progress, the Year Book includes information on government, geography and climate, vegetation and fauna. Considerable use is made of statistical tables to supplement the descriptive text and where appropriate, diagrams and graphs are also included for illustrative purposes. Each chapter contains the latest information available at the time of manuscript preparation.

Because of the time required for editing and printing the Year Book, later data on a particular topic will often be available in mimeographed publications or on request to the appropriate section of this Office. More detailed statistics on matters treated generally in the Year Book are available in the several publications comprising *Statistics of Western Australia*. The reader is referred to the complete list of publications of the Western Australian Office which is provided at the back of this Book.

The reader's attention is drawn to the information service and library facilities provided by this Office, where all the publications of the Bureau of Census and Statistics are available for reference. Businessmen, manufacturers, primary producers, government authorities, students and the public generally are invited to make full use of these services.

I express my appreciation to the many government officials and others for their part in the preparation of material for this Year Book and to those organisations which made available blocks or photographs used in the illustrations. Special thanks are due to the Editor of Publications, other officers of the Bureau and the Government Printer and his staff for their continued dedication to the Year Book project.

W. M. BARTLETT  
Deputy Commonwealth Statistician  
and  
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1 September 1972

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### ROUNDING OF FIGURES

Many of the figures appearing in the tables have been rounded (to thousands or, in some cases, millions), without making those adjustments which would be needed to make the rounded figures add to the rounded total. It is for this reason that figures do not always add to the totals shown in the tables.

Percentages appearing in the tables have been corrected to the first (or second) place of decimals without making those adjustments which would be necessary to make the percentages so expressed add to precisely 100.

## CHAPTER I—DISCOVERY, COLONISATION AND DEVELOPMENT

### Western Australia—A Historical Survey

*Contributed by B. K. de Garis, M.A. (W.A.), D. Phil. (Oxon.)  
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The earliest inhabitants of Western Australia were the people now known as the Australian Aborigines, a brown-skinned people of medium height and slender build, who migrated to Australia from Southern Asia at least 20,000 years ago. In the absence of animals suitable for domestication or grasses suitable for cultivation, the Aborigines remained a nomadic people dependent on hunting and food collecting and with simple but effective implements made of stone, bone or wood. Nevertheless they had achieved a delicate balance with an extremely harsh environment, and the limitations of their technology were compensated for by an extremely complex and satisfying religious and cultural life.

For many thousands of years the Aborigines occupied Australia in tranquil isolation from the rest of the world. It is likely that Indonesian fishermen and traders, and perhaps some Malays and Chinese, occasionally visited some parts of the continent including the Kimberley coast, but their influence cannot have penetrated far inland. To the developing civilisation in Europe, Australia remained a complete mystery; a hypothetical Great South Land was often drawn in at the bottom of maps of the world, but there was no real evidence for its existence. By the sixteenth century, however, the improvement of shipbuilding and navigational techniques enabled Portuguese and Spanish sailors to explore the Pacific and come close to the north-east coast of Australia. The long period of isolation was nearing an end.

The first Europeans definitely known to have visited the shores of Western Australia were the crew of the tiny Dutch sailing ship 'Eendracht', which in October 1616 explored the area now called Shark Bay. We can speak with certainty about the visit of the 'Eendracht' because its skipper, Dirk Hartog, left behind a pewter dish fixed to a pole and inscribed with the details of the incident. It is possible that other European sailors had reached Western Australia before 1616; indeed there are tantalising fragments of evidence which suggest this, but Hartog and the 'Eendracht' remain the earliest authenticated visitors.

From 1616 onwards, however, Dutch vessels touched on the Western Australian coastline in rapid succession, some, such as the 'Batavia' in 1629 and the 'Vergulden Draeck' in 1656, being wrecked there. All of these visits were largely accidental, being brought about by the strong westerly winds which blew ships engaged in the thriving trade between Holland and the East Indies off their course. One exception to this rule was the visit in 1644 of Abel Tasman, who was sent by the authorities of the Dutch East India Company to explore the north and north-west coasts of the new land about which reports were constantly being received. Tasman named the western end of the continent 'New Holland', but like all the other early visitors he was not very impressed by what he saw of the arid terrain and its aboriginal inhabitants. Thus, although the Dutch had pieced together quite a lot of information about Western Australia by the mid-seventeenth century, they showed no interest in further exploration or settlement.

The first British ship to reach Western Australia was almost certainly the 'Tryal', which in May 1621 was wrecked in the vicinity of the Monte Bello Islands. Two boatloads of the survivors made their way to Batavia. There was no further British activity in the area until 1688 when a group of buccaneers in the 'Cygnet' spent some time on the north-

west coast, beaching their vessels for repairs in King Sound. One of these men was William Dampier, who subsequently published an account of 'New Holland' in a volume called *New Voyage Around the World* which attracted a great deal of attention. The British Government was stirred into outfitting the 'Roebuck' and commissioning Dampier to make a further voyage of exploration. In 1699 Dampier again visited the north-west coast of Australia, from Shark Bay to the Dampier Archipelago, and kept a careful record of all that he saw. On both occasions Dampier, like the Dutch, formed an unfavourable impression of 'New Holland', which he described as dry, sandy, and unsuitable for agriculture. 'The inhabitants of this country' Dampier described as 'the miserablest people in the world', and he held out little hope of profitable trade with them. Such comments did not encourage governments to spend further money on investigation, and for another hundred years there was little activity off the west coast.

In the meantime, Captain James Cook in the 'Endeavour' had in 1770 discovered the east coast of Australia, and his reports about it were much more favourable than those of earlier sailors about the north and west coasts. Cook formally claimed the eastern portion of 'New Holland' for the British Crown and named it 'New South Wales'. Thus it came about a few years later that the British Government, no longer able to send convicts to a newly-independent America and with gaols bursting at the seams, decided to make New South Wales the site for a new penal colony.

In January 1788, Captain Arthur Phillip arrived at Sydney Cove with a party of convicts and marines and the European occupation of Australia had begun, though it was some time yet before Western Australia was colonised, for Phillip's commission as first Governor of New South Wales gave him authority over little more than half the continent. In 1825 Governor Darling's commission was extended beyond that of his predecessors to cover two-thirds of the country, but the western third remained unclaimed territory. However, the colonisation of New South Wales had provided a base for more detailed exploration of Australian coastal waters and by the 1820s the western coast had been extensively charted by two enterprising British naval officers, Matthew Flinders and Philip Parker King, and by French navigators such as Baudin, Hamelin, and Freycinet.

The interest being shown in 'New Holland' by the French alarmed the British Government slightly, and although the area was still not formally claimed for Britain a small military garrison under the command of Major Edmund Lockyer was sent from Sydney to keep out 'trespassers'. On Christmas Day 1826 Lockyer and his party arrived at the majestic anchorage of King George Sound; the tiny and isolated outpost they established there was the first British settlement in Western Australia. This was not intended to be a permanent settlement, but before its abandonment in 1831 a full-scale colony was established several hundred miles up the west coast.

### THE SWAN RIVER COLONY

The British authorities were reluctant to add the trouble and expense of a new and remote colony to their already vast imperial responsibilities, but their hand was forced by a combination of pressures. A naval officer named James Stirling, who was in Australian waters in 1826-27 in command of H.M.S. 'Success', secured permission from Governor Darling to visit the west coast. In March 1827 Stirling spent a fortnight examining the Swan River area, hitherto better known to the Dutch and French than to the British. His report, and that of the New South Wales Government Botanist who accompanied him, spoke in glowing terms about the desirability of establishing a permanent settlement on the Swan, and Stirling offered to lead a party for this purpose. Governor Darling was easily persuaded to endorse the proposal but the British Government firmly rejected it and the scheme might well have ended there had Stirling not been invalided back to London in 1828. Once he had recovered from his illness Stirling lost no time in seeking support for his plan for a Swan River Colony, and he soon aroused the interest of a syndicate of capitalists who were prepared to invest large sums there. Stirling's frequent visits to the Colonial Office, together with his evidence that there was considerable public support for a new colony and recurrent rumours that the French still had designs upon 'New Holland', at last overcame official reluctance.

In November 1828 Captain Fremantle was dispatched in H.M.S. 'Challenger' to take formal possession of the western third of the Australian continent, and this he did on 2 May 1829. In the meantime the Colonial Office had announced that a colony was to be established at the Swan River with Captain Stirling as its first Lieutenant-Governor and that all settlers who arrived there before the end of 1830 would be granted one acre of land for every one and sixpence worth of capital, stock or equipment they took with them, with a further 200 acres for every labourer they took. These grants were to be absolutely free provided that the land was developed within ten years of arrival, though the settlers had of course to meet the expense of transporting themselves, their families and their servants to the Colony.

These were remarkably favourable terms and they caused a great deal of excitement in an England where social status was still largely dependent on landownership and where land was increasingly difficult to obtain. The Colonial Office was bombarded with inquiries about the proposed colony and there were references in the press to 'Swan River Mania'. Many of the inquirers ultimately stayed at home, or went elsewhere but there was no shortage of those who decided to throw in their lot with the new Colony. Perhaps the most famous of the early colonists was Thomas Peel, son of a wealthy Manchester manufacturer and merchant, and cousin of the Tory Prime Minister, Sir Robert Peel. Peel was promised no less than 250,000 acres of land on the south bank of the Swan in return for taking out 450 workmen and sinking his fortune of at least £20,000 in the Colony. Many of the other colonists were ex-naval or military men who could not afford to bring up families in England on the half-pay to which they had been retired after the Napoleonic wars. Others were younger children of the minor gentry and clergy with small expectations at home, or merchants who had amassed a modest fortune and wished to take up land. Such people were attracted to the Swan River scheme not only by the cheap land but because, unlike New South Wales, this was to be a colony for free men and free men only.

Captain Stirling set sail for the Colony in the transport ship 'Parmelia', which was accompanied by H.M.S. 'Sulphur' bearing a detachment of troops under the command of Captain F. C. Irwin. Other officials in the party were J. S. Roe, who was to be Surveyor-General and Peter Brown, the Colonial Secretary. The Colonial Chaplain, Rev. J. B. Wittenoom, followed a few months later. The 'Parmelia' arrived off Rottnest Island on 1 June 1829, followed by the 'Sulphur' a week later, and on 18 June 1829 a Proclamation was read and the Colony officially came into being. However, wet and wintry weather conditions kept the shiploads of settlers who began to arrive, huddled in tents on Garden Island. The name 'Fremantle' was bestowed on a site at the mouth of the Swan River and this was then proclaimed to be the port of the Colony. The choice of a capital was more difficult and several sites were toyed with before a spot at the foot of Mount Eliza, twelve miles up river, was selected. The name 'Perth' was given to the capital, this being the shire represented in the House of Commons by the Secretary of State for Colonies, and the new town was founded on 12 August 1829, with the ceremonial felling of a tree.

The colonists now began to move up to Perth from Garden Island, and by the end of 1829 most of the central blocks had been allocated and occupied. The number of settlers built up with embarrassing speed for twenty-five ships had arrived between June and December and by the end of 1831 the permanent population had reached 1,500. The surveyors could not keep pace with the spate of new arrivals clamouring for immediate land grants, so that the land was occupied most haphazardly and grants allocated with little knowledge of its quality.

In the first instance exploration and settlement was to the south of Perth. Once the land up the river to Guildford had been taken, small settlements were made down the coast at Bunbury and Augusta and on the Vasse River. A party from Perth visited the military outpost at King George Sound, and after that garrison was withdrawn to Sydney in 1831 the area was renamed the Plantagenet District with Albany as its town, and settled by intending farmers. Albany was also important to the infant colony as a port, for it

had a much better harbour than Fremantle and it was also closer to the main shipping route to Sydney. For much of the nineteenth century therefore, most overseas vessels called at Albany and goods and mail were then carried to Perth either overland or in small coastal packets. Another party led by Ensign Dale at length crossed the Darling Range and found good land in the York-Northam-Beverley district and after Stirling had verified this for himself settlement was allowed to spread in this direction also.

Unfortunately the rate of agricultural development was much slower than had been hoped and the first few years of the Swan River Colony were just such a struggle for subsistence as they had been in New South Wales. Few of the colonists were experienced practical farmers. Few had any conception of what Australia would be like or of the difficulties in bringing virgin bush under cultivation. Few had any idea what implements would be needed in the Colony, or how little use they would have for their fine carriages, their pianos and their gracious furniture. Few indeed were accustomed to, or capable of, the manual labour which the shortage of workmen in the Colony soon made imperative. Moreover, many of the workmen who did come to the Colony were little more suited to the pioneering life than their masters, having been recruited from among the paupers of London and other big towns in the south of England.

The delays which occurred in surveying and granting land in the early years added to the problem, as did the poor quality of the soil near Perth and along the coast. Further south where the soil was richer there were dense hardwood forests which were difficult to clear. The best agricultural and pastoral lands of Western Australia lay further inland and to the north and were not opened up for some years. In the meantime many settlers became discouraged and left the Colony. Rumours reached England that the Swan River Colony was a stagnant backwater, a place better avoided, and this discouraged further investment and migration.

It was particularly unfortunate that Thomas Peel's grandiose plan did not succeed, for this might have given the Colony the boost it needed. Peel fulfilled his undertaking to bring out 450 immigrants but he arrived too late to qualify for his original grant on the south bank of the Swan and had to be content with a quarter of a million acres of coastal sandplain and swamp between Armadale and Pinjarra. He proved incapable of running his vast estate, his men deserted him, his partner failed to send essential equipment and supplies, and the whole scheme collapsed. A land settlement scheme at Australind organised by the Western Australian Company, a few years later, was also unsuccessful.

For those who remained in the Colony and settled down to adapt themselves to the hard conditions and make the best of their new home, life was relatively uneventful through the 1830s and 1840s. Even after the establishment of colonies in South Australia and Victoria in the mid 1830s the Swan River settlers were still isolated by many hundreds of miles from other settlements of Europeans, and visitors were few. The Aborigines did not offer any real resistance to the white men who displaced them from their ancestral lands, though in 1834 thirteen Aborigines and one white policeman died as a result of the 'Battle of Pinjarra', the only serious clash between the two peoples.

The colonists were too scattered and too absorbed in wresting a living from the soil for there to be much social and cultural life, though in Perth itself there were regular balls, picnics, race meetings, and musical evenings, with Government House the centre of polite society. From the beginning the Swan River settlers emphasised the fact that theirs was a 'gentleman's colony' as opposed to the 'pick-pocket colonies' of New South Wales and Van Diemen's Land, and for many years Western Australia remained the most 'English' of the antipodean colonies. Divisions between classes were naturally more fluid and more informal than in Britain, but an elite group of wealthy land-owning families quickly established a monopoly, first of social prestige and later of political influence. There were few facilities for education in the early years. Those who could afford to do so imported governesses for their children until they were old enough to be sent to English boarding schools, but most children received scarcely any schooling. There were few clergymen in the Colony but devoted lay people saw to it that religion was not entirely

neglected. From 1840 onwards the Colonial Government subsidised the main denominations and Anglican, Wesleyan and Congregational churches were built. Catholic priests arrived from Ireland in the 1840s, and in 1846 a party of Spanish Benedictine monks founded a monastery and mission to the Aborigines at New Norcia.

Until 1838 Captain Stirling remained Governor of Western Australia, as the Swan River Colony came to be known following the suggestion by Matthew Flinders that the continent as a whole should be called Australia. He was succeeded by John Hutt, who held the office from 1839 until 1846. For the first few years Stirling wielded absolute and undivided authority. In 1832 Legislative and Executive Councils were created, composed of a handful of government officials and later a few wealthy colonists nominated by the Governor, but in practice for more than half a century the Governor remained the supreme power in the Colony.

### THE CONVICT ERA

By the late 1840s, two decades after the Colony's foundation, the population of Western Australia was still less than 5,000 strong and the rate of economic development remained painfully slow. An impasse had been reached. The Colony could not attract the labour and capital it needed until it showed signs of more dynamic progress, but without additional labour and capital, progress was impossible. In desperation the leading colonists swallowed their pride and asked the British Government to send out convicts to Western Australia. Their request was acceded to with embarrassing speed, for by this time New South Wales had refused to accept any more convicts and Britain was once again facing its old problem of overcrowded gaols. In June 1850 the first boatload of convicts arrived, before any preparations had been made for their reception and deployment. Convicts continued to be transported to the Colony for a period of eighteen years, the total number sent being 9,668, all of whom were men. The last party arrived in 1868 and thereafter the number of convicts gradually dwindled, though it was not until 1886 that the convict system was finally disbanded.

Each convict spent an initial period under direct government control, usually employed on public works, and then was given a ticket-of-leave to work for a private employer in one of the country districts. A man with a ticket-of-leave remained under the supervision of police and magistrates and could be re-arrested for even the most trivial of offences, but he had a choice of employers and had to be paid wages. In due course a well-behaved ticket-of-leave holder could apply for a conditional pardon, which made him a free man provided that he did not return to the United Kingdom before the expiration of the full term of his sentence. This scheme differed considerably from the haphazard assignment system of New South Wales, and the treatment of convicts in Western Australia was also less brutal than had been the case in the eastern colonies. Chain gangs, solitary confinement, and the cat-o'-nine-tails were still used, but they were used less frequently and less indiscriminately.

One of the most obvious ways in which the convicts made an impact on Western Australia was that their labour gave the Colony its first good roads, bridges, and public buildings. Before 1849 there had been neither the money nor the labour for public works; even between Perth and Fremantle most of the traffic had been by river because the road was so bad. The availability of convict labour changed this and though for the first few years the convicts were used mainly for the construction of buildings for themselves and their gaolers, later the benefits of their work were spread around the Colony. The streets of Perth and Fremantle were levelled and improved; a main road to Albany was cleared; scores of bridges were built including a new causeway at Perth; jetties were constructed at Bunbury and Busselton; and courthouses were built in all the major country towns. In Perth itself the convicts were solely or partially responsible for such buildings as the old Perth Boys' and Bishop Hale's schools, the Town Hall, the Pensioners' Barracks, and a new Government House. By 1870 Perth gave an appearance of solidity and prosperity and looked like a town rather than an untidy village.



Convict labour also gave a boost to agriculture and other industry, for the settlers now had a much larger work force on which to draw. Moreover there were more people to be fed, clothed, and housed, and there was a more reliable flow of shipping to and from the Colony, so that both the internal and external market for colonial produce was expanded. The introduction of convict transportation also injected much needed capital into the Colony, for the British Government had necessarily to spend a great deal of money on feeding, clothing, and guarding the convicts.

As a result of these and other factors the Colony developed much more rapidly in the 1850s and 1860s, the convict decades, than it had done in its first twenty years. The population soared from 5,886 in December 1850 to 22,915 in December 1869, and clearly the arrival of nearly ten thousand convicts and five and a half thousand assisted migrants, sent out as part of the Colony's bargain with the British Government, had a lot to do with this. The total area of land under cultivation increased sixfold in the same period and the number of sheep, cattle and other livestock kept pace with this rate of expansion. Wool-growing boomed just as it had done in the eastern colonies thirty years before, and this was particularly valuable because it provided the Colony with an export industry, most of the clip going straight to Britain. Other useful exports were hardwood timber to South Australia, sandalwood to China and horses to India.

With so much progress being made, some colonists began to feel that the Colony was ready to stand on its own feet again. At much the same time the British Government came around to the view that transportation was an expensive and inefficient method of dealing with the penal problem and in 1865 it announced that no further convicts would be sent to Western Australia after 1868. The eastern Australian colonies were jubilant at the news, for they had long objected to the steady trickle of ex-convicts making their way across the continent, and most Western Australians were also pleased with the decision. However, in the 1870s and 1880s it became apparent that the Colony had been more dependent on the convict system than most people had realised. In the twenty years after the end of transportation the rate of population growth dropped back to only half that of the previous twenty years, and for a time the agricultural industries actually lost ground. A series of bad seasons aggravated the problem and food supplies had once again to be imported. Fortunately the export of sandalwood and hardwoods continued to prosper and the pastoral industry also flourished, the total number of sheep in the Colony being in excess of 1½ million by the mid-1880s. Another bright feature of the period was the dramatic rise of the pearling industry off the north-west coast to become a valuable export-earner.

As time passed, the search for minerals, timber, and better farming land, plus curiosity and adventurousness, led the colonists to explore their vast territory more widely and the frontiers of settlement spread. In the 1850s and 1860s the South-West was extensively occupied as far south as Albany and Kojonup, and to the north the Greenough district was opened up and quickly became the principal wheat-producing region. In the 1870s the pastoralists pushed further north to occupy the De Grey, Gascoyne and Murchison districts, and by the 1880s even the Kimberley districts were beginning to be settled. The completion in 1877 of the Overland Telegraph line connecting Perth with Adelaide and Darwin and thence with the outside world did much to reduce the isolation of the Colony, and railway building in the late 1870s and the 1880s improved communication and transport within the Colony. However, the scope of such works was limited by the impoverishment of the colonial treasury in the post-transportation period.

Part of the price which the colonists paid for their convict labour was that political development was very slow. Throughout the convict era Western Australia was ruled by semi-autocratic Governors sent from Britain, with the aid of their paid officials and a few prominent settlers chosen by themselves. Once transportation ended the colonists lost no time in agitating for a greater voice in the conduct of affairs, and in response to their demands a new constitution was introduced in 1870 embodying the principle of representative government. Thereafter the Legislative Council consisted of eighteen members, twelve of whom were elected by the colonists, and was presided over by its own Speaker rather than by the Governor. However, the powers of the Council were very restricted and when the Governor and the Council clashed, the former always prevailed.

The introduction of 10,000 convicts changed the character of Western Australian society much less than many people feared. Naturally there was a slight increase in lawlessness but few of the convicts committed further serious crimes in the Colony and bush-ranging was less common than it had been in eastern Australia. The Colony was so isolated that few convicts attempted to escape from it, though a party of sixty Irish Fenians who arrived on the last convict ship caused some trouble. One of them, John Boyle O'Reilly, escaped by stowing away on an American whaler in 1869 and seven years later he successfully arranged for a group of his friends to abscond from Fremantle Gaol to another American ship, the 'Catalpa', which escaped because the local authorities were afraid to fire on the American flag. Such incidents were rare, however. Most of the convicts gave no trouble at all, and the policy of dispersing them around the agricultural districts enabled them to be absorbed so easily that they soon became indistinguishable from the rest of the working-class population. Since all of the convicts were men and few of their wives were prepared to accompany them, even when offered a free passage, the ratio of men to women in the Colony rose as high as two to one for a time. However, the Government saw to it that most of the assisted migrants brought out to the Colony were young single women, mostly Irish, and this helped to redress the balance of the sexes. Fortunately there was little prejudice against the convicts once they had served their sentence, and marriages between ex-convicts and free women were common. At the other end of the social ladder, the grip of the old-established land-owning families on the affairs of the Colony remained unchallenged during and immediately after the transportation period. Western Australia was a quiet and conservative Colony and retained its quaintly 'English' flavour well into the 1880s. Though no longer the stagnant backwater of the 1830s and 1840s, it was still very much the 'Cinderella' of the Australian group of colonies when compared with its brash and prosperous neighbours. However, before the end of the century the state of the Colony was altered dramatically by the discovery of gold.

### THE GOLD RUSHES OF THE 'NINETIES

The Western Australian colonists had always hoped that one day gold would be found in their Colony, just as it had been in most of the others, and in 1885 their dream began to come true. The first goldfield to be proclaimed as such was situated at Halls Creek in the Kimberley district, a remote spot some 300 miles east of Derby and 250 miles south of Wyndham. Despite its extreme inaccessibility and the scarcity of food and water there, several thousand men flocked to it as soon as the strike was announced. The Kimberley gold was exhausted within a few years but the experienced prospectors it had attracted to the Colony soon began to find payable gold elsewhere. From the Yilgarn and Pilbara fields, which were both proclaimed in 1888, the golden trail led through the Ashburton and Murchison finds in 1890 and 1891, to the fabulous discoveries of Bayley and Ford at Coolgardie in 1892 and of Hannan, Flanagan and O'Shea at Kalgoorlie in 1893. Suddenly Western Australia came to life and began to reduce the lead of the eastern colonies with giant strides.

While the gold rushes were at their height thousands of men streamed towards the 'fields on foot, on bicycles, on camels and horses, across hundreds of miles of arid scrub and desert. Settlements rose and fell almost overnight as rumours of new finds lured diggers from one area to another. Even on the established fields conditions were very tough in the early years, with makeshift huts or tents for shelter, a continual shortage of food and water, high temperatures, choking red dust, and little or no sanitation. The death toll was high from thirst, dysentery and typhoid, but by and large the diggers were law-abiding and there was little of the violence of the Californian gold rushes or the bush-ranging of the Victorian diggings.

In the early days most of the diggers prospected for alluvial gold by dry-blowing, or sank shallow shafts in search of gold-bearing reefs. Each man worked his own small claim, or joined together with a few mates to do so. Alluvial mining of this kind reached its peak in 1897 and then fell away rapidly. As early as 1894 it had become apparent

that the richest deposits lay underground and required expensive machinery and large-scale operations. By the end of the 'nineties the average digger had reluctantly abandoned his hopes of easy wealth and turned to working for wages in deep-shaft mines operated by large companies. The decline of alluvial digging brought to a close the colourful pioneering phase of the gold boom, but the value of gold production continued to rise yearly until 1903 when it reached a record of more than 2 million ounces. The bigger centres such as Kalgoorlie gradually took on a more permanent appearance with hotels, theatres, hospitals and schools being constructed. With the arrival of the wives and children of miners in increasing numbers, the goldfields had begun to settle down.

One indication of the startling impact which the discovery of gold made on the Colony was that the population leapt from 35,000 in 1885 to 101,000 in 1895, and by 1904 had reached 239,000. In other words the number of people in Western Australia increased almost sevenfold in the space of twenty years. Most of the new arrivals came from eastern Australia, which was suffering from a severe depression and a series of prolonged strikes in the early 1890s. Quite a large number migrated direct from Britain and there was a sprinkling from Europe and North America. By 1901 the 'old colonists', those who had been born in Western Australia or had lived there before the gold rushes began, were in a distinct minority in their own Colony.

The gold boom attracted capital as well as people to the Colony; British investors lost confidence in the other Australian colonies in the late nineteenth century but they vied with each other for opportunities to invest in Western Australia. More than 600 companies were floated in London for mining operations in Western Australia and shares changed hands feverishly in London, Perth, and Kalgoorlie, often at inflated prices. Large sums of money were thrown away on speculative or bogus ventures, but the more successful mines returned rich dividends to their shareholders.

From 1890 onwards the Colonial Government boldly embarked on a programme of large-scale developmental works financed by extensive borrowing on the London money market. The Eastern Railway was extended to Southern Cross in 1894 and then on to Coolgardie and Kalgoorlie. At the same time a new South-Western line was constructed and the Government encouraged private investors to build the Great Southern line to Albany and the Midland Railway line into the northern wheat belt. Fremantle Harbour was dredged and moles were built to make it a deepwater port, and ships were encouraged to make Fremantle rather than Albany their main port of call. Not least among the government works, most of which were presided over by C. Y. O'Connor, the Colony's brilliant Engineer-in-Chief, was the Eastern Goldfields Water Scheme. This ambitious project, which was completed in 1903, piped fresh water 350 miles from Mundaring Weir to Kalgoorlie and also supplied the agricultural districts along its route.

Not all of these projects were for the benefit of the goldfields; indeed it was the policy of the Government to channel much of its revenue and loan money into agricultural and pastoral development so that the Colony would have a solid base to fall back on when the gold began to peter out. Thus the Homestead Act of 1893 allowed *bona fide* settlers to take up small holdings free of charge provided they made specified improvements. An Agricultural Bank was founded in 1894 to finance new farmers, and the Bureau of Agriculture was opened to give them advice. Moreover, the Government placed tariffs on imported livestock and foodstuffs to give the farmers further encouragement. With all these incentives and a vastly expanded local market as well, the agricultural industries could scarcely fail to prosper, and despite some bad seasons the acreage under cultivation soared. The pastoral industry experienced a lean period in the early 'nineties but recovered around the turn of the century, with wool remaining a valuable source of export income. Other established industries such as pearling and timber shared in the general prosperity and various forms of light manufacturing industry sprang up around Perth and its metropolitan area.

The changed economic circumstances of the Colony were gradually reflected in its politics. In 1890 a new constitution conferred upon Western Australia the same kind of responsible self-government which the other colonies had enjoyed for thirty years.

The old Legislative Council was abolished and in its place there was to be an elected Legislative Assembly of thirty members and a nominated Legislative Council of fifteen members; executive government was to be entrusted to a Premier and Cabinet responsible to the Assembly.

When the new Parliament met in 1891, Sir John Forrest was appointed as the first Premier of Western Australia, a position which he retained for a decade. A native-born Western Australian and a former explorer and Surveyor-General, Forrest gave the Colony the strong leadership it required. There were no political parties at this stage and all members prided themselves on their independence, but Forrest's ministry could always muster the support of a majority in the Assembly.

The miners had little to do with the movement to secure responsible government and after it was granted, the restricted franchise meant that few of them were eligible to vote, and the electoral boundaries left the mining districts practically unrepresented. At first the miners were too preoccupied with the search for gold to pay much attention to their political rights, but as they became dissatisfied with the Government's mining regulations, high tariffs and freight charges, and emphasis on agricultural development, they began to agitate for reform. The protests of the mining community strengthened the hand of the more liberal representatives from metropolitan and agricultural constituencies and by 1901 all adult men and women had been granted the right to vote in elections for the Legislative Assembly, which was increased in size to give reasonable representation to the goldfields. The Legislative Council had been enlarged and made elective, and payment of Members of Parliament introduced. For the time being the old colonial elite remained in control of the government but it was obvious that their days were numbered, for the transfusion of men and ideas which it had received had changed the character of the Colony and brought it much more into line with the rest of Australia.

This trend was at once demonstrated and reinforced by the Colony's reaction to the movement for the federation of the Australian colonies. Forrest himself favoured federation but most of his colleagues and supporters were reluctant to relinquish to a central Government the powers which they had only just received, and feared that Western Australia would suffer from being yoked with areas which were economically more advanced. On the other hand, the miners were solidly in favour of federation, partly because so many of them had come from the eastern colonies and partly because they hoped that a central Government would be more sympathetic to their needs than the local Government was. When the Government refused to allow a referendum on the subject, the goldfields petitioned the British Government for separation from Western Australia and the creation of a new colony which could then federate in its own right. Although Britain did not take this request seriously, the agitation on the goldfields helped to force the Government's hand. A hasty referendum showed a heavy majority in favour of federation, and the Colony of Western Australia was just in time to become an original State of the Australian Commonwealth when it was proclaimed on 1 January 1901.

### CONSOLIDATION 1901-1929

The impetus of the gold rushes naturally carried over into the first decade of the twentieth century; indeed gold production did not reach its peak until 1903. But after the turn of the century gold no longer dominated the Colony as it had done in the 1890s. The mining population dwindled steadily and agriculture took up the slack, just as the Government had hoped and planned. The thirty-year period between federation and the onset of the great depression was for Western Australia a time of consolidation of the gains made during the gold boom, through the development of primary resources.

The incentives to agricultural expansion which Forrest had introduced in the 1890s were continued and supplemented by all the governments of this period. Newton Moore and James Mitchell were perhaps the principal architects of the expansion of the wheat belt but Labour Premiers in John Scaddan and Phillip Collier ably seconded their efforts. All the land along existing railway routes was surveyed and thrown open on generous terms and more than 2,500 miles of new line were constructed, most of it between 1904 and 1919,

to give access to hitherto unsettled areas. Settlers were enabled by the experimental work of the Department of Agriculture (formerly the Bureau of Agriculture) to push out in an easterly direction into districts which earlier generations had considered too dry for farming. Most significant in this respect was the development of two new strains of wheat, Nabawa and Bencubbin, which were particularly suited to local conditions. Through its Agricultural Bank the Government made money available to almost anyone who was prepared to try his hand on the land. Moreover, once the torrent of gold-seekers tapered off the Government began to bring out assisted migrants from Great Britain in considerable numbers. Thirty-three thousand people arrived in this way before the outbreak of the Great War in 1914, with a further 43,000 in the 'twenties, and many of the 'new chums' were turned into farmers.

These policies soon produced results. The acreage under cultivation trebled between 1905 and 1911, and trebled again between 1911 and 1916. The war gave a slight check to development, but in the 'twenties wheat production trebled again to reach a record of 39 million bushels in the 1929-30 season. Long before then Western Australia had been transformed from an importer of grain and flour to a large-scale exporter; indeed wheat had displaced gold and wool as the State's principal export commodity.

Of course not all government policies succeeded as well as this, the most notorious failure being Sir James Mitchell's attempt in the 1920s to found a dairying industry. Under a plan known as the Group Settlement Scheme, British migrants and others were sent in small groups to various spots in the south-west corner of the State and set to work in teams at clearing the heavily-timbered land. Once this had been done each man was allocated a block and equipped with a home and stock. Unfortunately the inexperience of the men, their difficulties in clearing the land, and the poor prices obtained when their farms did begin to produce, meant that many of the 'groupies' gave up in despair. The State did receive some benefits from the scheme but scarcely in proportion to the money outlayed. At the other end of the State the Kimberley beef cattle industry also made little progress, due to transport difficulties and the paucity of markets.

Most other primary industries flourished, however. The increasing popularity of mixed farming in the southern wheat belt kept sheep numbers and wool production on the rise despite a degree of stagnation in the northern pastoral areas. Fruit and vegetable growing expanded, with the Harvey irrigation scheme of 1916 and the introduction of banana growing near Carnarvon in the 'twenties being noteworthy developments. The Australia-wide wave of railway and telegraph construction and general building ensured the prosperity of the timber industry, and pearling reached its peak just before the outbreak of the war.

Secondary industry made much less progress in this period and was almost insignificant in the overall economy of the State. In this respect some of the fears of the anti-federationists may have proved justified, for the Commonwealth Government's twin policies of external tariff protection and interstate free trade made it almost impossible for infant Western Australian industries to compete with established industries in the eastern States. Apart from this the new Commonwealth Parliament and Government did not make much impact on the lives of most Western Australians. Even after the completion in 1917 of the Trans Australian Railway Line, part of Western Australia's price for federating, Melbourne and later Canberra still seemed remote and irrelevant to the citizens of the West, though in fact the financial supremacy of the Commonwealth over the States was growing rapidly in this period.

In the political sphere Western Australia experienced several important developments in the first three decades of the twentieth century. In 1901 Sir John Forrest left State politics to enter the first Federal Cabinet and with his departure the State was plunged into a period of unstable Ministries, which culminated in the formation of a party system. Among the gold seekers of the 1890s there had been some experienced trade unionists, who were largely responsible for organising Western Australia's first Trades and Labour Congress in 1899. This Congress decided upon the formation of a Political Labour Party—which at the State elections of 1901 captured eight seats in the Legislative Assembly.

Only three years later the State had its first taste of Labour rule when a minority government led by Henry Daglish held office for twelve months. The rapid rise of the Labour Party as a parliamentary force compelled the existing independents and liberal and conservative factions to come together to form a Liberal Party, which governed from 1906 until 1911. In the latter year Labour won a resounding electoral victory which enabled it to enjoy five years of office and to experiment with State socialism of a mild kind. Nation-wide controversy about conscription for war service led to a serious split in the Labour Party in 1917, however, and its leader, John Scaddan, and some of his followers joined a Nationalist coalition with the Liberals. For a few years political instability returned, but in the 'twenties the State experienced the regular alternation of Nationalist and Labour Ministries. One complicating factor was the Country Party, which had appeared on the scene in 1914 to represent the interests of the farming community. The Country Party normally supported the Nationalists, but not without periodic tensions and disagreements within the non-Labour camp.

Western Australia loyally backed-up the Commonwealth Government's decision to enter the 1914-1918 war in support of Britain, by providing more volunteers for military service overseas, in proportion to its population, than any other State. The absence of so many able-bodied men caused difficulties in some industries, as did the disruption of shipping to overseas markets, but the war did not otherwise change the tempo of life very much for those who remained in the State.

By 1929, the centenary of its foundation, Perth had grown into quite a large city for, despite the State's reliance on primary industries, more than 50 per cent of its population lived in the metropolitan area. Though there were fresh challenges and fresh opportunities for every generation, the introduction of modern amenities had made Western Australia a more comfortable place to live in than it had been during the pioneering years. Most parts of the State were well supplied with fresh water, and Perth, at least, had electricity. In addition to its railways, the State had an improving network of main roads and almost 40,000 licensed motor vehicles to use them. In the city these were supplemented by a tram service, which had begun around the turn of the century, and several private bus companies. As befitted a State of vast distances and dispersed population, Western Australia was also well to the fore in the development of civil aviation. W.A. Airways, which was founded by Major Norman Brearley in 1921 for operations in the North-West, was Australia's first commercial airline, and by 1929 there was also a regular Perth-Adelaide service. In 1913 the University of Western Australia received its first students, and its establishment crowned a system of free and secular State education which catered for the needs of children all over the State.

In its centenary year of 1929 the State was able to look back over 100 years of progress with a great deal of satisfaction. Few people had any inkling of the dark days which lay just around the corner.

## DEPRESSION AND WAR

The world-wide economic depression of the early 1930s affected Western Australia severely. There were several reasons for this, one of the most important being the State's over-dependence on a few primary industries, which left it vulnerable to fluctuations in prices. Then again, the Government had financed its ambitious development schemes, many of which had not yet begun to pay for themselves, by raising large and frequent overseas loans. When the sources of overseas capital dried up, not only did the public works programme come to an abrupt halt, but the Government had great difficulty in meeting interest payments. To make matters worse, the financial crisis was intensified by a series of poor seasons.

The onset of the depression first attracted attention in Western Australia through a steep fall in the world prices of wheat and wool in 1930. As the situation worsened many farmers were forced off the land, and there was a general withdrawal from the marginal areas which had been brought under cultivation during the optimistic years of prosperity. When the Government cut back its public works, and commercial activity of all kinds

slowed to a walk, thousands of men found themselves out of work. Even those who kept their jobs had to accept wage cuts, the State basic wage being slashed from £4 7s. (\$8.70) to £3 9s. (\$6.90) per week. Oddly enough the only industry to benefit from the depression was gold mining. The financial difficulties of the 1930s led to an increased world demand for gold and induced the Commonwealth Government to offer a bonus to producers. This bonus plus a rise in the price of gold caused by devaluation of the currency, brought prosperity back to the goldfields and helped to draw off some of the unemployed.

Elsewhere in the State the picture was a gloomy one. Some men left their families in Perth and went out to the back-blocks in search of work, or lived in government camps whilst employed part-time on relief projects. Thousands of families were dependent on the 'dole' and on hand-outs from charitable organisations to keep them from starvation. Though few people actually starved, malnutrition was common. The widespread dismay at this turn of events resulted in an increase in lawlessness and violence; on many occasions the police were called in to control rowdy demonstrations by the unemployed.

The impotent discontent felt by so many Western Australians was further reflected in a move for the State to secede from the Australian Commonwealth. The old anti-Federal feeling of the 1890s had never entirely died out, and the social and economic dislocation of the 1930s gave it new life. Those who favoured secession argued variously that Western Australia would never be able to develop secondary industry until it could protect its manufacturers from competition from the other States; that the protective tariffs imposed by the Commonwealth for the benefit of manufacturers in the eastern States increased the costs of farm production to a level which was disastrous for a State dependent on primary industry; and that the Commonwealth Government had starved Western Australia of funds. So strong did the secession movement become that the State Government agreed to hold a referendum on the subject. The Commonwealth prepared a booklet and sent a deputation to argue the case for preserving the Federal union, but when the vote was taken, in April 1933, a two-to-one majority of voters favoured secession. A delegation was then dispatched to London to ask the British Parliament to pass legislation making Western Australia independent, only to be told that this was constitutionally impossible. Despite the overwhelming vote a few months earlier, the British rebuff was accepted and the secession movement died away, which lends credence to the view that many voters had realised that secession was impossible but had used the opportunity to express their dissatisfaction with the Commonwealth's failure to cope with the depression.

Apart from the secession episode, State politics were very dull during the 'thirties. Labour had the good fortune to be defeated at the polls in 1930, which meant that a Nationalist-Country Party government under Mitchell held office between 1930 and 1933 and incurred the ill-will of those adversely affected by the depression. On the same day as the secession referendum, Labour won an electoral victory and embarked on what was to prove to be a period of fourteen years unbroken Labour government, under Premiers Collier, Willcock, and Wise. Of course the real responsibility for dealing with the depression lay with the Commonwealth Government, which by this time had assumed far-reaching economic and financial powers. At first the Commonwealth did not handle the task very well. The Scullin Government was torn by internal divisions and handicapped by its lack of a majority in the Senate and a lack of co-operation from the Commonwealth Bank. Not until 1933 was a definite plan adopted for meeting the emergency and by that time conditions had in any case begun to improve. However, the Premiers' Plan of 1933 did assist the recovery by rallying the nation to a united course of action for the first time. By 1935 conditions were considerably better than they had been at the height of the depression, between 1931 and 1933, but even in 1939, on the eve of the World War, it is doubtful whether the State was back to normal.

Australia, and hence Western Australia, entered the war against Germany on 3 September 1939. Volunteers for overseas military service were called for, as they had been twenty-five years before, and once again the response was extraordinarily good. But for the first two years of the war the lives of those who remained at home differed little from peacetime. All this changed dramatically in December 1941, when Japan attacked the



United States base at Pearl Harbour and began her southward advance through South-East Asia and the Pacific in the direction of Australia. For a time it seemed likely that Australia would be invaded. Some towns in the North-West of Western Australia were bombed and the whole State was placed on a war footing. A total black-out was imposed and air-raid shelters were dug all round Perth and in country centres. Most able-bodied men were compulsorily called up for military service and other men and women were directed to work in strategic industries. Food, clothing, and petrol were rationed, and stringent price control introduced, as the nation channelled all its resources into a total war effort.

In response to Japan's entry into the war, Prime Minister Curtin recalled Australian troops from North Africa and the Mediterranean for defence of their homeland, and also turned to the United States for aid. Thousands of American servicemen passed through Australia, and fought side by side with Australians in the Pacific. Fremantle became for a time a major allied naval base for operations in the Indian Ocean and the South-West Pacific. By the end of 1942 the Japanese advance had been halted and the danger of invasion had passed, but the war continued for a further three years before cease-fire agreements were reached in both Europe and the Pacific. By then Western Australians had fought with distinction in practically every theatre of war.

Throughout the war years and the period of reconstruction immediately afterwards, the primary industries on which Western Australia was so dependent were subject to government control. Farmers were told what crops to grow and in what quantity, and their entire output was purchased at fixed prices. This meant that primary producers were protected from the price fluctuations of the 'thirties, at the cost of accepting organised marketing. The shortage of manpower led to further mechanisation and in many cases to improved efficiency. Industries located in the North-West and Kimberley regions suffered most from the war, through the closure of the Wyndham Meatworks and the disruption of transport facilities. Manufacturing industry experienced mixed fortunes. On the one hand the need to produce munitions, small arms, and other military supplies led to a growth in factory production, but on the other hand those factories which could not be converted to wartime uses were deprived of their manpower and forced to close. However, the vigorous programme of reconstruction after the cessation of hostilities gave secondary industry a valuable shot in the arm.

The highly centralised administration of the war and reconstruction years carried Western Australia a stage further towards complete integration with the rest of the Commonwealth. By the 1940s the expanded role of the Commonwealth in both raising and spending revenue, and its monopoly of power in such fields as foreign policy and defence, had made clear its paramountcy over the States. The vast increase in Commonwealth expenditure in Western Australia reconciled most people to this development, and in contrast to the secession movement of the 'thirties, Western Australia offered more support than any other State for further increases in Commonwealth powers at several referendums held in the 'forties.

### A STATE ON THE MARCH

The years since the end of the Second World War have been good ones for Western Australia.

The vigorous immigration policy launched by the Commonwealth at the conclusion of the war received the full support of the State Government, and contributed to a rapid growth in population to reach a total in excess of 836,000 by the Census of 1966. In addition to the British migrants of earlier years, migrants from a wide range of European countries were now included in assisted-passage schemes and absorbed into the community without difficulty.

Most of the traditional primary industries enjoyed continued growth and prosperity. In the early 1950s wool prices soared to six times their pre-war level, due largely to stock-piling by nations involved in the Korean War, and a pastoral boom followed. For a time everyone who could lay their hands on grazing land and stock sought to grow wool, but the boom tapered off and by the 'sixties the wool industry had fallen back on an

expensive research and promotion campaign to stave off the competition from synthetic fibres. Whereas the woolgrowers returned to their pre-war auction system as soon as they were permitted to do so, wheatgrowers agreed to the continuation of organised marketing. The Australian Wheat Board proved very efficient at disposing of large harvests at satisfactory prices, and apart from slight seasonal fluctuations, Western Australian wheat farmers enjoyed a series of good years. Further mechanisation of rural industry and the application of scientific discoveries to combat disease and increase fertility led to improved yields from established farms and the opening up of additional lands. In particular the scientific innovations of the post-war years enabled large areas of 'light' land in the south-east of the State to be brought under cultivation. In addition to many individual holdings in this area, an American syndicate undertook to develop 1½ million acres in the vicinity of Esperance and has made good headway on the project. By 1967 Western Australia boasted of almost 32 million acres of arable land and a record wheat harvest of over 103 million bushels. The production of other cereals, fruit, vegetables, pigs, and other primary produce also made excellent progress.

One of the features of post-war economic planning was a revived interest in northern development. Transport facilities for the northern pastoral industry were improved, firstly by the 'Air Beef' scheme of 1949, and later through substantial government expenditure on beef cattle roads. However, the pastoralists continued to suffer from marketing difficulties and the deterioration of their land through insufficient expenditure on improvements. In 1961 the State, with Commonwealth assistance, embarked on an imaginative scheme of water conservation and irrigation based on the Ord River in the East Kimberley region. By 1962 a diversion dam had been completed and in subsequent years increasing quantities of cotton, sorghum and other tropical crops were produced, though not until 1967 did the Commonwealth agree to a submission by the State in 1964 for funds for the construction of the main dam and irrigation works. The establishment of an American low frequency naval communications station at North West Cape also contributed to the opening up of the North, quite apart from the mineral boom which was perhaps the most exciting development of the 'sixties.

The search for oil in the north of Western Australia was renewed soon after the war and was quickly rewarded by a strike near Exmouth Gulf in 1953. Not until 1966 was oil found again, this time in commercial quantity, at Barrow Island. Several further finds of oil and natural gas were made subsequently, with a possibility of commercial exploitation in the future. However, the most startling progress has been made in the field of iron-ore extraction. In 1960 the Commonwealth Government was persuaded to lift a long-standing embargo on the export of iron ore and this gave a stimulus to exploration and survey which resulted in the location of thousands of millions of tons of ore reserves. With Japan providing a ready market for the ore, and British, American, Japanese and Australian capital available to finance its extraction, developments were very rapid. By 1967 contracts had been approved for the export of 320 million tons of ore, and shipments had well and truly begun; new townships, railways, and port facilities had sprung up in the Mount Goldsworthy, Mount Tom Price, and Mount Newman areas. Moreover, the mineral boom was not confined to iron. Bauxite extraction in the Darling Range was expanding and vast new bauxite reserves were being tested near Gingin and in the Kimberley. And a wild scramble for nickel shares occurred in 1967, following the successful operation of Australia's first nickel mine, at Kambalda, and the discovery of further deposits in the Eastern Goldfields region.

The two post-war decades witnessed significant progress in the field of manufacturing industry, beginning with the opening in 1955 and 1956 of an oil refinery and a steel rolling mill at Kwinana, on Cockburn Sound. By 1968, when a blast furnace was brought into operation, the conversion of the rolling mill into an integrated iron and steel complex was well under way. Other major industrial concerns were attracted to the Cockburn Sound area by the improved transport facilities and favourable terms offered by the Government, and by the late 1960s Western Australia had at last overcome the handicaps which had inhibited industrial development for so long.

Much of the credit for these achievements must be assigned to the State Governments of the period, all of which did their best to promote local industry and draw the attention of the Commonwealth to the needs of the State. In its term of office between 1953 and 1959 the Australian Labor Party presided over the establishment of the oil refinery and steel rolling mill which subsequently became the symbols of a new era in the State's development. The Liberal-Country Party Government, which took over from Labour in 1959 and was still in office in 1970<sup>(1)</sup>, was even more active in this respect. The Commonwealth was persuaded to make large sums available for beef cattle roads, the Ord River Scheme, and a standard gauge rail link between Perth and the eastern States, in addition to providing for expanding needs in the fields of housing, hospitals, education, transport, and social services. The Liberal-Country Party Government also attracted to the State the vast quantities of private investment capital needed to finance the development of mineral extraction and industrial diversification. Relations between the major political parties remained amicable, whichever was in office, and the differences between them were differences of means rather than ends. In the late 'fifties politics were enlivened by the birth of the Democratic Labor Party, but though this party influenced the outcome of subsequent elections, it was not able to win any seats.

The State's capital city, Perth, and the tempo of life in it, naturally reflected all these developments of the post-war years. The city skyline became higher and more modern as nineteenth century buildings gave way to multi-storeyed concrete and glass structures. The Narrows Bridge, spanning the Swan River just outside Perth, was opened in 1959 and progress was made on a freeway system to cater for increasingly heavy motor traffic. Trams were banished from the city in 1958, and a new Transport Trust took over the responsibility for all metropolitan bus services. The suburbs of Perth sprawled out in many directions to provide accommodation for the growing population. The influence of European migration made itself felt in changes in eating and recreational habits and modes of dress and a slightly more cosmopolitan atmosphere. Something of the characteristic rush and bustle of big cities began to manifest itself, but most Western Australians were determined that the price of progress should not be the erosion of the friendly informality on which they prided themselves.

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*NOTE.* Readers interested in the history of the State in more detail, and in particular the post-war years, are also referred to the Chronological Notes which appear in each issue of the Year Book from No. 1 of 1957 to No. 6 of 1967.

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<sup>(1)</sup> The coalition was defeated by the Australian Labor Party in 1971; see Chapter III.

## CHAPTER II—PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA

### Part 1—Physical Features and Geology

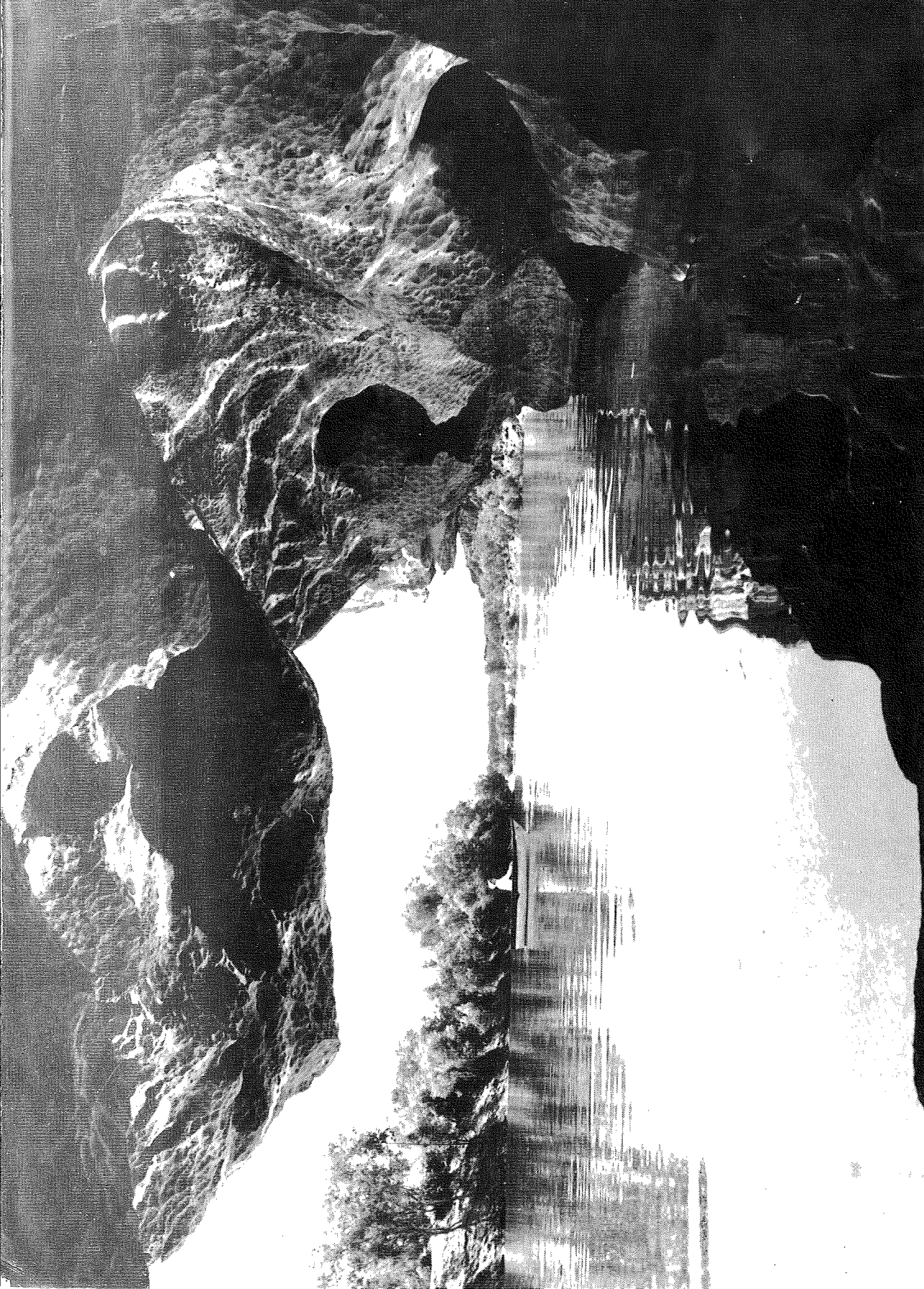
*Contributed by*

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The development of any country depends on its natural resources and the industry of its people, and there can be few more important investigations for any country than those dealing with the productive capacity of its territory. Natural resources—be they power, mineral, or soil resources—are dependent entirely on the climate, physical features and geology. Looking at the pattern of development of Western Australia we see that for nearly seventy years after the foundation of the Swan River Colony in 1829 agricultural production barely kept pace with the requirements of the small population. The discovery of gold in the 1890s, however, led to a period of rapid expansion and Western Australia became one of the major gold-producing areas of the world, and with this increase in mining production there was a corresponding expansion of the agricultural and pastoral industries. We are now experiencing an expansion of our secondary industries. Today, with the realisation of the base metal mineral potential of Western Australia—the proven deposits of iron ore, nickel, bauxite, black sands, oil and natural gas and the high probability of further discoveries—we are in another period of unprecedented development. The mineral discoveries of recent years in Western Australia have stimulated the mining industry not only in Western Australia but throughout the whole of Australia so that now mineral exploration is being pursued with renewed vigour throughout the country. The Western Australian mineral discoveries of the late 1960s have been accompanied by a corresponding increase in our secondary industries and the opening up of formerly sparsely populated areas, particularly in the Pilbara. In each of these phases of development we can see the dominating influence of the geological environment so that geology, from being relatively unknown and the Cinderella of the sciences, is now becoming known to all and attracting increased attention.

The nature of the rocks underlying any region is one of the major factors controlling topography, soil, and mineral resources. The latter is self-evident. The soil, on which we are so dependent, was formed by the weathering of the underlying rocks and many of its characters are due to the parent rock material. Much research has been carried out into trace element deficiencies in soils and the application of the new knowledge has produced astounding results as far as land utilisation is concerned. At first sight it would seem fantastic to think of the underlying rocks being in any way responsible for malnutrition of stock, but when it is demonstrated that the malnutrition is due to the lack of some minor element in the fodder which is due to its deficiency in the soil, a deficiency which, in its turn, is due to the absence or relative absence of such elements from the parent rocks from which the soil was derived, the significance of the geological environment becomes evident. Topography which is important in connection with land utilisation, water conservation, power (hydro-electric) resources, and in affecting climate, soil erosion, coastal erosion, transport routes, harbours, and so on is also dependent to a great extent on the nature and structure of the underlying rocks.

It is appropriate therefore that we should consider here the physical features and geology of Western Australia since they, together with the climate, are the primary controls of our soil, mineral, water and power resources, on which our existence and future development are entirely dependent.



### GEIKIE GORGE

Some of Australia's most spectacular gorge country is to be found in the Kimberley region. Illustrated is Geikie Gorge on the Fitzroy River near Fitzroy Crossing. This striking natural feature was formed by the breaking of the northern tributary of the Fitzroy through the barrier of the Geikie Range which is composed largely of the remains of reef-building corals that flourished when the region was covered by the sea millions of years ago. The limestone cliffs of the gorge have been smoothed by floodwaters over the ages, allowing fossil algae and other organisms to be seen in their original positions.

*Photograph by courtesy of the Department of Development and Decentralisation*



## PHYSICAL FEATURES

In the broadest way this State can be divided into two physical regions: (i) a tableland (the *Great Plateau*) in various stages of dissection occupying the whole of the interior of the State; (ii) a low-lying narrow strip (the *Coastal Plains*) running almost continuously along the coast from near Albany to Broome. A third physical region, the *Scarplands*, separating the Coastal Plains from the Great Plateau, may be distinguished. This, although only a narrow belt, is a significant one in the southern part of the State because of its importance in connection with the water conservation schemes on which the metropolitan area, the mining fields in the vicinity of Kalgoorlie, the intervening agricultural and pastoral districts, the irrigation areas on the coastal plains south of Perth, and more recently the wheat belt along the Great Southern Railway, are dependent.

**The Great Plateau**

The Great Plateau which occupies more than 90 per cent of the area of the State varies considerably in elevation. In its highest parts (in the North-West) it attains a height of approximately 4,000 feet above sea-level. The greater part is, however, below the 2,000-ft contour and its average elevation is of the order of 1,000 to 1,500 feet above sea-level. Although there is this considerable variation in level the changes are so gradual that the plateau character of the country is not obscured and for the most part it may be regarded as having a vast gently undulating surface. Occasional hills (monadnocks, which are remnants of a previous cycle of erosion) rise above the general surface of the plateau.

The Great Plateau may be conveniently subdivided into an area of exterior drainage (where there are definite rivers which flow to the sea), an area of interior drainage (where such water as flows passes into inland basins), and two areas of no surface drainage but which, if they had drainage, would belong to the exterior drainage system. The area of exterior drainage can be marked out by connecting the source of the streams which flow to the sea and if this is done it will be seen that the width of the exterior drainage belt varies considerably. Thus in the Kimberley and North-West Divisions some of the rivers are hundreds of miles long, but in the south-west part of the State many of them are comparatively short. The areas of no surface drainage are in the north North-West along the Eighty Mile Beach from the mouth of the De Grey River to the north of Broome, and on the Nullarbor Plain in the south-eastern corner of the State. The remainder of the country forms the interior drainage area.

In the area of exterior drainage the dominant feature of the extreme south-west and the northern part of the plateau is a reticulate pattern of rather deeply-incised watercourses. In the southern part of the State these deeply-incised watercourses where they pass from the plateau to the coastal plains are of great significance (as has already been mentioned) in connection with water supply schemes. Elsewhere in the State the marginal portion of the Plateau is drained by rivers that flow to the sea only at times of exceptional rainfall and, speaking in the most general way, have courses at right angles to the coast.

The area of interior drainage is arid and practically riverless. Small creeks run from the higher parts of the country but they either disappear on the extensive flats or reach the shallow basins which are termed salt or 'dry' lakes, the term 'dry' being used since these so-called lakes are free from water except after fairly heavy or long-continued rain. These 'lakes' are generally elongated, narrow, and often winding salt-encrusted flats arranged in long, more or less connected streams. After heavy rain they are covered with a thin layer of water and, after unusually heavy rain, water has been known to flow southwards from one to another of the 'lakes' of a string, except towards the western margin of the plateau where the drainage is to the west. It is evident that these elongated 'lakes' are the remnants of an old river system developed during a more humid period. The salt lakes are of some economic significance since, on the evaporation of the water, common salt and other substances such as gypsum are deposited on the floor of the lake. The gypsum, which crystallises earlier than the common salt, is generally blown from the damp surface of the dried-up lake and deposited as dunes of 'seed gypsum' on the



leeward (eastern) side of the lake. These dunes are utilised, for example at Lake Seabrook north of Yellowdine, as a source of gypsum for plasters. Common salt, which separates later, forms a crust on the floor of the lake when it has been completely dried up and such salt deposits are exploited, for example at Lake Lefroy near Widgiemooltha. In a few of the Western Australian salt lakes significant deposits of alunitic clay have been discovered which have been worked as a source of potash.

Over a large portion of the interior drainage part of the Great Plateau there are extensive sand-plain soils overlying a hard laterite ('ironstone') layer, which is of the order of up to fifteen feet in thickness, below which lies an intensely weathered zone from which most of the nutrient elements so important for plant growth have been leached. These more recent geological formations will be discussed in the section of this Part dealing with geology, but we may note here the significance of this lateritic profile (sandy soils near the surface, 'ironstone' a few feet below, and completely kaolinised rocks still deeper) so far as soil fertility is concerned. This lateritic profile is the result of long-continued weathering processes which have resulted in almost complete leaching of the valuable nutrients and as a result soils developed in any part of this profile are generally very poor in character. It is only where erosion has cut through the lateritic profile and still younger soils have been formed by weathering of the underlying rocks that the better soils are found. As has been mentioned, however, with recent studies of trace element deficiencies much can be done with these 'light' soils by the addition of small quantities of suitable trace elements such as copper and molybdenum.

The areas of no surface drainage include the Eucla Division and portions of the Eastern Division of the State. This area is occupied largely by horizontal or nearly horizontal limestones of the Nullarbor Plain and the drainage here is sub-surface in character through subterranean streams and caverns in the limestone. The Nullarbor Plain is an extensive monotonously level plain standing at a height of about 600 feet above sea-level. The Western Australian part of the Nullarbor Plain is bordered to the south by a narrow coastal plain but further east, at the head of the Great Australian Bight, in South Australia, this coastal plain is absent and the southern edge of the Plain is truncated by cliffs which rise almost sheer for 200 to 400 feet above sea-level.

The hills of the Great Plateau are of two kinds, ridged and table-topped. In the southern half of the State the ridged hills, a few of which rise as much as 1,500 feet above their surroundings, are generally elongated in a north-north-west direction, reflecting in their trend the structure of the underlying rocks. The table-topped hills are seldom more than 200 feet above the general level. They are capped with a sub-horizontal layer of laterite ('ironstone') and bounded by low cliffs, in many places undercut, which are known in Western Australia as 'breakaways'. The table-topped hills are relics of erosion of a former laterite-covered peneplain (the *Darling Peneplain*) which was uplifted in Pliocene times to form the Darling Plateau and has subsequently been subjected to erosion under semi-arid conditions. The ridged hills on the other hand are elongated monadnocks which, being cored by resistant rocks such as jasper bars, withstood erosion and so rise above the general level of the remnants of the laterite-covered Darling Plateau.

The Great Plateau slopes down very gradually to the south and west. The downward slope to the south is interrupted by a narrow broken chain of rugged hills, the Stirling and Mount Barren Ranges which rise to heights of from 1,000 to 3,600 feet above sea-level. The western margin of the Plateau is, in the south, formed by the 'Darling Range' which, being merely the dissected margin of the Plateau, is much better called the *Darling Scarp*. This Darling Scarp is clearly defined between latitudes 31° 30' S. and 33° 30' S., i.e. between Moora and Donnybrook, but it is difficult to recognise farther north or south. In the Kimberley Division the mountain ranges are the relics of erosion between the deeply-incised rivers and in this region the highlands of the plateau terminate abruptly along a steep, deeply-indented coastline.

### The Coastal Plains

Bordering the Great Plateau are the Coastal Plains which vary in width. The *Swan Coastal Plain* which extends from the neighbourhood of Perth to near Busselton averages about fifteen miles in width and is divisible into the following belts: a narrow band of moving sand dunes along the coast; a zone, averaging three or four miles wide, of sandy limestone which rises in places to heights of 100 to 200 feet above sea-level; a zone three or four miles wide of loose sand fixed by vegetation; and, abutting against the Scarp which forms the western margin of the Plateau, a zone of clayey soils of about the same width. A strip of low plain extends along the coast at intervals as far north as King Sound and coastal plains of some width occur near Port Hedland and Exmouth Gulf. A narrow plain fronts the cliffs of the Great Australian Bight for some distance and also occurs in other places along the south coast.

The coastline of Western Australia, some 4,350 miles in length, is broken by capes between Wyndham and Broome, between Port Hedland and Shark Bay, and between Cape Naturaliste and Israelite Bay. The intervening parts are comparatively featureless.

It has only been possible here to briefly outline the principal physical features of Western Australia and for a fuller description of the physiography of this State the reader should consult J. T. Jutson's 'Physiography (Geomorphology) of Western Australia' (*Geol. Surv. West. Aust. Bull.* 95).

## GEOLOGY

More than two-thirds of Western Australia is occupied by the ancient Australian Precambrian Shield which is composed of a complex of igneous, metamorphic and sedimentary rocks formed more than 600 million years ago. Most of our mineral deposits of economic importance, except coal, oil and water and superficial deposits such as lateritic iron ore and bauxite deposits and black sand and other alluvial accumulations, occur in these Precambrian rocks. The remainder of the State is occupied by sedimentary basins in which Palaeozoic and later sediments are developed. It is in these younger sedimentary basins that artesian water, coal, oil and natural gas are likely to occur. Finally there are the still younger superficial deposits—laterites, salt-lake deposits, and soils on which much of the economy of this country depends. It will be convenient therefore, in outlining the geology of the State, to consider it under the three main headings:

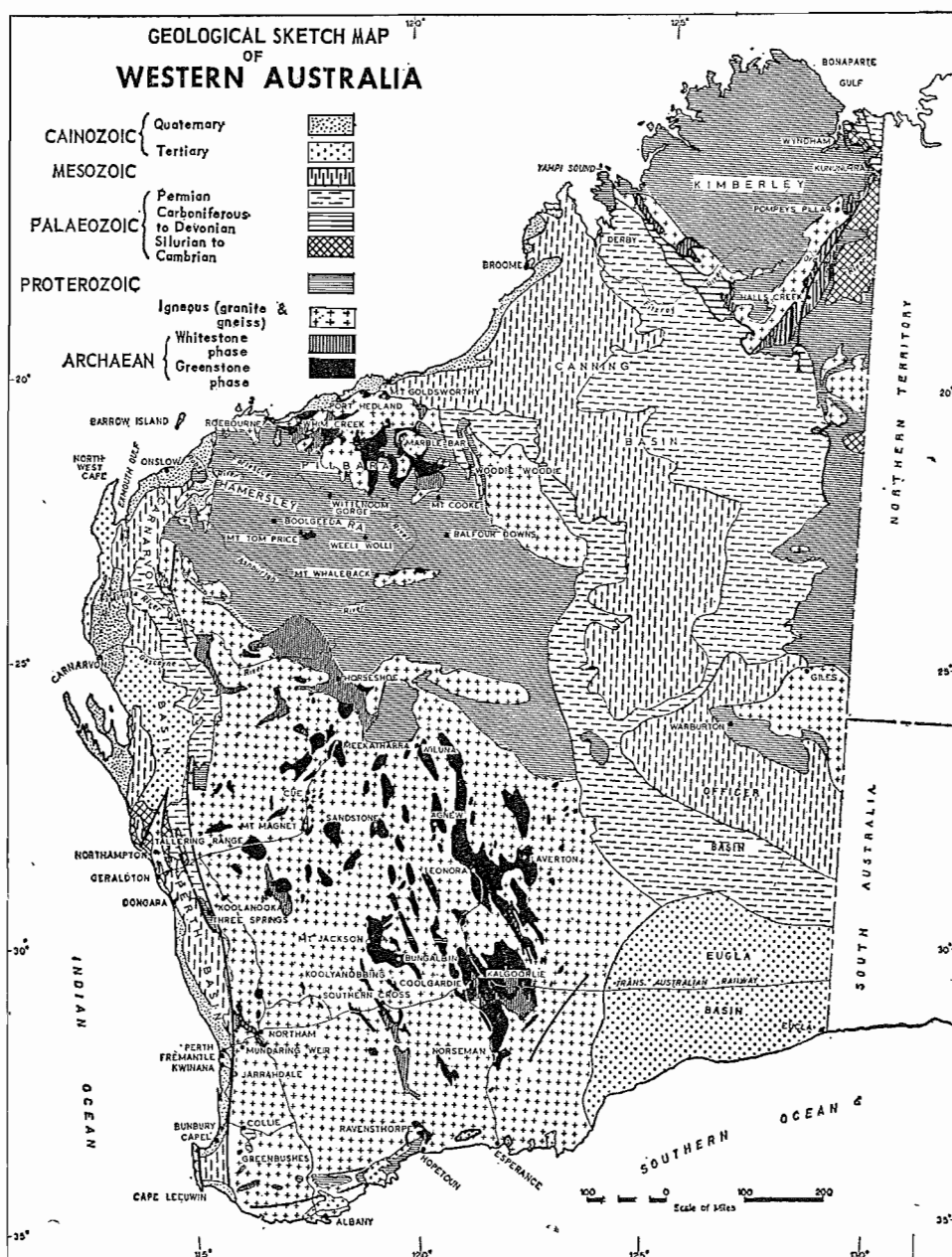
- (a) The Precambrian basement;
- (b) The sedimentary basins;
- (c) The superficial deposits.

The distribution of the solid rocks (omitting superficial deposits) is shown in the accompanying map (see page 20).

### The Precambrian Basement

This includes the Archaean and Proterozoic rocks. The Archaean is a complex of crystalline igneous and metamorphic rocks, dominantly granites and gneisses with minor amounts of basic igneous and schistose metasedimentary formations. In places, particularly in the North-West and Kimberley Divisions, this Archaean complex is overlain unconformably by sedimentary and volcanic rocks of Proterozoic age which do not exhibit the extensive metamorphism so characteristic of the older Archaean complex. The time-boundary between the younger Precambrian (Proterozoic) and older Precambrian (Archaean) is approximately 2,200 million years ago. Within the different areas occupied by the Precambrian rocks the same generalised sequence can be distinguished.

In the Kimberley the oldest rocks are metamorphosed igneous and sedimentary rocks intruded by granite and carrying in places auriferous and base metal ore deposits, and these are overlain by un-metamorphosed sediments with basic igneous intrusives. The Precambrian age of all these rocks is evidenced by the fact that in the East Kimberley they are overlain by sedimentary rocks containing fossils of Cambrian age. This is the only area in Western Australia where the Precambrian age of the rocks of this crystalline complex can



GEOLOGICAL MAP OF WESTERN AUSTRALIA

from Clarke, Prider and Teichert, 'Elements of Geology for Western Australian Students', by courtesy of University of Western Australia Press)

definitely be proved on stratigraphical evidence alone. In the southern part of the State we find a similar sequence of crystalline schists with intrusive granites and by lithological correlation (which is not a very sound method) we assume that they are Precambrian although they cannot actually be traced through from the Kimberley. We do know that in the Carnarvon Basin these gneisses, schists and granites are older than the Devonian, which unconformably overlies them, and in the Perth Basin they are older than the Permian. During recent years the Precambrian age of these rocks has been confirmed by actual age determinations based on the decay of radioactive elements which occur in them. This work indicates that the bulk of the massive granitic intrusions of the southern part of the State crystallised from a molten state some 2,700 million years ago. Some, however, such as those in the vicinity of Albany and along the south coast, are much younger, being emplaced approximately 1,100 million years ago.

The Precambrian sequence in the North-West Division appears to be the most complete that is present in Western Australia and, from oldest to youngest, is as follows.

The *Warrawoona Succession*, which consists mainly of greenstones and green schists which were, prior to the intense folding and metamorphism to which they were subjected after deposition, basaltic lavas and tuffs with interbedded chemically deposited secondary rocks (jaspilites or banded iron formations) in the upper part of the sequence. These jaspilites have been the protore of important iron-ore deposits such as those of Mount Goldsworthy. The Warrawoona Succession is overlain by a succession (the *Mosquito Creek Succession*) of sedimentary rocks which have also been intensely folded and metamorphosed to various types of platy-structured schists, slates and quartzites. Both the Warrawoona and Mosquito Creek Successions are invaded by granitic igneous rocks emplaced approximately 2,700 million years ago and both carry auriferous ore-bodies possibly genetically related to the intrusive granites. End-stage products of these granites are the very coarse-grained pegmatites which are important carriers of tantalum, beryllium, lithium and tin-bearing minerals. All of these rocks in the North-West Division—the Warrawoona and Mosquito Creek Successions and the granites intrusive into them—are therefore of Archaean age and have been called the *Pilbara System*. Still younger sedimentary rocks such as conglomerates, sandstones, shales and banded iron formations with interbedded basic igneous rocks, were deposited unconformably on the highly-folded, granite-intruded Pilbara System. This thick succession consists of a number of distinct groups. The three lower groups (the *Fortescue*, *Hamersley* and *Wyloo Groups*) are of Lower Proterozoic age as the youngest (the Wyloo Group) is intruded by granite aged approximately 1,700 million years. The two upper groups (the *Breshnahan* and *Bangemall Groups*) are of Middle and Upper Proterozoic age respectively. Of these Proterozoic rocks the Hamersley Group is most important economically since most of the iron-ore deposits of the Hamersley and Ophthalmia Ranges occur within, or have been derived from, the thick jaspilites (banded iron formations) within this group. Except in occasional narrow belts marginal to the Archaean blocks, the Proterozoic rocks have not suffered the intense folding that affected the older rocks and consequently they are generally flat-dipping to horizontally bedded un-metamorphosed sediments. Such sediments cover very extensive areas in the North-West (see Geological Map of Western Australia on page 20) and they are similar in many respects to the flat-dipping Proterozoic sediments which cover the plateau country of the North Kimberley. The final episode in the Precambrian history of the North-West was the intrusion of dolerite dykes and sills into all of the earlier rocks.

Coming to the southern half of the State we find a similar sequence to that in the North-West. In the part of the Precambrian Shield extending south of latitude 26° S. the oldest rocks that are recognised are the greenstones of the various gold-mining fields which occur in comparatively narrow belts elongated in a general NNW. direction (see map, page 20). These greenstones, which are for the most part metamorphosed basaltic lavas, contain interbedded ultrabasic lavas and jaspilites and are overlain by metamorphosed sedimentary rocks (generally referred to as whitestones). This System of rocks is the *Kalgoorlie-Yilgarn System*. From the mining point of view it is most important since the auriferous ore deposits of the main mining fields are confined to it, as are the known

nickel deposits. It also contains, in the jaspilites, important iron-ore deposits such as those of Koolyanobbing in the Yilgarn. It appears to be the equivalent of the Pilbara System of the North-West. After the formation of the Kalgoorlie-Yilgarn rocks they were intensely compressed into tightly closed folds with NNW.-trending axes. During this period of intense earth-movement alkaline solutions permeated the older rocks, converting them into granitic gneisses which occupy the bulk of the southern half of Western Australia. Subsequently granite magma was intruded as in the North-West. This completes the Archaean sequence. The Proterozoic is represented by a narrow strip of slightly altered sedimentary rocks along the Darling Scarp and the metasedimentary rocks of the east-west Stirling and Mount Barren Ranges along the south coast. Proterozoic igneous activity is represented by Early Proterozoic layered complexes and Late Proterozoic basic dykes. The former, aged 2,420 million years, take the form of basic-ultrabasic layered complexes, such as the large east-west dykes of the Norseman-Laverton greenstone belt which have some prospects for the occurrence of nickel and chrome deposits. The latter are dolerite dykes which, like those in the North-West, intruded all of the Precambrian rocks about 550 million years ago. They occur throughout the Precambrian shield but are most abundant near its western margin.

Putting together the information available throughout the State, we conclude that the oldest rocks found in Western Australia belong to the older part of the Archaeozoic Era. It is a great succession of rocks, generally much metamorphosed, which is called the Kalgoorlie-Yilgarn System in the southern part of the State and the Pilbara System in the North-West region. In the early part of Kalgoorlie-Yilgarn times there was much volcanic activity which took the form of eruptions of ultrabasic, basic and intermediate lavas, tuffs, and breccias. These were penetrated, shortly after their extrusion, by intrusions from the same magma; similar events must be occurring now in the interior of great volcanic masses like Etna or Hawaii. In later Kalgoorlie-Yilgarn times, the dominant process was sedimentation, so that the earlier volcanic rocks, with the minor associated bands of sediment, became overlain by a great thickness of sandy and clayey sediments. These sediments must have been derived from some land mass composed of rocks of pre-Kalgoorlie-Yilgarn age but this, possibly the oldest of all rock assemblages, has apparently not yet been found in Australia or any other part of the World.

After the accumulation of the Kalgoorlie-Yilgarn System came a period of intense earth-movement during which the rocks were, in most places, closely folded and regionally metamorphosed. The folding was accompanied by widespread granitic intrusions, some of which consolidated into primary gneisses whereas others soaked into the Kalgoorlie-Yilgarn rocks, penetrating them along bedding planes, joints, and other fractures, and so forming hybrid granitic gneisses by granitisation.

Where they were not affected by this First Granite Invasion, the volcanic rocks of the Kalgoorlie-Yilgarn System were regionally metamorphosed, in some places very strongly into dark-coloured schists, in others only very slightly. Similarly, the sedimentary rocks of the Kalgoorlie-Yilgarn System, where they have escaped the first granite invasion, *i.e.* have not been granitised, are in some places but slightly regionally metamorphosed, in others they are converted into various types of schist and quartzite.

All the Archaean rocks described above were invaded by the 'Younger' Granite, which, unlike the 'Older' Granite, formed well-defined intrusions many of which are stocks, though smaller offshoots from the same magma, in the form of 'porphyry dykes', occur at nearly every mining centre. These events occurred after the folding but before Proterozoic times. Any of the Archaean rocks in Western Australia may contain ore-bodies yielding gold and other minerals of economic value. It seems likely that many of these ore-deposits were formed at the time of the Second Granite Invasion which, from radioactive age determination studies, occurred about 2,700 million years ago. Important iron-ore deposits occur in the Archaean rocks at many localities, for example at Mount Goldsworthy in the Pilbara, Tallering Peak in the Yalgoo Goldfield, and Koolyanobbing, Bungalbin and many other localities in the North Yilgarn. These are all banded ironstone deposits which are interbedded with the basaltic lavas and sedimentary rocks of early Archaean age. In many places there are important manganese deposits

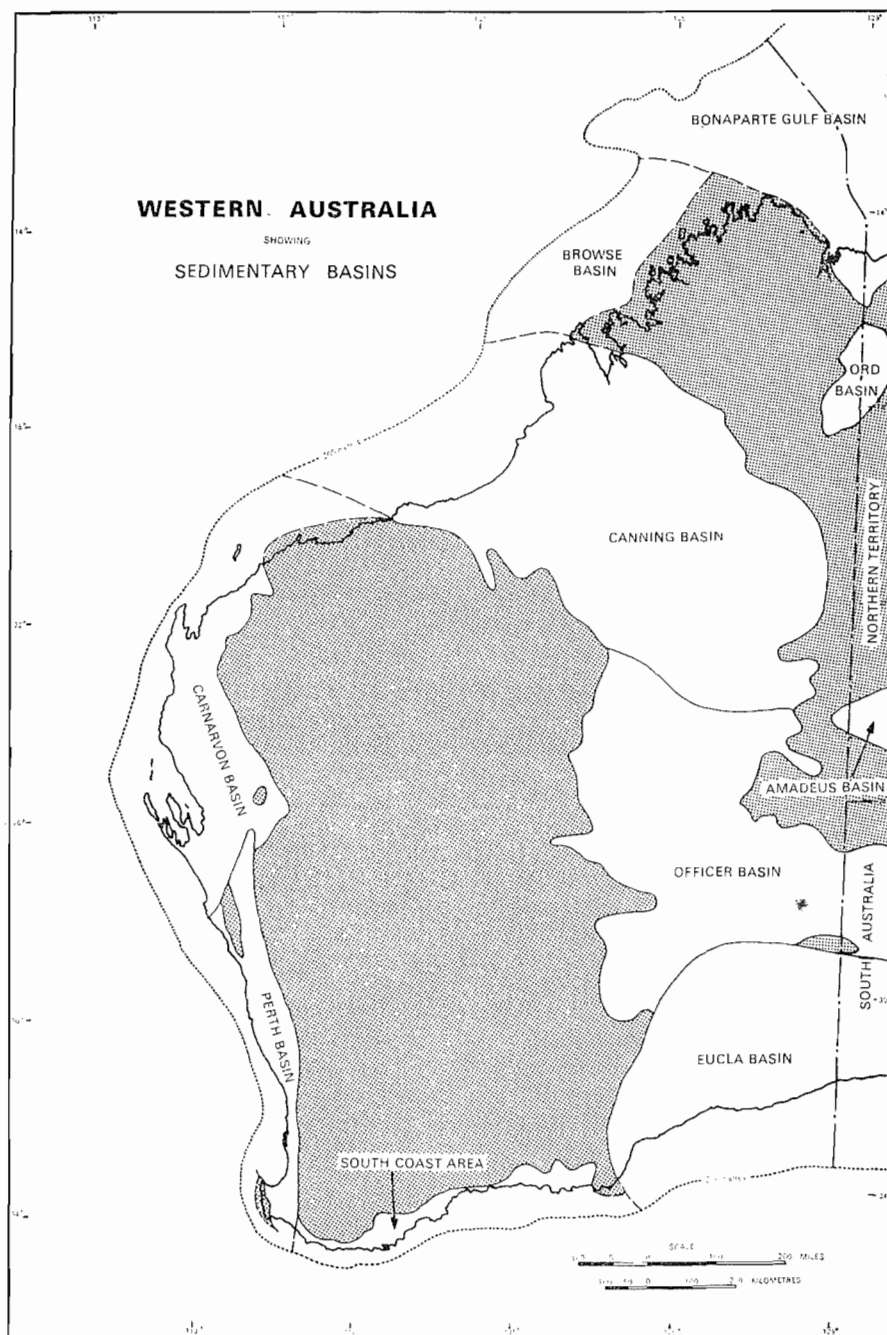
associated with these banded iron formations. A rich nickel deposit discovered in ultrabasic Archaean rocks at Kambalda near Kalgoorlie in 1966, has now become an important source of nickel concentrates. Base metal ore deposits, such as nickel, cobalt and chromium, are generally associated with ultrabasic igneous rocks. Ultrabasic rocks are intrusive into the older Archaean volcanic and metasedimentary rocks of the Kalgoorlie-Yilgarn System in the country between Norseman and Laverton and, following the discovery of important nickel deposits at Kambalda and Scotia in the vicinity of Kalgoorlie and Mount Windarra near Laverton, these areas are being carefully examined to assess their prospects for base metal deposits.

Finally, in Proterozoic times we had the deposition, under shallow-water conditions, of conglomerates, sandstones, shales and banded iron formations and another period of volcanic activity yielding basaltic lava flows. Other than in a few narrow belts these rocks have not suffered the intense earth movements which affected the older rocks, and so are practically un-metamorphosed. Important blue asbestos deposits in these rocks have been exploited at Wittenoom Gorge in the Hamersley Range of the West Pilbara. The asbestos deposits occur in banded ironstone formations which also contain large iron-ore deposits. The well-known iron-ore deposits of Cockatoo and Koolan Islands in Yampi Sound, which have been exploited for many years, are metasedimentary deposits of Late Proterozoic age. Although the Proterozoic rocks cover extensive areas in the northern parts of the State they have largely been stripped off the southern half by erosion. The final episode in the Precambrian history of this State was the widespread intrusion of dolerite dykes approximately 550 million years ago. Small lead and copper deposits are closely associated with these dolerite intrusions in the Northampton Mining Field, where the discovery of a lead-copper deposit at Waneranooka led, in 1842, to the first metal mining operations in Australia.

### The Sedimentary Basins

There are five major post-Proterozoic sedimentary basins in Western Australia and the adjoining continental shelf as shown in the accompanying map—the *Bonaparte Gulf Basin* in the north-east part of the Kimberley Division extending into the Northern Territory, the *Canning Basin* of the West Kimberley, the *Carnarvon Basin* of the North-West, the *Perth Basin* extending from lat. 29° S. to lat. 33° S. and the *Eucla Basin* occupied by the Nullarbor Plain. Large areas of the Central Division are covered by sediments of the *Amadeus Basin* of Central Australia and the shallow *Officer Basin*. In addition to these major basins there are smaller basins such as that at Collie and scattered areas where sediments, which are dominantly lacustrine in nature, have been deposited. In these sedimentary areas we find sediments ranging from Lower Palaeozoic to Pleistocene in age. These sediments of Palaeozoic and later age are, as a rule, less disturbed than those of Precambrian times and many are abundantly fossiliferous. Therefore, there is a sure means of correlating formations even in widely separated places, and so our knowledge of the history of these sedimentary areas is more detailed than in the much altered, highly folded, unfossiliferous Precambrian rocks of the basement.

Apart from the superficial deposits the economic significance of these basins is confined to their possibilities for the occurrence of artesian water, coal, oil and natural gas. A prime requisite for the occurrence of artesian and sub-artesian water is the occurrence of interbedded strata of varying porosity and permeability. These conditions are met in a number of the sedimentary basins in Western Australia and the development of the pastoral industry in the arid or semi-arid parts of these basins has been largely dependent on the occurrence of artesian water. In the metropolitan area, artesian bores are an important source of water supplies. Coal deposits are also confined to areas of sedimentary rocks and occur in the Permian rocks of two of the minor basins, namely the *Collie* and the *Irwin River Basins*, and in the Lower Jurassic sediments of the Perth Basin (at Eneabba, where a seam 100 feet thick has been found at a depth of 6,000 feet in a borehole sunk in search for oil, and is indicated in shallow shot-holes in the Hill River area). Up to 1966 the coal deposits of the lacustrine Permian beds of the Collie Basin constituted the only power source in Western Australia, since oil of commercial significance had only then been proved and the gently undulating topography combined with low rainfall



POST-PROTEROZOIC SEDIMENTARY BASINS OF WESTERN AUSTRALIA  
(PRECAMBRIAN AREAS STIPPLED)



make the hydro-electric resources insignificant. So far as oil is concerned the first occurrence of flow oil in Australia was encountered in Rough Range Bore No. 1, in the Carnarvon Basin, late in 1953. This discovery of flow oil resulted in an increase in the rate of geological exploration of all the major sedimentary basins. The results of extensive geological mapping, geophysical surveys and exploratory drilling have to date been rather disappointing. However, a commercial field was proved at Barrow Island off the north-west coast in 1966. Other oil occurrences have been located at various localities in the Perth Basin, e.g. in the vicinity of Dongara and this indicates the presence of suitable source material and conditions for oil formation and preservation. Moreover, oil search drilling operations have located some widely-spaced important finds of natural gas at Dongara and Gingin in the Perth Basin and North Rankin in the offshore part of the southern Canning Basin. The Dongara gasfield is now being exploited for the metropolitan area of Perth and the industrial areas further south. The possibilities of locating other commercial oilfields and gasfields in the Carnarvon, Canning and Perth Basins are by no means exhausted and the search is being actively continued both on land and offshore in the continental shelf area.

A detailed description of the sedimentary formations of different ages, from the Cambrian to the Recent, in the various sedimentary basins has been set down in 'The Stratigraphy of Western Australia' (*Journal Geological Society of Australia*, volume 4, part 2, pp. 1-161, 1958). It is proposed here merely to indicate the main features of the various basins.

The *Bonaparte Gulf Basin*, in the East Kimberley, extends into the Northern Territory and offshore below the Timor Sea. As already mentioned, this and the nearby Ord Basin are the only basins in Western Australia where rocks of proved Cambrian age are exposed. On Western Australian territory the Cambrian rocks extend as a narrow belt along the interstate border between lat. 16° 15' S. and lat. 18° 30' S., reaching westward from the border for 15 to 75 miles. The Cambrian consists of basalts at the base of the sequence, overlain by Middle Cambrian fossiliferous limestones, shales and sandstones. There is a small development of sandstones which are considered to be of Lower Ordovician age, following which there is a big time gap and the next youngest formations are sandstones and limestones of Upper Devonian and Lower Carboniferous age. Upper Carboniferous and Lower Permian formations are absent, the next marine transgression being in the Middle Permian when a thick sequence of conglomerates, sandstones, and limestones was deposited. The only other sedimentary rocks in this basin are freshwater sediments (siltstones, marls and cherts containing freshwater fossils) of late Tertiary age.

The *Canning Basin* (formerly named the Desert Artesian Basin), in the West Kimberley, extends from the coast between Derby and the De Grey River in a south-easterly direction almost to the 128° meridian. The north-east or Fitzroy part of this basin consists of a comparatively narrow and shallow section (the Lennard Shelf) flanking the Precambrian land mass to the north, and a deep trough (the Fitzroy Trough) estimated, from aeromagnetic geophysical surveys, to contain a thickness of the order of 20,000 feet of sedimentary strata ranging in age from Ordovician to Triassic. It was in this area that bores seeking oil were first drilled in Western Australia, following the discovery in 1919 of traces of oil in a water bore on Gogo Station. The larger Canning Desert portion, the South Canning Basin, is covered by a relatively thin Mesozoic and Permian sequence, but geophysical work followed by some deep drilling has indicated that there are deep depressions in this area, the deepest of which is the Kidson Sub-basin, which has a basement approximately 20,000 feet below the surface.

The oldest Palaeozoic sediments in the Fitzroy portion of the basin are richly fossiliferous limestones of Ordovician age outcropping near Price's Creek. These are overlain by Devonian reef limestones, sandstones and conglomerates, followed by Carboniferous sandy limestones. These in turn are followed by a thick Permian sequence of sandstones (of marine glacial origin deposited from floating ice), fossiliferous calcareous shales and limestones, and Upper Permian fossiliferous ferruginous siltstones and sandstones. All of these formations dip gently in a general south-westerly direction towards the centre of the basin but these regional dips are interrupted by local folding. Shale and

sandstone beds of Triassic age occur in the Fitzroy Trough section of the basin. The youngest rocks in this area are igneous intrusions in the form of intrusive sheets, dykes, and volcanic necks which have been found intruding all rocks of the sequence from the Precambrian granitic basement to the youngest sediments (Triassic) present. These igneous rocks, from direct geological evidence, are of post-Triassic age, and radioactive age determinations made in 1959 indicate that they were intruded 180 million years ago (*i.e.* in Jurassic times). This is one of the two areas in the whole of Western Australia where post-Cambrian igneous activity is known. It is interesting to note the occurrence of a small lead deposit in Devonian limestone at Narlarla in the Napier Range. This is the *only* primary metallic ore deposit of post-Proterozoic age known in Western Australia and it may be genetically related to the Jurassic igneous activity or may have been deposited from sea water by organisms during Devonian times.

In the Canning Desert section of the basin the Palaeozoic rocks are not well exposed and the greater part of this portion of the basin (where not obscured by superficial unconsolidated sands) is occupied by Mesozoic sediments ranging in age from Lower Jurassic to Lower Cretaceous. The deep depressions in the floor of the South Canning Basin are filled with Palaeozoic sediments as proved by the first deep oil test well (Kidson No. 1) which was abandoned at 14,539 feet in Lower Ordovician limestone. There is no evidence in the entire basin of any marine transgression after Lower Cretaceous times.

The basin extends some 200 miles offshore to the coral islands of the Rowley Shoals where some wells have been sunk in the search for oil.

The *Carnarvon Basin* (formerly called the North-West Artesian Basin) has been the most intensively studied of the major sedimentary basins in Western Australia. It extends along the west coast from Onslow near the mouth of the Ashburton River as far south as the mouth of the Murchison River, the maximum width of the basin being 125 miles at the latitude of Carnarvon. In this basin the eastern portion up to fifty miles wide is occupied by a thick sequence of marine Palaeozoic sedimentary rocks ranging in age from Middle Devonian to Upper Middle Permian, all of which have a westerly regional dip. The estimated maximum thicknesses of the Palaeozoic strata are:

|               |      |      |      |             |
|---------------|------|------|------|-------------|
| Permian       | .... | .... | .... | 13,175 feet |
| Carboniferous | .... | .... | .... | 2,510 feet  |
| Devonian      | .... | .... | .... | 5,120 feet  |

This Palaeozoic sequence which consists of fossiliferous Devonian limestones and sandstones, Carboniferous limestones and Permian marine glacial beds, limestones, sandstones, and shales, is almost entirely marine in origin. In the Carnarvon Basin we have the only wholly marine Permian sequence in Australia, and without doubt *one of the thickest marine Permian sequences in the World.*

No rocks of Silurian age were known from the western half of the Australian continent until 1957 when a bore sunk by West Australian Petroleum Pty. Ltd. at Dirk Hartogs Island in Shark Bay encountered limestones of Silurian age underlain by sandstones which are now correlated with the reddish sandstones which outcrop in the lower reaches of the Murchison River.

To the west the Permian rocks are unconformably overlain by Cretaceous sandstones, shales, marls and limestones attaining a total thickness of 2,000 feet. It is the basal formation, the *Birdrong Sandstone*, of the Cretaceous sequence that is the oil sand encountered in Rough Range Bore No. 1. Another Cretaceous formation, the Windalia Formation, is one of the important oil reservoirs of the Barrow Island Oilfield. The Cretaceous rocks outcrop in a north-south belt averaging fifty miles wide between the Palaeozoic and Precambrian rocks on the east and the Tertiary limestones to the west. The only other Mesozoic formation exposed at the surface in this basin is a Jurassic sandstone twenty-five feet thick. However, a deep well (Cape Range No. 2) drilled in search of oil at Exmouth Gulf, after passing through the base of the Cretaceous at 3,707 feet, entered the Lower Jurassic which extended to the depth of 15,169 feet at which the bore was discontinued, thus proving a thickness of at least 11,462 feet of Lower Jurassic strata in this area. It is apparent that there is a marked thickening of the Mesozoic formations

from east to west in this area. The westernmost belt of the Carnarvon Basin is occupied by Tertiary strata, mainly limestones, which are well exposed in the Rough and Cape Ranges of the Exmouth Gulf area. These limestones, which range from Lower Miocene to Pliocene in age, total 1,200 feet in thickness and are discontinuously overlain by Pleistocene and Recent beds approximately 450 feet thick. Marine Tertiary sediments which are so well developed along the western margin of the basin extend as a thin discontinuous formation unconformably over the Permian beds of the eastern part of the basin, indicating that in Upper Eocene times the sea transgressed practically the whole of the Carnarvon Basin.

The sedimentary rocks of the Carnarvon Basin were affected by earth movements at various times. Even the youngest of the Tertiary rocks have been thrown into gentle folds which are significant so far as the search for oil is concerned because, in addition to having suitable conditions for the formation and preservation of oil, suitable structures are necessary for its concentration into local areas (oil 'pools'). So far as structure is concerned, the general picture of the Carnarvon Basin is the gentle westerly regional dip of the Palaeozoic sediments of the eastern half of the basin and the gentle dome and basin folding of the western half.

The *Perth Basin* (formerly called the Coastal Plain Artesian Basin) is a narrow elongated basin on the western border of Western Australia extending from Geraldton in the north to Cape Leeuwin in the south. At Geraldton it is thirty miles wide and is flanked both to the west and east by Precambrian crystalline rocks (mainly gneisses). The maximum width of the basin is approximately fifty miles at Watheroo and it narrows again to the south being approximately thirty miles wide in the sunkland between Busselton and Augusta. At this southern end it is again flanked both to the east and west by Precambrian rocks. The surface of the basin is mostly covered by Recent sands but occasional outcrops of rocks as old as the Permian occur in places. The only evidence available regarding the structure, thickness and age of the sediments in the basin is that provided by geophysical surveys, some deep bores sunk in the search for oil and a number of water bores up to 2,400 feet deep in the metropolitan area. Gravity surveys indicate that there is a very considerable thickness of sediments, perhaps exceeding 30,000 feet, and it is probable that in this basin we have a complete succession from the Younger Proterozoic (*Cardup Group*), which outcrops along the Darling Scarp, to the Recent sands. Other than the Proterozoic of the Darling Scarp, the oldest sediments exposed are the gently folded Permian marine sediments of the *Eradu* and *Irwin River Basins* at the north end of the main basin. The Permian sediments of the Irwin River area have a total thickness of 4,000 feet and vary from marine glacial beds at the base (as in the Carnarvon and Canning Basins) through fossiliferous marine shales and limestones to lacustrine sandy sediments with coal seams in the upper part of the sequence. Marine and continental Jurassic limestones and sandstones outcrop east of Geraldton and Jurassic beds, overlain by Cretaceous chalks and greensands, occur near Gingin and Dandaragan. In the southern part of the Perth Basin the oldest rocks exposed (if we except the Permian of the separate minor *Collie Basin* which is situated well to the east of the Darling Scarp in a glacially-gouged trough) are the Cretaceous *Donnybrook Sandstones*.

In the vicinity of Perth, artesian bores to a maximum depth of 2,400 feet expose a sequence varying from Jurassic sandstone at depth, through Cretaceous and Eocene shales. The *King's Park Shale* of Eocene (older Tertiary) age is overlain by Pleistocene aeolian sandstones of the *Coastal Limestone Formation*, the base of which is approximately 100 feet below sea-level. There is therefore a big gap in the succession here between the Eocene and Pleistocene. Many boreholes have been sunk in the north-central part of the basin in the course of oil search operations. Boreholes near the coast (at Jurien Bay and Beagle Ridge) struck Precambrian crystalline basement rocks at comparatively shallow depths of 3,360 feet and 4,860 feet. The sediments thicken further inland, as evidenced by the increasing depth to the Precambrian basement in Cadda No. 1 (9,002 feet), Woolmulla No. 1 (9,218 feet) and Arrowsmith No. 1 (11,220 feet). Very thick sedimentary sequences have been disclosed by Eneabba Bore No. 1 (which bottomed in Lower Triassic at 13,712 feet) and Gingin No. 1 (in Lower Jurassic at 14,908 feet).

Some deep wells have been drilled to the south of Perth, namely Pinjarra No. 1 which bottomed in Upper Triassic sandstone at 15,001 feet; in the far south (near the south coast), Sue No. 1 which encountered Precambrian granulites at 10,021 feet; near Perth, Cockburn No. 1 which was abandoned at 10,020 feet in Lower Jurassic sandstone; Whicher No. 1, near Busselton, which reached a depth of 15,266 feet in Permian sandstone before being abandoned; and Blackwood No. 1, abandoned at 10,939 feet in Permian sediments. The first offshore well in the Perth Basin (Quinns No. 1), spudded in on 10 October 1968 at a location approximately twenty miles north of Rottnest Island, was drilled to a depth of 7,248 feet without finding hydrocarbons. Some oil was found in a second offshore well (Gage Roads No. 1), drilled to a depth of 12,009 feet, approximately nine miles north-west of Rottnest Island.

Oil search operations in the Perth Basin have led to the discovery of significant oil and gas in the vicinity of Dongara near the northern end of the Basin and gas at Gingin, about fifty miles north of Perth. These discoveries have now been proved as gas fields. The other materials of economic significance in the Basin are coal, artesian water, limestone from the Pleistocene Coastal Limestone which is used as a source of lime and as building stone ('Cottesloe Stone'), and sand for building material. In addition, the Coastal Limestone contains picturesque caves of tourist attraction such as those of Yanchep, Yallingup and Margaret River.

The only evidence of igneous activity in the Basin is the Cretaceous basalt of the sunkland between Bunbury and Cape Gosselin on the south coast.

Very little is known about the structure of this basin. It is bounded to the east by a large fault or monoclinal fold. The evidence available indicates that the main structural character of the deeper part is a regional dip to the east (of  $15^{\circ}$  to  $20^{\circ}$ ) traversed by north-south trending faults with down-throws to the west. There is an unconformity (Upper Jurassic to Lower Cretaceous) at a depth of approximately 2,000 feet above which the Cretaceous and Tertiary sediments are almost horizontal.

The *Eucla Basin* occupying the Nullarbor Plain, in the south-eastern corner of the State is occupied at the surface by marine fossiliferous Middle Tertiary (Miocene) limestones with a marginal belt of Lower Tertiary (Eocene) limestones. The Tertiary rocks lie on sandstones and shales of probable Cretaceous age, which in turn overlie the Precambrian crystalline rocks. Little is known of the details of the stratigraphy and structure of the Eucla Basin since the beds are very flat-lying and have only been penetrated by water bores in a few places such as Madura near the coast and Loongana on the Trans-Australian Railway. The Madura bore is artesian but bores along the Trans-Australian Railway have only yielded sub-artesian water (*i.e.* the water will rise under pressure only part of the way to the surface). The oil prospects of this basin are poor because of the comparatively small thickness (2,000 feet) of the sediments and the absence of suitable folded structures to form oil traps.

The *Collie Coal Basin*. Of the minor basins and isolated occurrences of post-Proterozoic sediments, Collie, since it is the only operating coalfield in Western Australia, is the only one which will be considered here. It is situated approximately 100 miles SSE. from Perth, and has an area of about 100 square miles. Actually it is made up of two basins separated by a sub-surface granitic ridge. It is composed of sandstones and shales with interbedded coal seams and is surrounded by Precambrian rocks. The coal measures, of Permian age, are of the order of 2,000 feet in thickness of which approximately 130 feet is coal. The actual contact between the Permian coal measures and the Precambrian granitic basement has nowhere been seen at the surface but has been encountered in deep drill holes in various parts of the Basin. Such drill holes reveal that Permian mudstone containing granite pebbles lies on an ice-planed surface of the Precambrian granitic rocks. This suggests that the Collie Basin, formerly considered to be a block of the Permian downfaulted into the Precambrian basement, is actually a glacially-gouged trough formed by terrestrial glaciation in the Permian and since filled with Permian lacustrine sediments. Coal occurs at three horizons and the seams, which average six

feet in thickness, persist over fairly long distances. From the associated plant fossils these coal measures appear to be comparable in age with those of the upper part of the Permian sequence at the Irwin River near the northern end of the Perth Basin.

### The Superficial Deposits

Over a great part of the State fresh rock outcrops are comparatively sparse. Most of the country is covered by highly-weathered rocks, laterite, drift sand, soils, and, in the salt lake country, by thin evaporite deposits.

*Laterite.* In the southern half of the State the remnants of the Darling Plateau are covered by a thin layer up to ten or fifteen feet thick of a reddish-brown rock composed of spherical pebbles tightly or loosely cemented together by a lighter-coloured earthy matrix. This material in its poorly consolidated state is popularly referred to as 'iron-stone gravel' and when strongly cemented as 'ironstone'. This rock, called laterite, although it covers large areas, is purely superficial and wells or bores sunk in it pass within a few feet into highly weathered country rock which may extend down for distances up to 100 feet before encountering fresh unweathered rock. This laterite crust and the underlying highly weathered country rock were developed on a gently undulating surface during a period of warmer, more humid, climatic conditions. These tropical conditions probably existed in Late Tertiary (Pliocene) times when a great part of Western Australia had been reduced by long-continued erosion to a peneplain lying close to sea-level, or soon after, when this peneplain had been uplifted to form the *Darling Plateau*. This uplift, judged by the elevation of the laterite-capped hills and the occurrence of fossiliferous marine Eocene sediments 900 feet above sea-level at Norseman, was of the order of 1,000 feet. On the Great Plateau, remnants of this Darling Plateau are evidenced by the table-topped hills so characteristic of much of the Plateau country. The significance of the laterite profile and the soils developed from the laterite and associated weathered rocks has already been mentioned. Economically, the laterite is important for road-making materials and in a few places (such as Wundowie) as an iron ore. The main constituents of the laterite are the insoluble products of intense rock weathering—iron oxide, alumina and silica. In many places the alumina content is sufficiently high to call them bauxites. Bauxites are the main source of aluminium, and the bauxitic laterites of the Jarrahdale area in the Darling Range near Perth are being exploited as aluminium ore.

The mid-Tertiary land surface of the southern half of Western Australia on which the laterite profile was developed at a time when this country was subjected to a tropical climate extends into the northern part of the State. In the Hamersley Iron Province of the North-West Division this old land surface truncated the Lower Proterozoic banded iron formations of the Hamersley Group. At and below this old land surface, (the *Hamersley Surface*) which can be traced without tectonic break from sea-level to elevations of 4,000 feet, there was a secondary concentration of the iron of the Lower Proterozoic rocks resulting in extensive rich iron-ore deposits which make this area one of the richest iron provinces in the World.

In the far south-west of the State sub-surface hard pan formations consisting of ferruginous sandstone are a potential source of low-grade iron ore.

*Soils and drift sands.* Western Australia, an area of 975,920 square miles extending from lat. 13° 44' S. to lat. 35° 08' S., although having little variety in its broad physical features, has very considerable variation in climates from the tropical areas of summer rainfall in the north through a central and inland province of low rainfall to the temperate areas of winter rainfall in the south. Moreover, throughout this enormous area there is very considerable variation in the nature of the country rocks. The nature of the soils developed is dependent on these two factors—climate and parent rock—so it will be apparent that there will be very considerable variation in the soils over this extensive area. L. J. H. Teakle has recognised the following major soil zones of Western Australia:

1. Grey, yellow and red podsolised, or leached, soils of the temperate sclerophyll forests.
2. Red-brown earths of the eucalyptus-acacia woodlands.
3. Grey and brown calcareous, solonised soils of the low rainfall eucalyptus woodlands—('mallee' soil zone of Prescott).
4. Red and brown acidic soils of the acacia semi-desert scrub—mulga, etc.
5. Brown acidic soils of the spinifex semi-desert steppes of the North-West.
6. Pinkish-brown calcareous soils of the Nullarbor Plain desert shrub steppes.
7. Pinkish-brown calcareous soils of the acacia semi-desert scrub, mallee and salt bush-blue bush zone.
8. Brown soils of the tropical woodlands, savannahs and grasslands.
9. Red sands of the central desert sandhills—spinifex with desert acacias, desert gums and mallees (*Eucalyptus spp.*).

Each of these major soil zones may be subdivided into one or more soil regions and the reader is referred to a paper 'A Regional Classification of the Soils of Western Australia, by L. J. H. Teakle (*Jour. Roy. Soc. West. Aust. XXIV*, pp. 123-95) for details concerning the soil characteristics of these various zones and regions.

There are considerable areas of Western Australia covered by drift sand which may be in the form of parallel red sand dunes or, in the southern part of the State, extensive sandy plains. The latter have been generally considered to be residual from the weathering of granite. These sand plains are often underlain by lateritic material and they probably represent the leached zone of the laterite profile. The youngest of the drift sand deposits are the coastal sand dunes.

Coastal sand deposits are of considerable economic importance. At various places along the south and west coasts there are beach sand deposits in which there is a natural concentration of heavy minerals such as zircon, monazite, xenotime, rutile and ilmenite. Such deposits are at present being exploited at Capel and Bunbury for their ilmenite content, which is valuable because of its low chrome content. The other heavy minerals such as zircon, monazite and xenotime are also being exported overseas.

*Salt lake deposits.* These, together with the coastal sand deposits, represent the youngest of the geological formations developed—indeed they are in course of formation at the present time. They are evaporite deposits resulting from the evaporation of lake waters in the areas of internal drainage. Soluble salts produced by rock weathering are leached out by rain and running water and transported by streams to these lakes. During the long dry summers most of these lakes dry up and the soluble salts are deposited, yielding accumulations of gypsum and common salt. In a few of these inland lakes hydrated potassium aluminium sulphate (alunite), which is a valuable source of potash for fertilisers, has been formed but its actual mode of formation has not yet been satisfactorily explained.

Valuable potash reserves occur at Lake MacLeod, north of Carnarvon. This 800-square mile coastal lake contains brines saturating the mud of the lake floor which are rich in potash salts which are the last salts to crystallise on the evaporation of sea water. It is expected that these deposits, which will be Australia's only domestic source of potash, will soon come into production and, within a few years, produce the equivalent of Australia's present consumption of 200,000 tons per annum.

Solar salt (sodium chloride) is at present being produced at several localities in the North-West, such as Port Hedland, Exmouth Gulf and Shark Bay, where a combination of low-lying flat topography and shallow marine embayments (such as Useless Loop in Shark Bay) with hot dry climate resulting in high evaporation are the ideal conditions for crystallisation of sea water salts. The production of such solar salt is expected to amount to 2 million tons annually. In localities such as Shark Bay, where the waters are abnormally saline, other rocks—limestones—are in course of formation. The Shark Bay area has

proved a very fruitful area for research on the formation of various limestones and the information being derived from the study of these presently forming rocks has helped in the interpretation of the significance of such deposits which formed in past geological times.

### Conclusion

From the foregoing summary of the geology of Western Australia we see that, although nowhere do we find the complete geological succession, somewhere in the State there are deposits representative of every Period. The geological history of Western Australia begins with the basaltic igneous activity of the Early Archaeozoic some 3,000 million years ago, followed by sedimentation, intense mountain building activity and associated granitisation and granite intrusions. In post-Archaeozoic times there is a record of sedimentation throughout all the main geological periods. Igneous activity ceased in the Lower Palaeozoic and only re-occurred during the late Mesozoic, yielding the basaltic lavas of the far South-West and the volcanic rocks of the West Kimberley. By mid-Tertiary times much of Western Australia had been reduced by denudation to a gently undulating peneplain land surface on which, under tropical climatic conditions, there was an extensive development of laterite which in places constitutes valuable bauxite and iron-ore deposits. Geological processes are continuing and at the present day rocks and soils are still in the process of formation.

### The Mineral Deposits

In the foregoing pages mention has been made in various places of the mineral deposits on which the development of Western Australia has been so dependent. These deposits are directly related to the geology—the nature of the rocks and their structural relationships—of the areas in which they occur. One would not, for example, look for coal, oil or natural gas in the crystalline Precambrian Shield, nor for gold or nickel deposits in the sedimentary basins that have been described. Moreover, in spite of the fact that the nickel deposits occur in Older Precambrian rocks, not all of these rocks are potential hosts for nickel deposits—they are only likely to occur in the ultrabasic rocks which constitute a very small fraction of 1 per cent of the Older Precambrian rocks. The tabulated statement on page 33 summarises the sequence of events represented in the geological history of Western Australia and the mineral deposits associated with each. This table, read in conjunction with a geological map of any area, will indicate the economically important deposits which could possibly occur in that particular geological environment.

### Current Geological Investigations in Western Australia

While much is known about the geology and mineral resources of Western Australia, there is still much to be learned. The foregoing summary account of the geology of Western Australia is based on work carried out in the past, which has increased in tempo during the last decade because of the discovery of important oil, gas and metal-bearing mineral deposits.

At present, geological work in Western Australia is being carried out by the following bodies.

1. The Geological Survey Branch of the Department of Mines of Western Australia, which is engaged in regional geological mapping, special investigations of varied character concerned with groundwater resources, mineral deposits, and engineering geology problems, and problems arising daily, which require geological advice to the public. The major results of the Geological Survey's operations are published annually in the Annual Report of the Department of Mines of Western Australia, in Bulletins issued at irregular intervals and in four-mile scale geological maps with explanatory notes, which are also issued at irregular intervals.

2. The Geology Department of the University of Western Australia. Research projects are undertaken by members of staff and research students, varying from mapping and petrological-mineralogical projects concerned with the Precambrian rocks which make up the greater part of the State, through palaeontological work on rocks from the various sedimentary basins, to studies of present-day marine sedimentation. The results of such investigations are published in various scientific periodicals, both in Australia and overseas.
3. Oil exploration companies. Such companies have carried out geological and geophysical surveys of the various sedimentary basins and some offshore areas, and are presently engaged in deep-drilling programmes. Attention is now being given to drilling in the offshore continental shelf areas of the Canning and Perth Basins.
4. Mineral exploration companies. Following the discovery of important nickel deposits at Kambalda and Scotia near Kalgoorlie, and, subsequently, at Mount Windarra near Laverton, many Australian and overseas exploration companies are engaged in base metal exploration, particularly in the Norseman to Laverton belt of Precambrian greenstones.

The continued efforts of these institutions and exploration companies are daily adding much to our knowledge of the geology of the western third of the Australian continent.

### Seismicity of Western Australia

It had been generally considered that Western Australia was a stable block free of seismic activity in the form of earthquakes but this idea was shattered by the occurrence, on 14 October 1968, of a major earthquake centred near Meckering, eighty-four miles inland from Perth. This earthquake completely wrecked the town and most farm houses in the vicinity; alarmed numerous residents of Perth; caused minor damage to many buildings in the Perth Metropolitan Area; was felt within a radius of about 400 miles; and made people realise that Western Australia was not as stable as was previously thought. Other earthquakes, such as the Meeberrie earthquake of 29 April 1941 (the most severe earthquake yet recorded on the Australian continent), have tended to pass without much notice since they either occurred in less densely populated areas or were of low intensity. Records show (according to Everingham in a report of the Bureau of Mineral Resources, Geology and Geophysics, *Seismicity of Western Australia*) that there were forty-seven Western Australian earthquakes of local magnitude greater than 3.5 (Richter scale) recorded in the period August 1959 to June 1965, and 210 less intense earthquakes during the same period.

Most of the recorded minor earthquakes have originated in the Yandanooka-Cape Riche belt of country about 300 miles long by thirty miles wide, which lies just within the western margin of the crystalline Precambrian Shield. Indeed, all except five of the 210 recorded minor earthquakes of the period 1959 to 1965 originated in this narrow belt which is parallel to the regional geological structure of the older Precambrian rocks of the southern half of Western Australia. It was in this belt, at Meckering, that the severe earthquake of 14 October 1968 had its origin.

The major fault structure of Western Australia is the Darling Fault which forms the western margin of the Precambrian Shield and the eastern margin of the Perth Basin. It extends meridionally from the south coast for some 600 miles. It is considered that the total west block downward movement on this fault has been of the order of 30,000 to 40,000 feet. In spite of the fact that there is a major negative gravity anomaly over the Perth Basin causing this region to be isostatically unbalanced, no earthquakes have been recorded which originated on this fault—indeed there is no geological evidence of any movement on the Darling Fault for at least 1 million years. The October 1968 movement on the Meckering Fault indicates that the Precambrian Shield is in a state of compression and would support a hypothesis that the Darling Fault, instead of being a westerly-dipping structure with downthrow to the west, is more probably an easterly-dipping compression





*Block by courtesy of the National Parks Board of Western Australia*

#### WOLF CREEK METEORITE CRATER

Of the many unusual land features in Western Australia, one of the most remarkable is the Wolf Creek Meteorite Crater, sixty-five miles south of Halls Creek in the Kimberley. The second largest crater in the world where associated meteoric fragments have been found, the hole left by the meteor in the arid terrain measures 2,800 feet in diameter at the inside base of the crater rim. The average depth of the crater below the rim is 160 feet, with an average depth of seventy feet below the surrounding desert. Named after Wolf Creek, a nearby watercourse, and with an approximate area of five square miles, the crater has been classified as an 'A' Class Reserve.

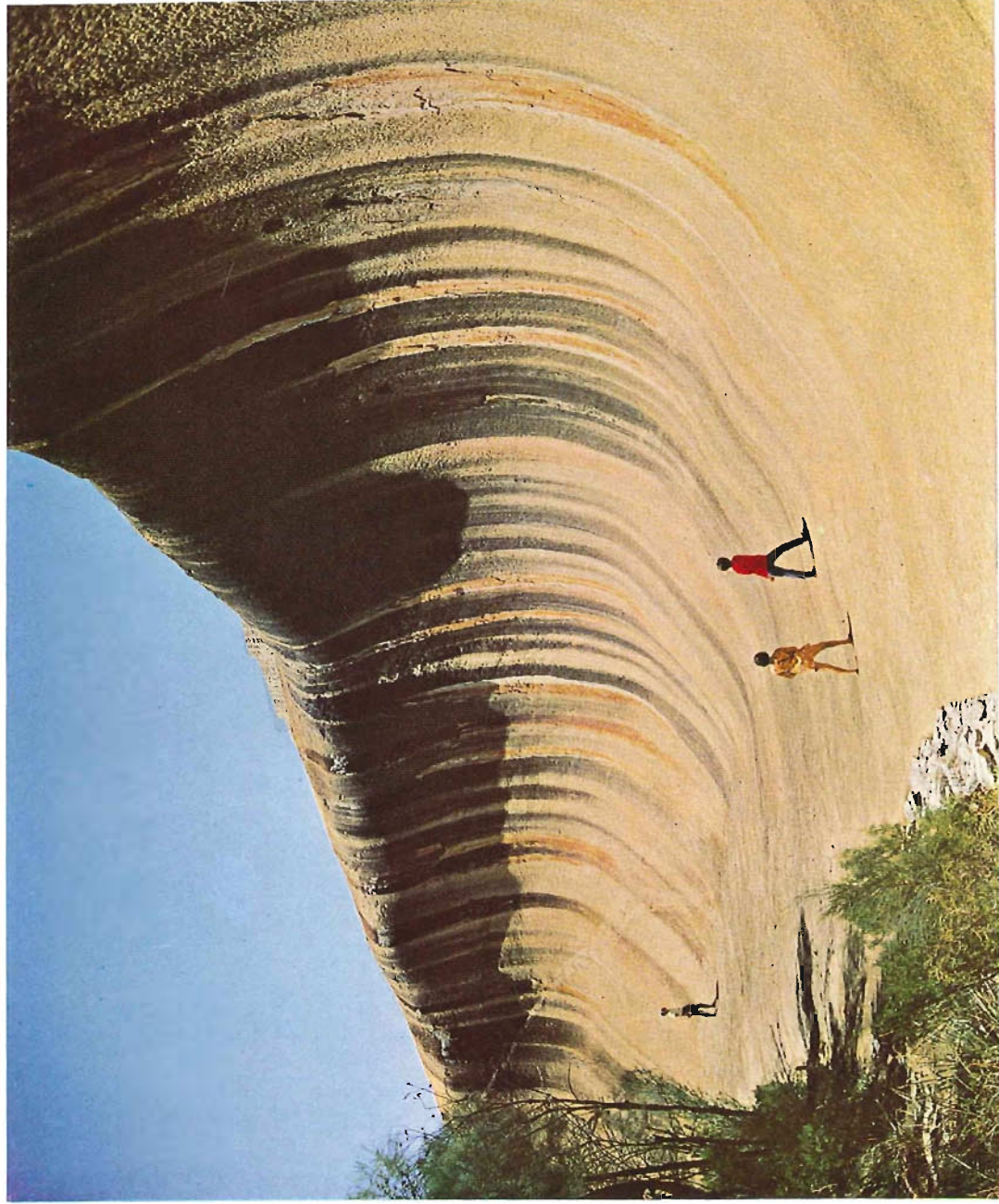


## WAVE ROCK HYDEN

This unusual geological feature is close to the town of Hyden 212 miles by road in a south-easterly direction from Perth. It is part of the north face of Hyden Rock, a granite monadnock situated little more than a mile east of the town. The remarkable undercut formation is the result of weathering and erosion. The overhang is more than fifty feet high.

To utilise the rock as a water catchment area, a wall has been built half way up the hill. Above the wall, after rains, some pools are formed which supply little springs on the down-side of the wall. The waters are charged with carbonates and iron hydroxide, probably derived from the chemical breakdown of the minerals of the rock itself. These are deposited in streaks as the water evaporates while trickling down the slope of the rock. Each streak is supplied by one of these small springs. This gives a pronounced vertical banding to the rock faces below the wall, which is one of the features of Wave Rock. The colour of the streaks vary from deep greys, through a range of rusty reds and ochres, to lighter sandy shades.

*Block by courtesy of the  
Western Australian Tourist Development Authority*



structure with the east (continental) block thrust up over the Perth Basin. This would explain the observed stability of the Perth Basin which should, according to the gravity measurements, be a very unstable area. Instead of rising, as it should because of the major negative gravity anomaly, it is being held down by the overthrust continental block.

As has been indicated, the Meckering earthquake has drawn attention to the possibility of earthquake occurrence in south Western Australia and for the necessity to consider this factor when designing large structures. Calculations have been made from records during the period 1960 to 1969 to give an approximate idea of the order of earthquake frequency in the south-west corner of the State. These have indicated that an earthquake of magnitude greater than 6.5 would occur once every fifty years, and one of magnitude greater than 5.5 every ten years, but these figures are thought to be pessimistic because records kept since 1840 suggest a lower average frequency and the data used for these calculations are swamped by the foreshocks and aftershocks of the Meckering earthquake.

## GEOLOGICAL EVENTS AND MINERAL DEPOSITS IN WESTERN AUSTRALIA

| Era         | Main geological events                                                                                                                                               | Economic mineral deposits                                                                                         |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| KAINOZOIC   | 15. Weathering and erosion (Present day) ....                                                                                                                        | Beach sand deposits, salt, gypsum, sands and clays, peat, alluvial deposits (gold, tin, etc.)                     |
|             | 14. Sedimentation (Pleistocene and Recent) ....                                                                                                                      | Ilmenite and other black sand minerals, limestone                                                                 |
|             | 13. Peneplanation (mid-Tertiary) and laterite formation                                                                                                              | Bauxite<br>Iron and manganese ores<br>Alluvial tin and gold                                                       |
|             | 12. Sedimentation (older-Tertiary) ....                                                                                                                              | Clays<br>Artesian water                                                                                           |
| MESOZOIC    | 11. Sedimentation (with basalt outflows in Cretaceous)                                                                                                               | Artesian water<br>Oil and gas<br>Coal<br>Basalt for aggregate stone                                               |
| PALAEOZOIC  | 10. Sedimentation, earth movements, periods of erosion                                                                                                               | Coal<br>Oil and gas                                                                                               |
| PROTEROZOIC | 9. Basic igneous intrusions ....                                                                                                                                     | Road metal (blue metal)<br>Lead, zinc and copper                                                                  |
|             | 8. Sedimentation and minor granitic magma intrusions                                                                                                                 |                                                                                                                   |
|             | 7. Chemical sediments (banded iron formations)                                                                                                                       | Iron ore and blue asbestos (in Hamersley basin)                                                                   |
|             | 6. Pegmatite and quartz vein formation from end-stages of granitic intrusions                                                                                        | Tin, tantalum, tungsten, beryllium, lithium minerals<br>Gold and silver in early Archaean country rocks (1 and 2) |
| ARCHAEOZOIC | 5. Intrusion of granitic magma (2,700 million years ago)                                                                                                             | Aggregate and building stone                                                                                      |
|             | 4. Granitisation—conversion of all pre-existing rocks into granitic rocks<br>Contemporaneous with intense folding, fracturing and metamorphism of pre-existing rocks | Aggregate and building stone                                                                                      |
|             | 3. Intrusion of basic magma forming stratiform layered basic/ultrabasic igneous complexes                                                                            | Nickel, copper and chromium in ultrabasic rocks                                                                   |
|             | 2. Sedimentation with minor periods of volcanic activity                                                                                                             |                                                                                                                   |
|             | 1. Eruption of submarine basaltic lavas and chemical deposition of banded ferruginous cherts                                                                         | Iron ore                                                                                                          |

## FURTHER SOURCES OF INFORMATION ON THE GEOLOGY OF WESTERN AUSTRALIA

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## *Chapter II—continued*

### **Part 2—Climate and Meteorology<sup>(1)</sup>**

*(Contributed by the Western Australian Regional Office of the Bureau of Meteorology)*

Western Australia is the largest State in the Commonwealth, extending from latitude 13° 44' S. to 35° 08' S., and from longitude 113° 09' E. to 129° E. It stretches a distance of about 1,500 miles in a north-south direction and about 1,000 miles west-east. A little more than one-third of the State lies within the tropics, while the remainder extends southward to the temperate zone.

Because of its large size and its latitudinal position, Western Australia has entirely different climates in its northern and southern parts, while in the central regions there is a gradual change from the tropical climate of the north to the typical Mediterranean climate of the south.

Most of the State is a plateau between 1,000 and 2,000 feet above mean sea-level and there are no outstanding mountain ranges. Where the edge of the plateau forms the Darling Range along the southern part of the west coast, it exerts a marked influence on the rainfall, causing a rapid increase from the coastal plain to the higher land. Elsewhere the effect of topography is less marked and its main influence is seen in the general decrease of rainfall with increasing distance from the coast.

#### PRESSURE SYSTEMS

Weather during the year is controlled largely by the movement of the anticyclonic belt (high pressure systems with anti-clockwise winds), which lies in an east-west direction across the continent for about six months of the year.

In winter this system moves northward, bringing clear skies with fine sunny days and easterly winds to the tropics. With this northward movement, westerly winds on the southern side of the anticyclones extend over the southern part of the State, bringing with them cool cloudy weather and rain. In mid-winter the northern fringe of the 'Roaring Forties' extends to Western Australia and there are frequent westerly gales in the south coastal belt.

These westerly winds are maintained by a series of depressions (low pressure systems with clockwise winds), which move eastward well south of the Western Australian coast, and others which originate in the Indian Ocean and move south-eastward past Cape Leeuwin. The extent to which westerlies affect the State depends largely on the intensity and the position of these depressions.

Towards the end of winter the anticyclonic belt moves southward, and the westerlies are confined more to the lower south-west and the south coastal districts. By summer the anticyclonic belt has moved so far south that its axis is off the south coast and easterly winds prevail over most of the State.

During this summer period the midday sun is at a high elevation in the tropics and the continual heating leads to the development of a monsoonal depression over this region. Wind circulation round this system causes easterlies on its southern or inland side, but in the coastal districts north-east from Onslow, and in parts of the Kimberley, westerlies prevail. Winds in both the north and the south of the State are then in the opposite direction to those prevailing during the winter.

As the sun moves northward again the anticyclonic belt follows it. The monsoonal depression over the tropics dissipates and westerlies again gradually extend northward to the southern part of the State.

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<sup>(1)</sup> See *Appendix* for additional information contained in earlier issues of the Year Book.

During the northern 'Wet' season (from about December to March), occasional cyclones, known locally as 'willy willys', bring strong winds and rain to the tropics. They originate generally in the Timor Sea or off the north-west coast and often move first in a south-westerly direction parallel to the coast and later in a south-easterly direction.

They frequently move inland between Broome and Onslow but occasionally travel further westward before curving to the south-east and moving inland over the west coast. Others fade out at sea without ever crossing the coast. Those that move inland usually commence to dissipate soon after crossing the coast, but occasionally they move right across the State, passing into the Southern Ocean and moving off towards Tasmania.

These storms are often extremely violent and have on occasions almost completely wrecked towns on the north-west coast, while a cyclone which struck a pearling fleet off the Eighty Mile Beach in 1887 caused the loss of twenty-two vessels and 140 lives.

However, despite the damage which they cause, the storms are of great benefit to the pastoral regions on account of the heavy and widespread rain which generally accompanies them. The heaviest fall ever recorded in one day in Western Australia, 29.41 inches, was received at Whim Creek from a cyclone in 1898.

### RAINFALL

The moist rain-bearing winds in this State are in general from a westerly direction. The easterlies, having come from the dry inland parts of Australia, usually bring fine weather and clear skies.

Because of this the highest rainfall occurs in the winter months in the south of the State, and in the summer months in the north. In between these areas there is a gradual change from one rainfall regime to the other.

From the map on page 40, which shows the wettest six-monthly period of the year, it can be seen that the summer rainfall area extends southward from the Kimberley to the Trans-Australian Railway, where there is a rapid change to the winter rainfall regime of the south coast. However, the difference between summer and winter totals decreases southward, and the southern part of this region is one of almost uniform average rainfall.

Proceeding northward from the winter rainfall area of the south-west of the State, the wet period occurs earlier during the year. Across a belt Carnarvon-Menzies-Eucla, there is a more rapid change, and this belt divides the winter rainfall area from that which receives most of its rain in the first six months of the year. Further north, the change is more gradual but continuous and in the Kimberley most of the year's rainfall is received in the summer months which, in the southern parts of the State, are the driest of the year.

The mean annual rainfall for the State is shown on the map on page 41 and on the map inside the back cover of the book.

The following table shows the average rainfall and number of wet days, the highest and lowest monthly totals, and the highest daily fall for various centres.

#### RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS

(Stations are arranged from north to south in three groups: Coastal, Wheat Belt and Other Inland)

| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr.  | May | June | July | Aug. | Sept. | Oct. | Nov.  | Dec.  | Year  |
|--------------------------------------|-------|-------|-------|-------|-----|------|------|------|-------|------|-------|-------|-------|
| <b>COASTAL</b>                       |       |       |       |       |     |      |      |      |       |      |       |       |       |
| <i>Wyndham</i> (23 feet)†—           |       |       |       |       |     |      |      |      |       |      |       |       |       |
| Rainfall—Average (points)            | 749   | 649   | 470   | 109   | 30  | 20   | 17   | 2    | 8     | 45   | 185   | 434   | 2,718 |
| Highest (points)                     | 2,824 | 2,058 | 1,758 | 2,027 | 347 | 473  | 524  | 84   | 136   | 334  | 558   | 1,150 | 5,634 |
| Lowest (points)                      | 51    | 54    | 0     | 0     | 0   | 0    | 0    | 0    | 0     | 0    | 1     | 28    | 1,438 |
| Highest one day (points) .....       | 1,212 | 590   | 1,250 | 1,732 | 247 | 445  | 338  | 42   | 306   | 225  | 335   | 434   | 1,732 |
| Wet days—Average number              | 13    | 12    | 9     | 3     | 1   | 1    | 1    | 0    | 0     | 2    | 6     | 10    | 58    |
| <i>Broome</i> (37 feet)†—            |       |       |       |       |     |      |      |      |       |      |       |       |       |
| Rainfall—Average (points)            | 410   | 559   | 299   | 128   | 137 | 66   | 35   | 8    | 7     | 5    | 34    | 115   | 1,803 |
| Highest (points)                     | 3,256 | 2,358 | 2,360 | 1,019 | 700 | 973  | 283  | 374  | 86    | 48   | 1,095 | 1,449 | 4,307 |
| Lowest (points)                      | 11    | 6     | 0     | 0     | 0   | 0    | 0    | 0    | 0     | 0    | 0     | 0     | 544   |
| Highest one day (points) .....       | 1,400 | 1,191 | 1,062 | 714   | 3   | 563  | 216  | 147  | 82    | 28   | 553   | 827   | 1,400 |
| Wet days—Average number              | 10    | 10    | 7     | 3     | 2   | 2    | 2    | 0    | 1     | 1    | 1     | 5     | 44    |

† Height above mean sea-level.

RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. | Oct. | Nov. | Dec.  | Year  |
|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|
| <i>COASTAL—continued</i>             |       |       |       |       |       |       |       |       |       |      |      |       |       |
| <i>Port Hedland (25 feet)†—</i>      |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 193   | 365   | 176   | 74    | 130   | 58    | 46    | 17    | 4     | 6    | 9    | 86    | 1,164 |
| Highest (points)                     | 1,969 | 1,432 | 1,716 | 1,386 | 873   | 696   | 384   | 584   | 99    | 129  | 336  | 1,023 | 4,013 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 125   |
| Highest one day (points) .....       | 1,524 | 955   | 1,113 | 469   | 638   | 560   | 185   | 364   | 85    | 127  | 304  | 900   | 1,113 |
| Wet days—Average number              | 4     | 6     | 4     | 2     | 3     | 2     | 2     | 1     | 1     | 1    | 0    | 1     | 27    |
| <i>Roebourne (40 feet)†—</i>         |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 247   | 240   | 283   | 124   | 116   | 102   | 56    | 21    | 6     | 3    | 7    | 38    | 1,243 |
| Highest (points)                     | 1,448 | 1,278 | 1,607 | 2,173 | 887   | 1,216 | 530   | 385   | 158   | 120  | 120  | 507   | 4,173 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 13    |
| Highest one day (points) .....       | 911   | 666   | 1,032 | 1,144 | 660   | 462   | 530   | 172   | 90    | 115  | 66   | 383   | 1,144 |
| Wet days—Average number              | 3     | 4     | 4     | 2     | 2     | 2     | 1     | 1     | 0     | 0    | 0    | 2     | 21    |
| <i>Onslow (14 feet)†—</i>            |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 106   | 291   | 305   | 26    | 186   | 203   | 87    | 18    | 2     | 2    | 15   | 11    | 1,252 |
| Highest (points)                     | 1,028 | 2,122 | 1,633 | 1,100 | 1,020 | 908   | 872   | 421   | 98    | 61   | 237  | 241   | 4,265 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 57    |
| Highest one day (points) .....       | 932   | 1,079 | 1,238 | 617   | 937   | 436   | 355   | 251   | 59    | 29   | 117  | 198   | 1,238 |
| Wet days—Average number              | 2     | 4     | 3     | 2     | 4     | 4     | 4     | 2     | 1     | 0    | 1    | 1     | 28    |
| <i>Carnarvon (15 feet)†—</i>         |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 21    | 95    | 65    | 31    | 168   | 198   | 168   | 70    | 18    | 17   | 8    | 3     | 862   |
| Highest (points)                     | 619   | 719   | 520   | 647   | 800   | 865   | 593   | 355   | 96    | 198  | 75   | 483   | 2,536 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 0     | 5     | 6     | 0     | 0     | 0    | 0    | 0     | 266   |
| Highest one day (points) .....       | 358   | 441   | 470   | 197   | 410   | 475   | 322   | 193   | 63    | 104  | 28   | 469   | 475   |
| Wet days—Average number              | 2     | 3     | 2     | 3     | 6     | 7     | 7     | 5     | 2     | 3    | 1    | 1     | 42    |
| <i>Geraldton (13 feet)†—</i>         |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 33    | 51    | 38    | 107   | 278   | 423   | 406   | 268   | 105   | 60   | 21   | 28    | 1,818 |
| Highest (points)                     | 379   | 517   | 666   | 457   | 1,292 | 1,292 | 958   | 952   | 412   | 429  | 157  | 230   | 3,365 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 0     | 132   | 70    | 33    | 0     | 0    | 0    | 0     | 902   |
| Highest one day (points) .....       | 310   | 324   | 369   | 270   | 307   | 430   | 201   | 365   | 169   | 280  | 140  | 202   | 430   |
| Wet days—Average number              | 2     | 3     | 3     | 6     | 10    | 14    | 16    | 12    | 9     | 7    | 4    | 2     | 88    |
| <i>Perth—Bureau (51 ft)†—</i>        |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 32    | 44    | 81    | 181   | 497   | 722   | 688   | 557   | 319   | 216  | 82   | 59    | 3,478 |
| Highest (points)                     | 217   | 655   | 571   | 585   | 1,213 | 1,875 | 1,673 | 1,253 | 784   | 787  | 278  | 317   | 5,267 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 77    | 216   | 242   | 46    | 34    | 15   | 0    | 0     | 2,000 |
| Highest one day (points) .....       | 174   | 343   | 303   | 262   | 300   | 390   | 300   | 291   | 182   | 173  | 154  | 184   | 390   |
| Wet days—Average number              | 3     | 3     | 4     | 8     | 14    | 17    | 18    | 18    | 14    | 12   | 6    | 4     | 121   |
| <i>Bunbury (17 feet)†—</i>           |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 38    | 47    | 93    | 183   | 515   | 732   | 690   | 501   | 325   | 216  | 97   | 54    | 3,491 |
| Highest (points)                     | 340   | 405   | 330   | 690   | 1,047 | 1,620 | 1,640 | 1,187 | 793   | 769  | 331  | 316   | 5,374 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 38    | 287   | 194   | 82    | 0     | 26   | 0    | 0     | 1,904 |
| Highest one day (points) .....       | 222   | 338   | 258   | 240   | 317   | 472   | 372   | 263   | 227   | 154  | 205  | 104   | 472   |
| Wet days—Average number              | 3     | 3     | 4     | 7     | 14    | 18    | 18    | 17    | 14    | 11   | 6    | 4     | 119   |
| <i>Albany (41 feet)†—</i>            |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 94    | 90    | 160   | 286   | 485   | 540   | 573   | 511   | 408   | 318  | 157  | 126   | 3,748 |
| Highest (points)                     | 854   | 635   | 653   | 921   | 1,140 | 1,152 | 1,060 | 1,124 | 796   | 736  | 671  | 459   | 5,484 |
| Lowest (points)                      | 4     | 0     | 10    | 19    | 174   | 159   | 205   | 198   | 80    | 56   | 19   | 6     | 2,507 |
| Highest one day (points) .....       | 345   | 226   | 353   | 226   | 408   | 285   | 240   | 443   | 312   | 184  | 307  | 323   | 443   |
| Wet days—Average number              | 7     | 7     | 10    | 13    | 18    | 20    | 20    | 20    | 18    | 16   | 11   | 9     | 169   |
| <i>Esperance (14 feet)†—</i>         |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 68    | 79    | 107   | 181   | 322   | 401   | 417   | 375   | 280   | 217  | 114  | 92    | 2,653 |
| Highest (points)                     | 524   | 471   | 491   | 691   | 705   | 1,076 | 945   | 830   | 687   | 574  | 571  | 320   | 3,625 |
| Lowest (points)                      | 0     | 0     | 0     | 8     | 80    | 109   | 93    | 75    | 42    | 52   | 0    | 0     | 1,724 |
| Highest one day (points) .....       | 274   | 277   | 175   | 496   | 205   | 416   | 218   | 232   | 455   | 179  | 200  | 279   | 496   |
| Wet days—Average number              | 5     | 5     | 7     | 9     | 14    | 16    | 17    | 16    | 14    | 12   | 7    | 6     | 128   |
| <i>Eucula (290 feet)†—</i>           |       |       |       |       |       |       |       |       |       |      |      |       |       |
| Rainfall —Average (points)           | 60    | 70    | 79    | 106   | 122   | 105   | 92    | 90    | 71    | 76   | 64   | 53    | 988   |
| Highest (points)                     | 375   | 680   | 501   | 807   | 349   | 608   | 245   | 323   | 333   | 291  | 448  | 455   | 1,705 |
| Lowest (points)                      | 0     | 0     | 0     | 0     | 0     | 7     | 11    | 7     | 2     | 2    | 0    | 0     | 442   |
| Highest one day (points) .....       | 213   | 453   | 202   | 163   | 130   | 143   | 103   | 122   | 157   | 130  | 110  | 192   | 453   |
| Wet days—Average number              | 3     | 4     | 5     | 8     | 9     | 10    | 10    | 9     | 8     | 7    | 6    | 4     | 83    |

† Height above mean sea-level.



RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

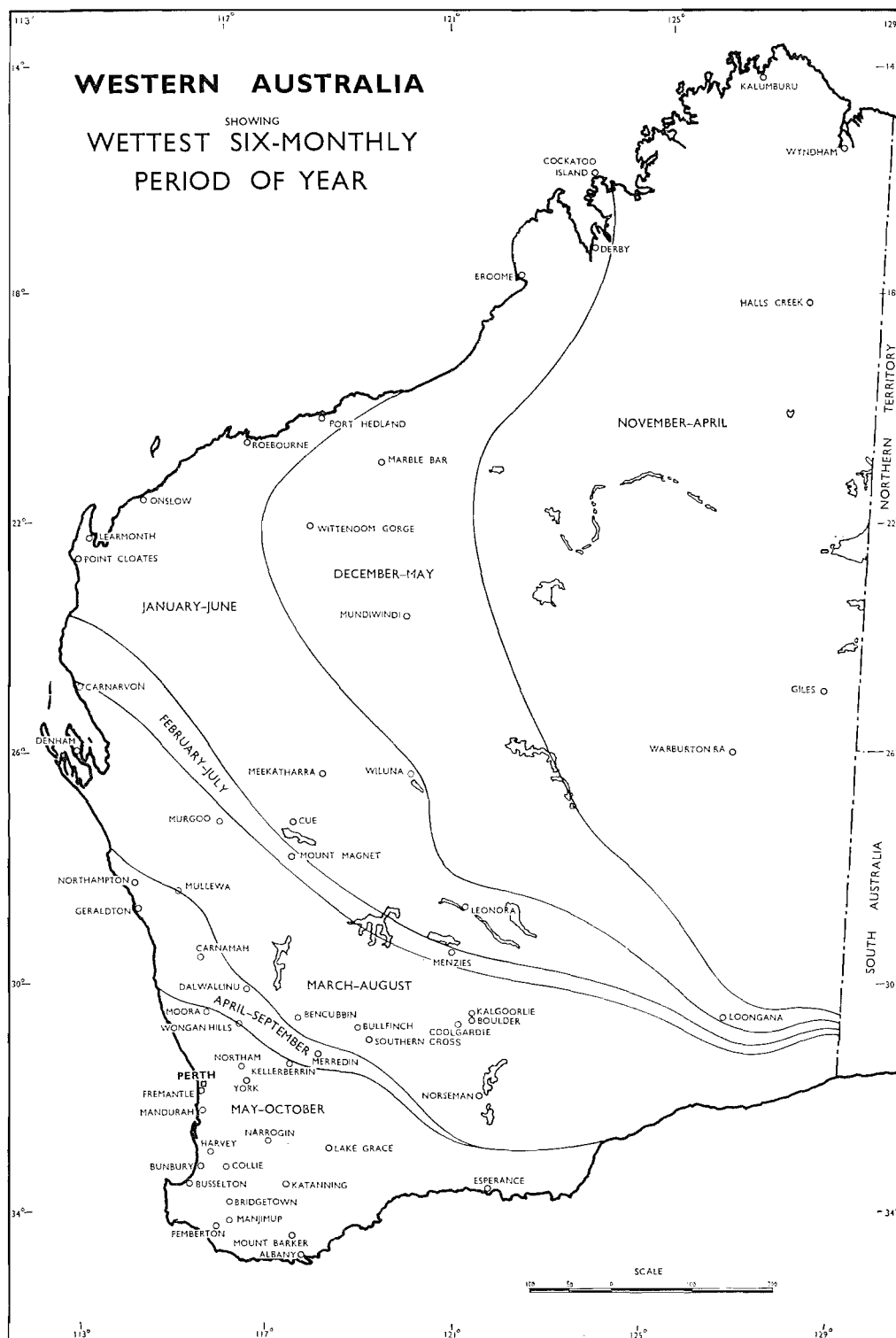
| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr. | May | June  | July  | Aug.  | Sept. | Oct. | Nov. | Dec. | Year  |
|--------------------------------------|-------|-------|-------|------|-----|-------|-------|-------|-------|------|------|------|-------|
| <b>WHEAT BELT</b>                    |       |       |       |      |     |       |       |       |       |      |      |      |       |
| <i>Carnamah</i> (879 feet)†—         |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 42    | 54    | 84    | 85   | 200 | 312   | 283   | 219   | 117   | 68   | 42   | 35   | 1,541 |
| Highest (points)                     | 404   | 405   | 551   | 422  | 668 | 910   | 742   | 757   | 332   | 288  | 357  | 222  | 3,078 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 6   | 83    | 53    | 48    | 2     | 0    | 0    | 0    | 837   |
| Highest one day (points) ....        | 380   | 236   | 299   | 350  | 290 | 241   | 170   | 260   | 129   | 157  | 280  | 197  | 380   |
| Wet days—Average number              | 2     | 2     | 2     | 4    | 9   | 12    | 13    | 11    | 8     | 6    | 2    | 2    | 73    |
| <i>Wongan Hills</i> (906 feet)†—     |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 43    | 49    | 86    | 88   | 209 | 302   | 282   | 207   | 107   | 72   | 40   | 39   | 1,524 |
| Highest (points)                     | 274   | 435   | 653   | 320  | 739 | 866   | 687   | 515   | 285   | 239  | 171  | 230  | 2,657 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 1   | 87    | 32    | 33    | 6     | 0    | 0    | 0    | 629   |
| Highest one day (points) ....        | 273   | 314   | 320   | 243  | 250 | 274   | 161   | 135   | 146   | 141  | 117  | 225  | 320   |
| Wet days—Average number              | 1     | 1     | 2     | 4    | 8   | 11    | 13    | 10    | 7     | 5    | 2    | 1    | 65    |
| <i>Kellerberrin</i> (820 feet)†—     |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 38    | 50    | 89    | 80   | 170 | 224   | 220   | 167   | 104   | 76   | 42   | 55   | 1,315 |
| Highest (points)                     | 344   | 499   | 599   | 396  | 419 | 640   | 483   | 392   | 289   | 303  | 266  | 265  | 2,602 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 0   | 59    | 41    | 10    | 8     | 1    | 0    | 0    | 678   |
| Highest one day (points) ....        | 206   | 426   | 404   | 228  | 159 | 207   | 150   | 158   | 93    | 168  | 129  | 224  | 426   |
| Wet days—Average number              | 2     | 2     | 3     | 5    | 8   | 12    | 13    | 10    | 8     | 6    | 3    | 2    | 74    |
| <i>Southern Cross</i> (1,170 feet)†— |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 47    | 72    | 94    | 80   | 130 | 143   | 149   | 116   | 73    | 60   | 51   | 45   | 1,060 |
| Highest (points)                     | 444   | 538   | 665   | 504  | 469 | 719   | 420   | 346   | 418   | 312  | 293  | 282  | 2,264 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 0   | 20    | 42    | 2     | 0     | 0    | 0    | 0    | 464   |
| Highest one day (points) ....        | 248   | 331   | 240   | 172  | 217 | 168   | 143   | 120   | 205   | 216  | 200  | 156  | 331   |
| Wet days—Average number              | 3     | 2     | 4     | 4    | 7   | 8     | 9     | 9     | 6     | 5    | 3    | 2    | 62    |
| <i>Merredin</i> (1,046 feet)†—       |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 39    | 50    | 87    | 89   | 161 | 203   | 216   | 156   | 101   | 77   | 51   | 54   | 1,284 |
| Highest (points)                     | 367   | 315   | 634   | 447  | 518 | 591   | 498   | 340   | 337   | 296  | 271  | 364  | 2,219 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 5   | 23    | 34    | 4     | 0     | 0    | 0    | 0    | 512   |
| Highest one day (points) ....        | 258   | 260   | 325   | 235  | 194 | 166   | 181   | 132   | 176   | 105  | 144  | 191  | 325   |
| Wet days—Average number              | 2     | 3     | 3     | 4    | 8   | 11    | 12    | 10    | 7     | 6    | 3    | 2    | 71    |
| <i>Northam</i> (490 feet)†—          |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 33    | 46    | 76    | 89   | 226 | 327   | 340   | 249   | 142   | 96   | 42   | 36   | 1,702 |
| Highest (points)                     | 219   | 747   | 744   | 332  | 583 | 916   | 871   | 669   | 506   | 395  | 162  | 259  | 2,798 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 4   | 40    | 77    | 12    | 10    | 0    | 0    | 0    | 764   |
| Highest one day (points) ....        | 148   | 455   | 497   | 294  | 257 | 226   | 220   | 150   | 180   | 185  | 126  | 195  | 497   |
| Wet days—Average number              | 2     | 2     | 3     | 5    | 10  | 14    | 15    | 13    | 10    | 7    | 3    | 2    | 86    |
| <i>Wandering</i> (1,100 feet)†—      |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 37    | 54    | 91    | 130  | 324 | 474   | 472   | 378   | 257   | 181  | 70   | 60   | 2,528 |
| Highest (points)                     | 222   | 961   | 481   | 476  | 766 | 1,450 | 1,274 | 1,062 | 757   | 508  | 254  | 416  | 4,135 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 42  | 99    | 133   | 54    | 33    | 5    | 0    | 0    | 1,168 |
| Highest one day (points) ....        | 192   | 543   | 410   | 199  | 240 | 336   | 273   | 210   | 180   | 168  | 190  | 250  | 543   |
| Wet days—Average number              | 3     | 3     | 5     | 8    | 13  | 17    | 19    | 17    | 13    | 11   | 6    | 4    | 119   |
| <i>Narrogin</i> (1,114 feet)†—       |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 39    | 65    | 86    | 117  | 255 | 357   | 364   | 277   | 190   | 132  | 56   | 51   | 1,989 |
| Highest (points)                     | 270   | 934   | 502   | 495  | 599 | 1,182 | 957   | 729   | 478   | 483  | 290  | 373  | 2,917 |
| Lowest (points)                      | 0     | 0     | 0     | 0    | 38  | 99    | 98    | 62    | 26    | 6    | 0    | 0    | 1,056 |
| Highest one day (points) ....        | 197   | 454   | 450   | 249  | 269 | 280   | 320   | 165   | 144   | 139  | 150  | 196  | 454   |
| Wet days—Average number              | 2     | 2     | 4     | 6    | 11  | 13    | 15    | 14    | 11    | 8    | 4    | 3    | 93    |
| <i>Katanning</i> (1,016 feet)†—      |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 42    | 61    | 94    | 122  | 245 | 306   | 308   | 243   | 182   | 144  | 71   | 67   | 1,885 |
| Highest (points)                     | 341   | 884   | 528   | 638  | 583 | 844   | 685   | 681   | 484   | 450  | 355  | 293  | 3,077 |
| Lowest (points)                      | 0     | 0     | 0     | 2    | 28  | 84    | 86    | 51    | 14    | 17   | 0    | 0    | 1,072 |
| Highest one day (points) ....        | 253   | 495   | 271   | 417  | 233 | 276   | 182   | 172   | 145   | 198  | 165  | 216  | 495   |
| Wet days—Average number              | 3     | 3     | 5     | 7    | 12  | 15    | 17    | 15    | 13    | 10   | 5    | 4    | 109   |
| <b>OTHER INLAND</b>                  |       |       |       |      |     |       |       |       |       |      |      |      |       |
| <i>Halls Creek</i> (1,225 feet)†—    |       |       |       |      |     |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)           | 528   | 463   | 156   | 76   | 51  | 22    | 33    | 10    | 9     | 52   | 120  | 251  | 1,771 |
| Highest (points)                     | 2,274 | 1,467 | 1,451 | 646  | 659 | 344   | 316   | 221   | 207   | 408  | 789  | 905  | 4,202 |
| Lowest (points)                      | 20    | 11    | 0     | 0    | 0   | 0     | 0     | 0     | 0     | 0    | 0    | 12   | 844   |
| Highest one day (points) ....        | 831   | 510   | 685   | 578  | 241 | 143   | 189   | 205   | 123   | 142  | 198  | 471  | 831   |
| Wet days—Average number              | 12    | 12    | 6     | 3    | 2   | 1     | 1     | 0     | 1     | 2    | 6    | 9    | 55    |

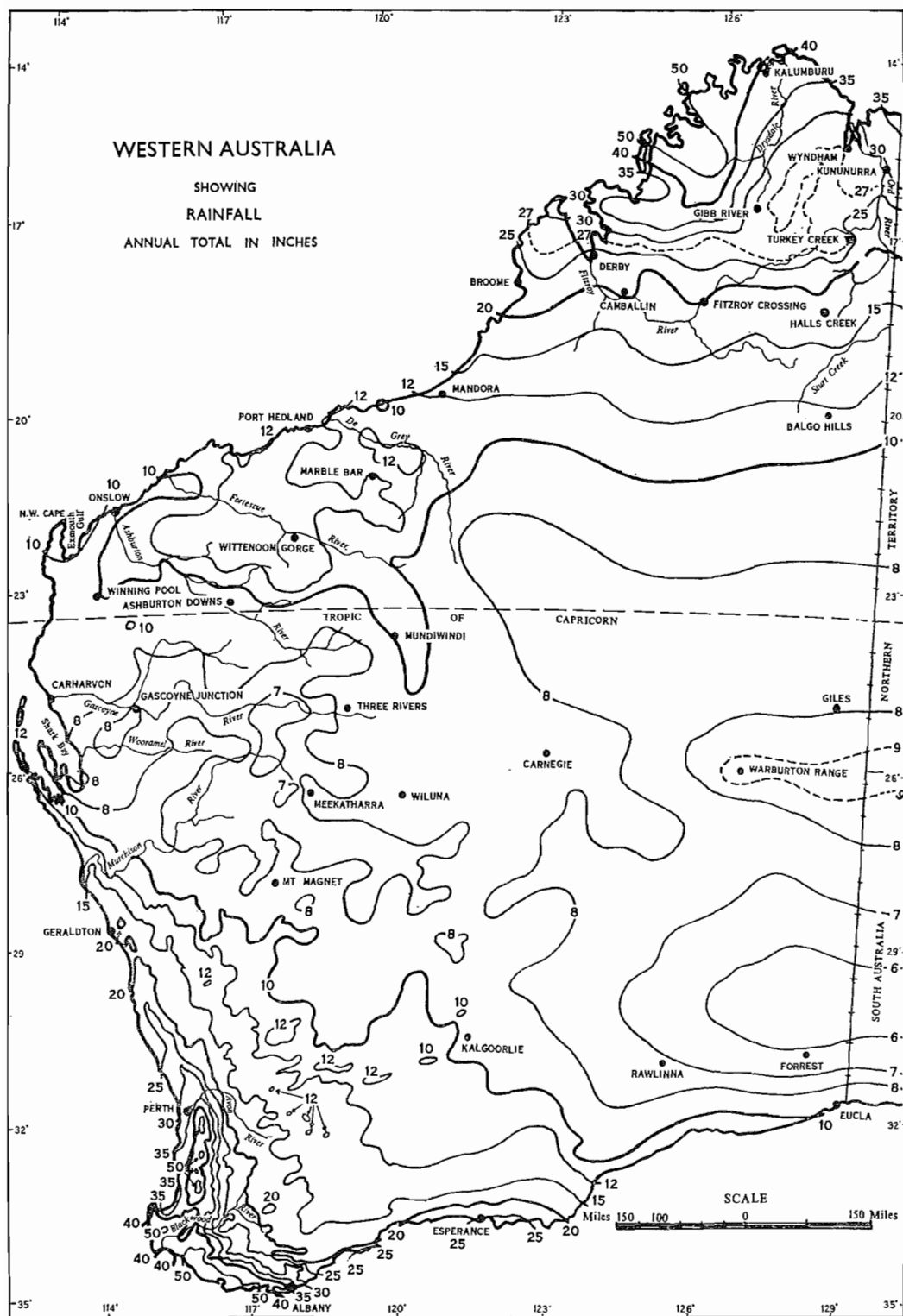
† Height above mean sea-level.

RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

| Reporting station and characteristic  | Jan.  | Feb.  | Mar.  | Apr. | May   | June  | July  | Aug.  | Sept. | Oct. | Nov. | Dec. | Year  |
|---------------------------------------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|------|------|-------|
| <b>OTHER INLAND—<i>continued</i></b>  |       |       |       |      |       |       |       |       |       |      |      |      |       |
| <b>Marble Bar (595 feet†)—</b>        |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 285   | 290   | 214   | 83   | 89    | 93    | 52    | 21    | 4     | 18   | 35   | 135  | 1,319 |
| Highest (points)                      | 1,219 | 924   | 1,530 | 947  | 735   | 651   | 527   | 135   | 95    | 458  | 242  | 957  | 2,920 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0    | 280   |
| Highest one day (points) .....        | 574   | 470   | 1,200 | 536  | 360   | 412   | 247   | 125   | 95    | 332  | 238  | 592  | 1,200 |
| Wet days—Average number               | 7     | 6     | 4     | 2    | 2     | 2     | 2     | 1     | 0     | 0    | 2    | 4    | 32    |
| <b>Mundiwindi (1,840 feet†)—</b>      |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 177   | 181   | 193   | 86   | 84    | 76    | 33    | 31    | 14    | 32   | 42   | 107  | 1,056 |
| Highest (points)                      | 1,262 | 1,278 | 1,051 | 710  | 477   | 445   | 276   | 209   | 240   | 368  | 280  | 628  | 3,211 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0    | 103   |
| Highest one day (points) .....        | 298   | 278   | 688   | 237  | 219   | 175   | 168   | 152   | 135   | 210  | 227  | 450  | 688   |
| Wet days—Average number               | 6     | 6     | 5     | 3    | 3     | 3     | 2     | 2     | 1     | 1    | 3    | 4    | 39    |
| <b>Warburton Range (1,515 feet†)—</b> |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 83    | 100   | 106   | 101  | 85    | 76    | 49    | 52    | 15    | 45   | 71   | 108  | 891   |
| Highest (points)                      | 697   | 587   | 710   | 435  | 357   | 388   | 211   | 284   | 965   | 188  | 328  | 375  | 2,719 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0    | 137   |
| Highest one day (points) .....        | 230   | 307   | 398   | 302  | 163   | 164   | 87    | 138   | 95    | 70   | 186  | 239  | 398   |
| Wet days—Average number               | 4     | 3     | 3     | 3    | 4     | 3     | 3     | 2     | 1     | 2    | 3    | 5    | 36    |
| <b>Meekatharra (1,676 feet†)—</b>     |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 135   | 118   | 80    | 34   | 78    | 160   | 64    | 38    | 16    | 11   | 41   | 21   | 796   |
| Highest (points)                      | 841   | 557   | 822   | 542  | 514   | 615   | 200   | 304   | 143   | 101  | 371  | 411  | 2,031 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0    | 191   |
| Highest one day (points) .....        | 335   | 330   | 405   | 431  | 303   | 238   | 134   | 153   | 132   | 84   | 322  | 270  | 431   |
| Wet days—Average number               | 5     | 4     | 4     | 3    | 5     | 7     | 6     | 3     | 2     | 1    | 1    | 2    | 43    |
| <b>Laverton (1,506 feet†)—</b>        |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 94    | 80    | 127   | 89   | 90    | 94    | 55    | 52    | 30    | 30   | 58   | 65   | 864   |
| Highest (points)                      | 559   | 567   | 479   | 805  | 487   | 497   | 192   | 334   | 265   | 198  | 598  | 530  | 1,782 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0    | 258   |
| Highest one day (points) .....        | 294   | 341   | 265   | 187  | 246   | 159   | 89    | 160   | 3     | 172  | 193  | 278  | 358   |
| Wet days—Average number               | 3     | 3     | 3     | 4    | 4     | 5     | 4     | 3     | 2     | 2    | 2    | 2    | 37    |
| <b>Kalgoorlie (1,247 feet†)—</b>      |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 73    | 143   | 64    | 82   | 88    | 108   | 99    | 76    | 68    | 36   | 61   | 45   | 943   |
| Highest (points)                      | 801   | 1,238 | 655   | 404  | 433   | 731   | 324   | 318   | 386   | 314  | 276  | 257  | 1,911 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 8     | 0     | 0     | 0    | 0    | 0    | 475   |
| Highest one day (points) .....        | 608   | 700   | 279   | 282  | 315   | 225   | 147   | 137   | 174   | 246  | 254  | 199  | 700   |
| Wet days—Average number               | 3     | 4     | 4     | 5    | 7     | 8     | 9     | 7     | 5     | 4    | 3    | 3    | 62    |
| <b>Rawlinna (607 feet†)—</b>          |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 59    | 57    | 72    | 72   | 65    | 72    | 51    | 69    | 42    | 52   | 48   | 53   | 712   |
| Highest (points)                      | 828   | 483   | 336   | 448  | 319   | 513   | 207   | 609   | 334   | 250  | 317  | 461  | 1,956 |
| Lowest (points)                       | 0     | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0    | 310   |
| Highest one day (points) .....        | 393   | 289   | 187   | 227  | 122   | 149   | 100   | 261   | 282   | 123  | 257  | 192  | 393   |
| Wet days—Average number               | 2     | 2     | 3     | 3    | 4     | 5     | 4     | 4     | 3     | 3    | 3    | 2    | 38    |
| <b>Collie (624 feet†)—</b>            |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 53    | 58    | 103   | 194  | 524   | 736   | 755   | 582   | 421   | 281  | 112  | 66   | 3,885 |
| Highest (points)                      | 304   | 702   | 414   | 719  | 1,036 | 1,865 | 1,731 | 1,628 | 977   | 837  | 352  | 317  | 5,769 |
| Lowest (points)                       | 0     | 0     | 0     | 15   | 58    | 230   | 203   | 123   | 57    | 7    | 2    | 1    | 2,377 |
| Highest one day (points) .....        | 224   | 419   | 331   | 249  | 243   | 357   | 272   | 288   | 220   | 191  | 141  | 126  | 419   |
| Wet days—Average number               | 4     | 3     | 6     | 10   | 16    | 19    | 21    | 19    | 17    | 13   | 8    | 5    | 141   |
| <b>Manjimup (917 feet†)—</b>          |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 76    | 79    | 132   | 254  | 563   | 715   | 720   | 599   | 441   | 326  | 172  | 104  | 4,181 |
| Highest (points)                      | 320   | 462   | 542   | 763  | 1,059 | 1,307 | 1,258 | 1,272 | 1,010 | 652  | 478  | 306  | 6,934 |
| Lowest (points)                       | 0     | 0     | 2     | 34   | 104   | 339   | 168   | 193   | 94    | 74   | 10   | 0    | 2,558 |
| Highest one day (points) .....        | 183   | 172   | 351   | 303  | 312   | 325   | 196   | 213   | 231   | 170  | 153  | 125  | 351   |
| Wet days—Average number               | 6     | 5     | 8     | 11   | 18    | 20    | 22    | 21    | 16    | 15   | 11   | 8    | 161   |
| <b>Pemberton (565 feet†)—</b>         |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 103   | 69    | 180   | 353  | 662   | 831   | 902   | 730   | 488   | 390  | 241  | 156  | 5,105 |
| Highest (points)                      | 579   | 347   | 519   | 821  | 1,331 | 1,469 | 1,563 | 1,572 | 860   | 764  | 614  | 379  | 6,897 |
| Lowest (points)                       | 9     | 5     | 11    | 42   | 141   | 497   | 519   | 412   | 208   | 97   | 43   | 19   | 3,601 |
| Highest one day (points) .....        | 252   | 133   | 310   | 318  | 310   | 248   | 280   | 181   | 163   | 210  | 222  | 162  | 310   |
| Wet days—Average number               | 7     | 5     | 9     | 12   | 18    | 20    | 21    | 20    | 17    | 15   | 12   | 9    | 165   |
| <b>Mount Barker (829 feet†)—</b>      |       |       |       |      |       |       |       |       |       |      |      |      |       |
| Rainfall —Average (points)            | 88    | 94    | 144   | 224  | 341   | 394   | 420   | 367   | 325   | 281  | 159  | 117  | 2,954 |
| Highest (points)                      | 706   | 702   | 505   | 920  | 957   | 824   | 1,027 | 683   | 618   | 630  | 610  | 343  | 4,326 |
| Lowest (points)                       | 4     | 3     | 14    | 15   | 64    | 170   | 88    | 131   | 72    | 64   | 13   | 5    | 1,688 |
| Highest one day (points) .....        | 412   | 284   | 192   | 548  | 270   | 206   | 285   | 259   | 175   | 214  | 251  | 173  | 548   |
| Wet days—Average number               | 7     | 7     | 10    | 12   | 17    | 19    | 20    | 19    | 17    | 16   | 11   | 9    | 164   |

† Height above mean sea-level.





The hottest month in Western Australia is November in the Kimberley, December a little further south and January near the Tropic of Capricorn. In the tropics temperatures generally rise from July, the coldest month, to November. In some places further rises occur, but in others the onset of the 'Wet' prevents this further rise and there is a slight fall. As the rains cease at these latter places temperatures commence to rise again and there is another minor peak in March or April. After this there is a general fall until July.

The most consistently hot place in the State is Wyndham, where the mean maximum throughout the year is 93.1°F. and the mean minimum for the coldest month is 66.2°F. At Marble Bar the yearly mean maximum of 96.2°F. is higher, but mean minimum temperatures are consistently lower, falling to 52.4°F. in the coldest month. The mean maximum at this centre is the highest in Australia, exceeding 100°F. in the six months from October to March inclusive. There are often long spells of hot weather in this region and during one period, from 31 October 1923 to 7 April 1924, the maximum temperature at Marble Bar reached or exceeded 100°F. on 160 consecutive days.

Near the coast the sea breeze generally brings relief from high temperatures. It blows nearly every afternoon in the hot months, and is known in Perth as the 'Fremantle Doctor'. Away from the influence of the sea, extremes are greater, day temperatures being higher and night temperatures lower than in the coastal districts. During the winter, temperatures have fallen below 30°F. in most of the inland part of the State south from the tropics. The lowest on record is 20.2°F. which occurred at Booylgoo Springs near Sandstone, and as far north as Mundiwindi, almost in the tropics, 22.4°F. has been recorded.

The table below shows, for each month of the year, the mean maximum, mean minimum, and extreme temperatures and the average number of days with registrations of 90°F. and over and of 100°F. and over. The average number of days with temperatures of 36°F. or below, which provides an indication of frost frequency, is also shown.

(Stations are arranged from north to south in three groups: Coastal, Wheat Belt and Other Inland)

[illegible]

### TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr.  | May   | June | July | Aug. | Sept. | Oct.  | Nov.  | Dec.  | Year  |
|--------------------------------------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|-------|
| COASTAL—continued                    |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Port Hedland—                        |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 94.3  | 94.6  | 95.3  | 93.3  | 86.1  | 80.2 | 79.3 | 82.3 | 86.9  | 89.7  | 93.2  | 94.2  | 89.1  |
| Mean min., °F. ....                  | 79.4  | 79.1  | 77.6  | 71.2  | 63.7  | 57.9 | 55.6 | 58.4 | 62.5  | 68.1  | 73.5  | 77.5  | 68.7  |
| Highest max., °F. ....               | 117.0 | 115.7 | 112.1 | 113.0 | 101.0 | 94.0 | 93.7 | 98.3 | 105.5 | 110.7 | 114.0 | 118.2 | 118.2 |
| Lowest min., °F. ....                | 60.0  | 61.4  | 60.5  | 51.2  | 44.6  | 40.4 | 37.8 | 38.7 | 45.0  | 51.9  | 57.8  | 61.8  | 37.8  |
| Number of days 90° and over          | 28.1  | 25.9  | 29.6  | 24.3  | 8.2   | 0.3  | 0.4  | 4.3  | 15.3  | 20.5  | 23.3  | 27.7  | 207.9 |
| Number of days 100° and over         | 8.8   | 6.1   | 13.7  | 4.4   | 0.0   | 0.0  | 0.0  | 0.0  | 0.3   | 4.3   | 7.4   | 10.7  | 55.5  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Roebourne—                           |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 100.8 | 100.9 | 98.5  | 93.9  | 86.2  | 79.4 | 79.0 | 82.9 | 89.6  | 94.4  | 100.5 | 101.7 | 92.3  |
| Mean min., °F. ....                  | 79.2  | 79.3  | 77.4  | 70.6  | 64.0  | 58.2 | 55.4 | 57.5 | 61.5  | 66.6  | 73.2  | 76.7  | 68.3  |
| Highest max., °F. ....               | 118.0 | 116.0 | 113.4 | 109.8 | 100.0 | 93.8 | 91.0 | 97.0 | 106.8 | 113.0 | 114.5 | 117.7 | 118.0 |
| Lowest min., °F. ....                | 66.5  | 55.0  | 63.0  | 57.8  | 46.7  | 40.0 | 41.0 | 44.0 | 48.1  | 55.0  | 49.0  | 53.0  | 40.0  |
| Number of days 90° and over          | 29.8  | 26.3  | 27.9  | 24.1  | 7.2   | 0.2  | 0.2  | 3.3  | 15.2  | 23.3  | 28.1  | 30.5  | 216.1 |
| Number of days 100° and over         | 17.7  | 15.0  | 15.9  | 4.7   | 0.0   | 0.0  | 0.0  | 0.0  | 0.8   | 5.9   | 16.2  | 19.4  | 95.6  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Onslow—                              |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 96.4  | 96.4  | 95.4  | 91.9  | 84.3  | 78.0 | 77.3 | 80.0 | 85.1  | 88.9  | 93.5  | 95.4  | 88.5  |
| Mean min., °F. ....                  | 74.2  | 74.7  | 73.5  | 67.1  | 60.3  | 54.5 | 51.5 | 53.5 | 56.8  | 61.0  | 66.3  | 70.5  | 63.7  |
| Highest max., °F. ....               | 117.8 | 119.0 | 115.6 | 110.9 | 101.0 | 90.0 | 90.2 | 95.6 | 101.0 | 112.2 | 115.0 | 117.5 | 119.0 |
| Lowest min., °F. ....                | 60.5  | 61.9  | 58.4  | 50.0  | 42.0  | 37.3 | 37.5 | 40.0 | 41.9  | 45.4  | 50.0  | 54.5  | 37.3  |
| Number of days 90° and over          | 25.8  | 24.1  | 27.8  | 16.7  | 2.8   | 0.1  | 0.0  | 0.8  | 5.2   | 13.3  | 19.1  | 25.2  | 160.9 |
| Number of days 100° and over         | 9.1   | 7.0   | 8.8   | 1.5   | 0.0   | 0.0  | 0.0  | 0.0  | 0.2   | 2.0   | 5.7   | 9.8   | 44.1  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Carnarvon—                           |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 87.2  | 88.1  | 86.9  | 84.4  | 78.3  | 73.7 | 71.7 | 73.1 | 75.4  | 77.4  | 81.4  | 84.2  | 80.2  |
| Mean min., °F. ....                  | 72.1  | 72.4  | 71.6  | 65.8  | 58.8  | 54.0 | 51.6 | 53.4 | 57.2  | 61.1  | 65.8  | 69.2  | 62.7  |
| Highest max., °F. ....               | 117.8 | 115.2 | 112.8 | 107.9 | 100.4 | 90.2 | 86.8 | 90.2 | 101.2 | 108.3 | 110.2 | 113.0 | 117.8 |
| Lowest min., °F. ....                | 58.0  | 61.2  | 56.1  | 44.9  | 42.8  | 37.0 | 37.0 | 38.3 | 42.0  | 45.5  | 50.4  | 54.6  | 37.0  |
| Number of days 90° and over          | 8.0   | 9.8   | 11.3  | 7.0   | 0.4   | 0.0  | 0.0  | 0.1  | 0.9   | 2.1   | 2.5   | 3.6   | 45.7  |
| Number of days 100° and over         | 3.4   | 3.8   | 3.7   | 1.3   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.4   | 0.5   | 0.9   | 14.0  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Geraldton—                           |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 84.5  | 85.2  | 83.6  | 80.5  | 74.2  | 69.7 | 67.7 | 68.8 | 71.4  | 73.6  | 78.5  | 82.0  | 76.6  |
| Mean min., °F. ....                  | 66.3  | 66.5  | 65.0  | 60.9  | 56.9  | 53.8 | 51.7 | 52.1 | 53.0  | 55.4  | 60.0  | 63.4  | 58.7  |
| Highest max., °F. ....               | 117.9 | 115.5 | 111.7 | 103.0 | 94.7  | 83.8 | 81.9 | 88.9 | 96.5  | 104.6 | 108.8 | 116.0 | 117.9 |
| Lowest min., °F. ....                | 48.0  | 51.0  | 47.0  | 41.8  | 36.0  | 33.5 | 33.4 | 35.1 | 35.3  | 37.9  | 44.0  | 45.8  | 33.4  |
| Number of days 90° and over          | 8.2   | 9.8   | 9.8   | 3.9   | 1.1   | 0.0  | 0.0  | 0.0  | 0.1   | 1.3   | 4.9   | 5.0   | 44.1  |
| Number of days 100° and over         | 3.4   | 3.5   | 2.1   | 0.3   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 0.9   | 1.8   | 12.1  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.2  | 0.1  | 0.0  | 0.1   | 0.0   | 0.0   | 0.0   | 0.4   |
| Perth—                               |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 85.0  | 85.5  | 81.8  | 76.0  | 69.1  | 64.5 | 63.0 | 64.1 | 66.8  | 70.0  | 76.1  | 81.1  | 73.6  |
| Mean min., °F. ....                  | 63.6  | 63.9  | 61.6  | 57.2  | 52.7  | 49.9 | 47.9 | 48.2 | 50.1  | 52.5  | 56.8  | 60.8  | 55.5  |
| Highest max., °F. ....               | 110.7 | 112.2 | 106.4 | 99.7  | 90.4  | 81.7 | 76.4 | 82.0 | 90.9  | 99.9  | 104.6 | 108.1 | 112.5 |
| Lowest min., °F. ....                | 48.6  | 47.7  | 45.8  | 39.3  | 34.3  | 34.9 | 34.2 | 35.4 | 36.7  | 39.6  | 42.0  | 47.5  | 34.2  |
| Number of days 90° and over          | 8.8   | 8.2   | 5.5   | 1.2   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.3   | 2.2   | 5.6   | 31.8  |
| Number of days 100° and over         | 1.6   | 1.8   | 0.7   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.1   | 0.8   | 5.0   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1  | 0.1  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.2   |
| Bunbury—                             |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 82.1  | 81.9  | 78.9  | 74.4  | 68.1  | 64.1 | 62.5 | 63.1 | 65.5  | 68.1  | 74.4  | 78.9  | 71.8  |
| Mean min., °F. ....                  | 59.1  | 59.1  | 57.1  | 53.6  | 50.8  | 48.6 | 47.1 | 47.4 | 48.8  | 50.4  | 54.0  | 56.8  | 52.7  |
| Highest max., °F. ....               | 106.2 | 104.2 | 101.0 | 93.0  | 83.7  | 77.2 | 72.2 | 75.5 | 83.8  | 92.5  | 99.8  | 101.5 | 106.2 |
| Lowest min., °F. ....                | 42.2  | 34.2  | 39.3  | 36.7  | 32.1  | 33.0 | 28.0 | 33.0 | 30.0  | 33.0  | 39.2  | 38.4  | 28.0  |
| Number of days 90° and over          | 4.2   | 3.2   | 1.6   | 0.1   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 1.1   | 10.5  |
| Number of days 100° and over         | 0.1   | 0.2   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.3   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   | 0.4  | 0.3  | 0.2  | 0.3   | 0.3   | 0.0   | 0.0   | 1.6   |
| Albany—                              |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 73.8  | 74.2  | 72.3  | 70.3  | 65.9  | 62.2 | 60.9 | 61.7 | 63.6  | 65.7  | 69.2  | 72.0  | 67.6  |
| Mean min., °F. ....                  | 58.5  | 58.8  | 57.5  | 54.5  | 50.7  | 47.8 | 46.3 | 46.6 | 48.3  | 50.0  | 53.6  | 56.5  | 52.4  |
| Highest max., °F. ....               | 107.0 | 112.6 | 105.4 | 99.9  | 95.3  | 76.2 | 73.5 | 81.0 | 87.0  | 97.2  | 106.0 | 106.0 | 112.6 |
| Lowest min., °F. ....                | 42.3  | 41.0  | 38.7  | 39.5  | 35.1  | 35.0 | 32.2 | 34.3 | 34.0  | 36.2  | 40.6  | 41.2  | 32.2  |
| Number of days 90° and over          | 0.8   | 0.3   | 0.9   | 0.6   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 0.4   | 0.9   | 4.0   |
| Number of days 100° and over         | 0.3   | 0.0   | 0.1   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.2   | 0.6   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

## TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—continued

| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr.  | May  | June | July | Aug. | Sept. | Oct.  | Nov.  | Dec.  | Year  |
|--------------------------------------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|-------|
| <b>COASTAL—continued</b>             |       |       |       |       |      |      |      |      |       |       |       |       |       |
| <i>Esperance—</i>                    |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 76.6  | 77.5  | 75.4  | 72.2  | 67.4 | 63.6 | 62.1 | 63.5 | 66.4  | 68.4  | 71.9  | 74.5  | 70.0  |
| Mean min., °F. ....                  | 59.9  | 60.3  | 58.9  | 54.4  | 50.3 | 46.8 | 45.4 | 45.7 | 47.9  | 50.3  | 54.4  | 57.5  | 52.6  |
| Highest max., °F. ....               | 117.0 | 111.4 | 110.5 | 102.0 | 91.5 | 81.0 | 78.8 | 88.7 | 96.0  | 103.8 | 108.0 | 112.0 | 117.0 |
| Lowest min., °F. ....                | 40.8  | 40.8  | 39.0  | 38.0  | 35.0 | 32.0 | 31.0 | 32.0 | 34.3  | 33.9  | 38.0  | 40.0  | 31.0  |
| Number of days 90° and over          | 3.1   | 3.1   | 2.6   | 0.8   | 0.1  | 0.0  | 0.0  | 0.0  | 0.1   | 0.6   | 1.6   | 2.5   | 14.5  |
| Number of days 100° and over         | 1.2   | 1.0   | 0.5   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.1   | 0.2   | 0.8   | 3.8   | 3.8   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.1  | 0.8  | 0.9  | 0.5  | 0.2   | 0.0   | 0.0   | 0.0   | 2.5   |
| <i>Eucla—</i>                        |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 78.2  | 78.5  | 77.5  | 74.9  | 70.5 | 65.6 | 64.5 | 66.9 | 70.1  | 72.9  | 74.7  | 77.0  | 72.6  |
| Mean min., °F. ....                  | 62.4  | 63.0  | 60.9  | 56.3  | 50.8 | 46.4 | 44.3 | 45.1 | 47.9  | 51.9  | 56.5  | 59.8  | 53.8  |
| Highest max., °F. ....               | 123.2 | 120.0 | 112.0 | 106.6 | 96.4 | 92.0 | 89.8 | 94.9 | 104.0 | 109.6 | 116.0 | 120.8 | 123.2 |
| Lowest min., °F. ....                | 45.0  | 43.8  | 40.2  | 39.9  | 33.0 | 28.0 | 28.1 | 29.1 | 31.0  | 31.5  | 37.0  | 38.0  | 28.0  |
| Number of days 90° and over          | 3.0   | 3.0   | 4.0   | 2.0   | 1.0  | 0.0  | 0.0  | 0.0  | 1.0   | 4.0   | 4.0   | 4.0   | 26.0  |
| Number of days 100° and over         | 2.0   | 2.0   | 2.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 1.0   | 2.0   | 3.0   | 12.0  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 1.0  | 3.0  | 2.0  | 0.0   | 0.0   | 0.0   | 0.0   | 6.0   |
| <b>WHEAT BELT</b>                    |       |       |       |       |      |      |      |      |       |       |       |       |       |
| <i>Carnamah—</i>                     |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 95.7  | 95.5  | 89.4  | 82.3  | 72.2 | 67.2 | 64.2 | 67.0 | 71.6  | 77.9  | 85.3  | 90.8  | 79.9  |
| Mean min., °F. ....                  | 63.5  | 63.7  | 60.5  | 56.0  | 49.7 | 47.3 | 44.7 | 44.6 | 45.5  | 49.4  | 54.6  | 59.2  | 53.2  |
| Highest max., °F. ....               | 114.1 | 114.0 | 111.0 | 102.0 | 91.0 | 82.0 | 82.0 | 85.0 | 95.1  | 104.0 | 109.5 | 111.0 | 114.1 |
| Lowest min., °F. ....                | 41.1  | 44.5  | 44.0  | 35.0  | 34.0 | 32.0 | 33.0 | 33.3 | 33.9  | 34.0  | 36.2  | 44.0  | 32.0  |
| Number of days 90° and over          | 23.8  | 22.2  | 18.7  | 6.5   | 0.0  | 0.0  | 0.0  | 0.0  | 0.6   | 3.5   | 8.8   | 16.8  | 100.9 |
| Number of days 100° and over         | 12.2  | 9.4   | 4.5   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 1.3   | 5.9   | 33.4  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.1  | 0.5  | 0.8  | 0.8  | 0.3   | 0.0   | 0.0   | 0.0   | 2.5   |
| <i>Wongan Hills—</i>                 |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 92.7  | 90.4  | 87.9  | 78.4  | 67.2 | 62.4 | 60.4 | 61.9 | 68.6  | 73.5  | 80.2  | 85.6  | 75.8  |
| Mean min., °F. ....                  | 63.1  | 62.9  | 61.1  | 55.5  | 48.5 | 45.2 | 41.8 | 41.7 | 45.6  | 47.9  | 52.0  | 57.1  | 51.9  |
| Highest max., °F. ....               | 112.0 | 109.6 | 108.5 | 98.6  | 89.2 | 74.2 | 76.3 | 79.6 | 90.3  | 99.5  | 104.2 | 111.6 | 112.0 |
| Lowest min., °F. ....                | 47.9  | 49.1  | 42.1  | 37.1  | 34.2 | 33.0 | 32.2 | 31.5 | 32.3  | 35.0  | 39.7  | 41.5  | 31.5  |
| Number of days 90° and over          | 18.3  | 15.5  | 14.5  | 2.7   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 1.0   | 5.2   | 10.7  | 67.9  |
| Number of days 100° and over         | 6.7   | 4.0   | 1.3   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.2   | 1.7   | 13.9  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.2  | 0.8  | 2.5  | 2.7  | 1.1   | 0.0   | 0.0   | 0.0   | 7.3   |
| <i>Kellerberrin—</i>                 |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 93.0  | 92.3  | 86.4  | 79.1  | 69.3 | 63.4 | 61.3 | 64.0 | 70.2  | 76.1  | 85.0  | 90.5  | 77.5  |
| Mean min., °F. ....                  | 61.6  | 61.4  | 58.8  | 52.2  | 46.5 | 43.6 | 41.5 | 41.9 | 43.8  | 47.8  | 54.5  | 58.8  | 51.0  |
| Highest max., °F. ....               | 115.0 | 116.0 | 112.0 | 102.6 | 96.0 | 80.4 | 76.0 | 82.6 | 97.7  | 103.0 | 109.5 | 113.0 | 116.0 |
| Lowest min., °F. ....                | 45.0  | 43.0  | 40.7  | 34.0  | 28.0 | 26.5 | 26.0 | 27.6 | 30.0  | 32.5  | 35.0  | 42.0  | 26.0  |
| Number of days 90° and over          | 19.9  | 16.7  | 11.3  | 2.7   | 0.2  | 0.0  | 0.0  | 0.0  | 0.2   | 1.8   | 8.5   | 15.0  | 76.3  |
| Number of days 100° and over         | 6.9   | 5.5   | 1.8   | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 1.4   | 4.6   | 20.4  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.1   | 2.4  | 4.6  | 7.4  | 7.0  | 3.4   | 0.6   | 0.0   | 0.0   | 25.5  |
| <i>Southern Cross—</i>               |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 94.3  | 93.0  | 87.0  | 78.9  | 69.5 | 63.0 | 61.7 | 64.7 | 72.0  | 77.7  | 86.5  | 92.3  | 78.4  |
| Mean min., °F. ....                  | 62.2  | 62.2  | 58.4  | 51.7  | 45.1 | 41.5 | 39.1 | 40.3 | 43.1  | 47.9  | 55.0  | 59.9  | 50.5  |
| Highest max., °F. ....               | 115.0 | 117.0 | 112.0 | 103.2 | 92.0 | 81.5 | 80.0 | 85.9 | 94.6  | 102.8 | 110.2 | 114.6 | 117.0 |
| Lowest min., °F. ....                | 42.0  | 42.0  | 38.2  | 30.0  | 26.0 | 24.3 | 23.0 | 25.0 | 26.0  | 30.6  | 35.6  | 40.8  | 23.0  |
| Number of days 90° and over          | 21.5  | 17.3  | 12.7  | 3.2   | 0.0  | 0.0  | 0.0  | 0.0  | 0.4   | 2.7   | 10.6  | 18.5  | 86.9  |
| Number of days 100° and over         | 9.1   | 7.2   | 2.5   | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 2.0   | 6.4   | 27.4  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.6   | 2.4  | 7.1  | 8.6  | 9.6  | 3.5   | 0.4   | 0.0   | 0.0   | 32.2  |
| <i>Merredin—</i>                     |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 92.8  | 91.5  | 85.8  | 77.2  | 68.0 | 62.1 | 60.1 | 62.7 | 69.3  | 75.3  | 83.3  | 89.1  | 76.4  |
| Mean min., °F. ....                  | 62.2  | 62.1  | 59.3  | 52.9  | 46.3 | 43.2 | 40.4 | 40.3 | 42.4  | 46.9  | 53.8  | 58.8  | 50.7  |
| Highest max., °F. ....               | 113.0 | 112.0 | 109.6 | 101.8 | 93.5 | 81.4 | 77.4 | 82.2 | 92.6  | 102.5 | 107.0 | 112.1 | 113.0 |
| Lowest min., °F. ....                | 45.5  | 43.0  | 41.2  | 29.8  | 25.0 | 27.0 | 25.3 | 25.9 | 27.5  | 29.8  | 33.1  | 41.0  | 25.0  |
| Number of days 90° and over          | 19.8  | 16.1  | 10.6  | 1.7   | 0.0  | 0.0  | 0.0  | 0.0  | 0.1   | 1.5   | 7.1   | 14.0  | 70.9  |
| Number of days 100° and over         | 6.2   | 5.0   | 1.4   | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 0.7   | 3.5   | 17.0  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.4   | 1.4  | 4.2  | 6.5  | 8.7  | 4.2   | 0.8   | 0.0   | 0.0   | 26.2  |
| <i>Northam—</i>                      |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 92.8  | 92.3  | 86.5  | 79.2  | 69.5 | 63.5 | 61.8 | 63.8 | 69.1  | 74.2  | 83.6  | 89.6  | 77.2  |
| Mean min., °F. ....                  | 62.7  | 62.7  | 59.8  | 53.2  | 47.3 | 43.7 | 41.7 | 42.4 | 44.9  | 48.3  | 55.1  | 60.1  | 51.8  |
| Highest max., °F. ....               | 115.2 | 116.0 | 111.0 | 103.0 | 93.0 | 81.0 | 76.0 | 82.4 | 94.2  | 103.0 | 111.3 | 114.0 | 116.0 |
| Lowest min., °F. ....                | 45.1  | 45.5  | 41.9  | 33.0  | 27.2 | 25.0 | 28.3 | 30.0 | 30.4  | 32.8  | 37.4  | 42.0  | 25.0  |
| Number of days 90° and over          | 20.2  | 17.3  | 11.7  | 3.2   | 0.1  | 0.0  | 0.0  | 0.0  | 0.1   | 1.3   | 7.1   | 15.0  | 76.0  |
| Number of days 100° and over         | 7.3   | 5.9   | 2.4   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 1.1   | 4.5   | 21.3  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.2   | 1.1  | 4.7  | 5.5  | 6.2  | 2.0   | 0.2   | 0.0   | 0.0   | 19.9  |

## TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—continued

| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr.  | May   | June | July | Aug.  | Sept. | Oct.  | Nov.  | Dec.  | Year  |
|--------------------------------------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|
| <b>WHEAT BELT—continued</b>          |       |       |       |       |       |      |      |       |       |       |       |       |       |
| <i>Wandering—</i>                    |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 88.3  | 87.6  | 82.0  | 74.9  | 65.9  | 60.5 | 59.2 | 60.5  | 64.9  | 69.6  | 78.9  | 84.9  | 73.1  |
| Mean min., °F. ....                  | 56.5  | 55.9  | 53.6  | 47.5  | 43.6  | 40.5 | 39.0 | 39.3  | 41.4  | 43.8  | 48.9  | 53.5  | 47.0  |
| Highest max., °F. ....               | 114.0 | 110.8 | 107.5 | 97.0  | 87.0  | 77.0 | 71.8 | 79.0  | 86.0  | 98.5  | 103.5 | 109.0 | 114.0 |
| Lowest min., °F. ....                | 38.0  | 37.0  | 30.9  | 28.0  | 22.0  | 21.8 | 24.0 | 25.0  | 27.0  | 28.0  | 29.0  | 35.0  | 21.8  |
| Number of days 90° and over          | 15.2  | 12.0  | 9.3   | 1.3   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 0.4   | 2.3   | 7.4   | 47.9  |
| Number of days 100° and over         | 3.7   | 2.4   | 0.5   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.1   | 1.3   | 8.0   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 1.3   | 7.9   | 9.8  | 9.9  | 9.5   | 9.4   | 5.3   | 1.0   | 0.3   | 54.4  |
| <i>Narrogin—</i>                     |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 87.5  | 86.2  | 81.0  | 73.3  | 64.6  | 59.2 | 57.8 | 59.3  | 64.1  | 69.2  | 78.1  | 83.9  | 72.0  |
| Mean min., °F. ....                  | 56.5  | 56.5  | 54.4  | 50.1  | 45.6  | 43.1 | 41.2 | 41.1  | 42.4  | 44.5  | 49.1  | 53.1  | 48.1  |
| Highest max., °F. ....               | 110.7 | 109.1 | 105.6 | 96.0  | 89.5  | 79.1 | 70.2 | 76.8  | 86.7  | 100.0 | 103.5 | 109.7 | 110.7 |
| Lowest min., °F. ....                | 39.8  | 39.0  | 37.9  | 32.0  | 29.5  | 28.0 | 27.2 | 27.2  | 26.5  | 29.0  | 32.0  | 35.2  | 26.5  |
| Number of days 90° and over          | 11.5  | 9.0   | 4.3   | 0.6   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 0.2   | 2.6   | 7.2   | 35.4  |
| Number of days 100° and over         | 2.1   | 1.7   | 0.4   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.2   | 0.9   | 5.3   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.4   | 2.4   | 3.8  | 6.6  | 6.5   | 6.9   | 3.4   | 0.9   | 0.1   | 31.0  |
| <i>Katanning—</i>                    |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 86.0  | 85.1  | 79.3  | 73.2  | 64.7  | 59.7 | 57.9 | 59.5  | 64.1  | 68.8  | 77.6  | 82.8  | 71.6  |
| Mean min., °F. ....                  | 56.3  | 56.5  | 54.7  | 50.4  | 46.5  | 43.6 | 41.9 | 42.0  | 43.7  | 45.7  | 50.2  | 53.8  | 48.8  |
| Highest max., °F. ....               | 110.9 | 112.3 | 107.0 | 96.2  | 88.4  | 75.3 | 71.0 | 88.0  | 87.0  | 100.0 | 106.0 | 110.0 | 112.3 |
| Lowest min., °F. ....                | 41.0  | 37.9  | 35.0  | 33.0  | 30.0  | 28.3 | 25.0 | 28.1  | 29.8  | 31.0  | 35.0  | 37.6  | 25.0  |
| Number of days 90° and over          | 12.3  | 7.5   | 5.3   | 1.1   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 0.3   | 2.0   | 5.9   | 34.4  |
| Number of days 100° and over         | 2.6   | 1.4   | 0.3   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.9   | 5.2   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.2   | 1.8   | 3.6  | 4.4  | 4.5   | 2.8   | 1.1   | 0.2   | 0.0   | 18.6  |
| <b>OTHER INLAND</b>                  |       |       |       |       |       |      |      |       |       |       |       |       |       |
| <i>Halls Creek—</i>                  |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 97.6  | 97.0  | 95.6  | 92.3  | 85.7  | 80.6 | 80.1 | 85.9  | 92.7  | 98.3  | 100.5 | 99.5  | 92.2  |
| Mean min., °F. ....                  | 75.4  | 74.2  | 71.2  | 63.0  | 56.0  | 50.5 | 47.6 | 52.1  | 59.0  | 69.5  | 74.2  | 75.5  | 64.0  |
| Highest max., °F. ....               | 111.8 | 110.8 | 107.6 | 103.8 | 99.0  | 95.0 | 93.2 | 100.0 | 104.3 | 110.8 | 110.8 | 111.6 | 111.8 |
| Lowest min., °F. ....                | 60.0  | 54.0  | 51.8  | 45.0  | 36.4  | 32.4 | 30.0 | 32.8  | 37.4  | 48.0  | 53.0  | 53.8  | 30.0  |
| Number of days 90° and over          | 28.5  | 24.8  | 29.1  | 22.7  | 9.5   | 0.8  | 1.3  | 7.3   | 23.2  | 29.2  | 29.7  | 29.0  | 235.1 |
| Number of days 100° and over         | 17.8  | 8.5   | 9.6   | 1.6   | 0.0   | 0.0  | 0.0  | 0.0   | 0.7   | 12.7  | 17.6  | 19.2  | 87.7  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.3  | 0.8  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 1.1   |
| <i>Marble Bar—</i>                   |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 106.2 | 105.5 | 102.9 | 97.0  | 88.0  | 80.9 | 80.6 | 85.8  | 93.8  | 100.1 | 105.9 | 107.5 | 96.2  |
| Mean min., °F. ....                  | 78.9  | 78.6  | 76.8  | 69.5  | 61.3  | 54.7 | 52.4 | 55.7  | 61.7  | 68.7  | 75.2  | 78.1  | 67.6  |
| Highest max., °F. ....               | 120.5 | 119.0 | 116.0 | 113.0 | 103.0 | 93.0 | 95.0 | 99.0  | 108.7 | 114.0 | 117.0 | 119.0 | 120.5 |
| Lowest min., °F. ....                | 66.0  | 57.0  | 59.6  | 52.0  | 42.0  | 34.0 | 36.0 | 39.0  | 42.0  | 50.0  | 58.0  | 63.0  | 34.0  |
| Number of days 90° and over          | 30.3  | 26.5  | 28.8  | 26.0  | 10.1  | 0.5  | 0.8  | 7.3   | 22.6  | 26.3  | 30.0  | 30.5  | 239.7 |
| Number of days 100° and over         | 27.9  | 22.1  | 18.9  | 8.8   | 0.2   | 0.0  | 0.0  | 0.0   | 2.0   | 12.6  | 24.2  | 28.7  | 145.4 |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.2  | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   | 1.0   |
| <i>Mundivindi—</i>                   |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 100.5 | 98.7  | 94.0  | 86.7  | 77.7  | 70.4 | 70.0 | 74.6  | 83.2  | 89.4  | 96.2  | 99.8  | 86.8  |
| Mean min., °F. ....                  | 73.6  | 72.7  | 69.0  | 60.3  | 51.2  | 43.4 | 41.4 | 45.0  | 51.3  | 58.6  | 66.7  | 71.2  | 58.7  |
| Highest max., °F. ....               | 112.2 | 112.0 | 108.2 | 105.0 | 97.6  | 85.7 | 87.0 | 99.0  | 99.0  | 106.5 | 110.0 | 112.0 | 112.2 |
| Lowest min., °F. ....                | 57.0  | 55.0  | 49.0  | 39.0  | 28.9  | 24.0 | 22.4 | 25.5  | 29.0  | 37.9  | 46.0  | 53.0  | 22.4  |
| Number of days 90° and over          | 29.3  | 25.3  | 25.4  | 11.6  | 0.6   | 0.0  | 0.0  | 0.4   | 5.6   | 15.9  | 25.3  | 29.1  | 168.5 |
| Number of days 100° and over         | 20.3  | 15.7  | 10.2  | 0.2   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 1.3   | 9.8   | 19.9  | 77.4  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.6   | 5.6  | 7.3  | 3.7   | 0.2   | 0.0   | 0.0   | 0.0   | 17.4  |
| <i>Warburton Range—</i>              |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 98.1  | 97.0  | 92.5  | 83.5  | 73.6  | 69.0 | 68.1 | 72.2  | 80.5  | 86.0  | 91.3  | 97.0  | 84.1  |
| Mean min., °F. ....                  | 71.8  | 70.5  | 67.9  | 58.6  | 49.5  | 43.6 | 42.0 | 44.9  | 51.0  | 57.1  | 63.7  | 69.5  | 57.5  |
| Highest max., °F. ....               | 115.8 | 116.4 | 110.1 | 104.7 | 92.0  | 90.1 | 89.0 | 93.8  | 103.8 | 108.9 | 112.0 | 115.3 | 116.4 |
| Lowest min., °F. ....                | 50.0  | 48.4  | 49.2  | 35.2  | 30.0  | 27.4 | 24.7 | 28.0  | 34.0  | 39.4  | 45.0  | 49.0  | 24.7  |
| Number of days 90° and over          | 26.0  | 23.0  | 22.0  | 7.0   | 0.0   | 0.0  | 0.0  | 0.0   | 6.0   | 13.0  | 19.0  | 26.0  | 142.0 |
| Number of days 100° and over         | 16.0  | 13.0  | 9.0   | 1.0   | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   | 2.0   | 8.0   | 14.0  | 63.0  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 1.0   | 4.0  | 6.0  | 5.0   | 0.0   | 0.0   | 0.0   | 0.0   | 16.0  |
| <i>Meekatharra—</i>                  |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Temperature:                         |       |       |       |       |       |      |      |       |       |       |       |       |       |
| Mean max., °F. ....                  | 100.4 | 99.7  | 93.9  | 85.7  | 76.0  | 68.6 | 67.5 | 71.2  | 78.6  | 84.8  | 92.9  | 98.2  | 84.8  |
| Mean min., °F. ....                  | 73.1  | 73.1  | 69.4  | 61.0  | 52.5  | 46.3 | 44.0 | 46.5  | 51.0  | 56.9  | 64.7  | 70.0  | 59.0  |
| Highest max., °F. ....               | 113.0 | 114.1 | 110.4 | 104.2 | 94.4  | 85.0 | 82.3 | 90.7  | 97.0  | 103.0 | 109.1 | 110.6 | 114.1 |
| Lowest min., °F. ....                | 54.0  | 54.1  | 50.6  | 42.4  | 33.0  | 26.4 | 31.6 | 32.2  | 34.0  | 40.2  | 43.0  | 51.9  | 26.4  |
| Number of days 90° and over          | 28.8  | 24.3  | 21.7  | 9.8   | 0.3   | 0.0  | 0.0  | 0.1   | 1.8   | 8.3   | 17.9  | 25.6  | 138.6 |
| Number of days 100° and over         | 18.6  | 13.7  | 6.2   | 0.3   | 0.0   | 0.0  | 0.0  | 0.0   | 0.4   | 3.5   | 10.6  | 53.3  | 53.3  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.2   | 0.9  | 1.3  | 0.1   | 0.0   | 0.0   | 0.0   | 0.0   | 2.5   |



TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

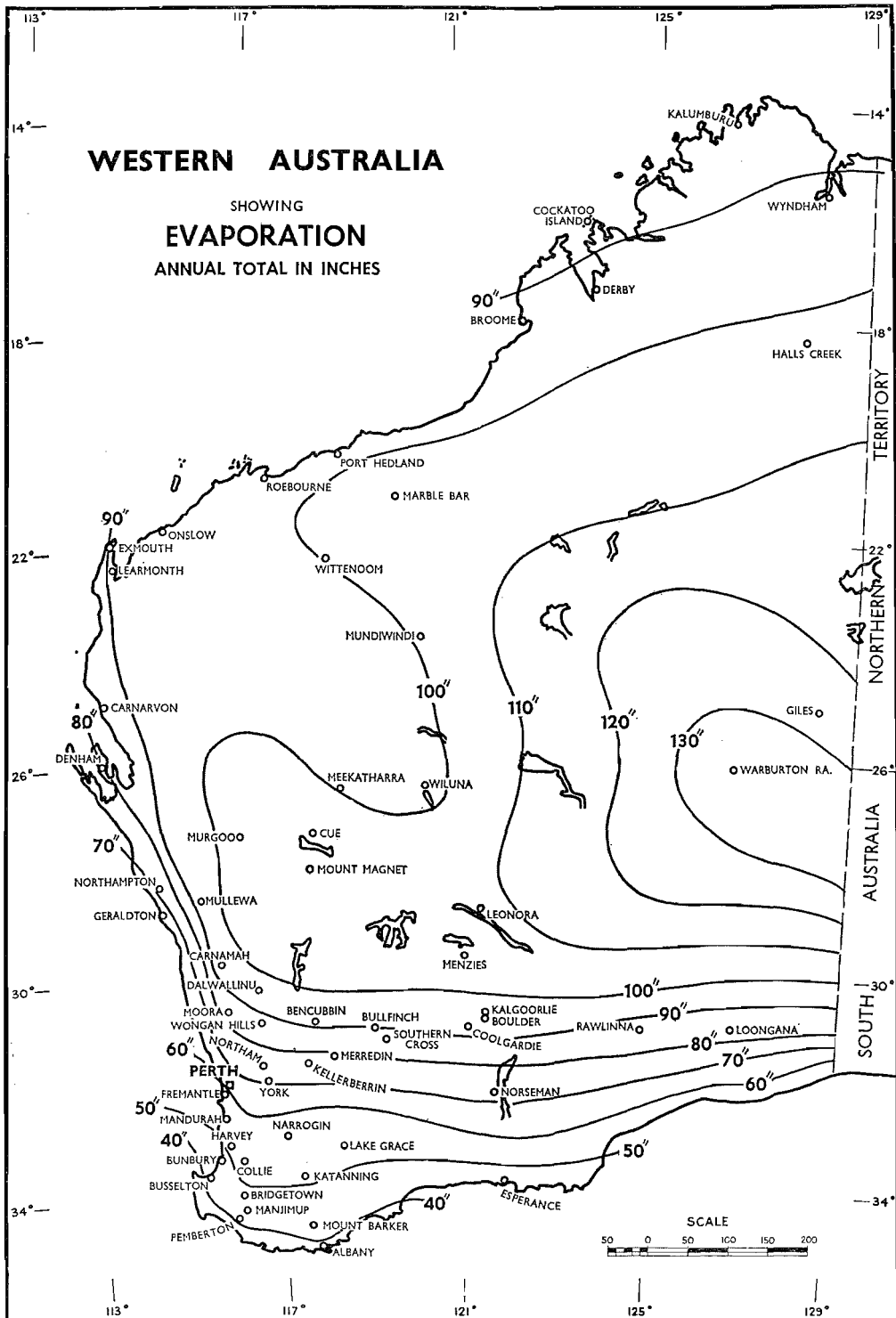
| Reporting station and characteristic | Jan.  | Feb.  | Mar.  | Apr.  | May  | June | July | Aug. | Sept. | Oct.  | Nov.  | Dec.  | Year  |
|--------------------------------------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|-------|
| <b>OTHER INLAND—<i>continued</i></b> |       |       |       |       |      |      |      |      |       |       |       |       |       |
| <b>Laverton—</b>                     |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 96.4  | 95.0  | 89.3  | 81.1  | 71.8 | 64.9 | 64.1 | 68.2 | 76.2  | 82.1  | 89.6  | 94.9  | 81.1  |
| Mean min., °F. ....                  | 68.7  | 68.2  | 64.4  | 56.9  | 49.0 | 43.5 | 41.3 | 43.7 | 49.2  | 54.7  | 61.8  | 66.7  | 55.7  |
| Highest max., °F. ....               | 115.0 | 115.0 | 112.0 | 104.0 | 95.0 | 86.3 | 86.1 | 93.0 | 98.2  | 105.0 | 111.0 | 114.0 | 115.0 |
| Lowest min., °F. ....                | 50.0  | 45.5  | 43.0  | 37.0  | 30.4 | 27.0 | 24.5 | 27.0 | 30.0  | 36.0  | 40.0  | 50.0  | 24.5  |
| Number of days 90° and over          | 24.0  | 20.0  | 15.0  | 5.0   | 0.0  | 0.0  | 0.0  | 0.0  | 2.0   | 7.0   | 16.0  | 23.0  | 112.0 |
| Number of days 100° and over         | 12.0  | 10.0  | 4.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 1.0   | 5.0   | 10.0  | 42.0  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 1.0  | 4.0  | 6.0  | 4.0  | 0.0   | 0.0   | 0.0   | 0.0   | 15.0  |
| <b>Kalgoorlie—</b>                   |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 93.2  | 93.0  | 86.3  | 78.4  | 70.1 | 63.6 | 62.5 | 66.0 | 73.6  | 79.0  | 86.3  | 91.1  | 78.6  |
| Mean min., °F. ....                  | 64.2  | 64.4  | 61.3  | 55.2  | 48.9 | 44.6 | 42.9 | 43.9 | 48.2  | 52.7  | 58.3  | 62.3  | 53.9  |
| Highest max., °F. ....               | 114.4 | 115.0 | 111.0 | 102.5 | 92.0 | 81.8 | 81.0 | 87.0 | 96.0  | 105.2 | 110.6 | 113.0 | 115.0 |
| Lowest min., °F. ....                | 47.1  | 48.0  | 41.6  | 35.0  | 28.8 | 27.4 | 25.8 | 27.7 | 30.9  | 30.2  | 38.2  | 45.5  | 26.0  |
| Number of days 90° and over          | 18.8  | 12.9  | 10.8  | 2.9   | 0.1  | 0.0  | 0.0  | 0.0  | 0.4   | 2.9   | 7.4   | 14.8  | 71.0  |
| Number of days 100° and over         | 7.5   | 4.3   | 2.7   | 0.3   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 1.3   | 3.9   | 20.1  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.1   | 0.3  | 1.8  | 3.9  | 3.6  | 0.3   | 0.0   | 0.0   | 0.0   | 10.0  |
| <b>Rawlinna—</b>                     |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 90.0  | 89.8  | 84.4  | 78.0  | 71.2 | 65.3 | 64.2 | 67.3 | 74.4  | 79.0  | 84.4  | 88.8  | 78.1  |
| Mean min., °F. ....                  | 58.9  | 59.2  | 57.8  | 52.2  | 46.4 | 41.6 | 39.3 | 41.1 | 45.3  | 49.4  | 54.2  | 57.6  | 50.2  |
| Highest max., °F. ....               | 118.0 | 115.5 | 112.0 | 104.0 | 95.0 | 88.3 | 85.0 | 93.0 | 102.7 | 107.0 | 112.2 | 114.3 | 118.0 |
| Lowest min., °F. ....                | 42.0  | 41.0  | 42.9  | 35.0  | 32.0 | 29.2 | 27.8 | 26.2 | 31.6  | 33.2  | 36.4  | 41.2  | 26.2  |
| Number of days 90° and over          | 14.8  | 10.8  | 10.3  | 2.8   | 0.5  | 0.0  | 0.0  | 0.0  | 1.7   | 3.6   | 7.9   | 13.3  | 65.7  |
| Number of days 100° and over         | 6.8   | 3.5   | 3.2   | 0.2   | 0.0  | 0.0  | 0.0  | 0.0  | 0.1   | 0.8   | 2.5   | 5.7   | 22.8  |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 1.2  | 3.5  | 5.3  | 4.4  | 0.8   | 0.2   | 0.0   | 0.0   | 15.4  |
| <b>Collie—</b>                       |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 86.4  | 85.7  | 80.4  | 74.3  | 65.9 | 61.3 | 59.8 | 61.0 | 64.8  | 68.8  | 77.2  | 83.0  | 72.4  |
| Mean min., °F. ....                  | 55.6  | 54.9  | 52.5  | 47.1  | 42.9 | 40.4 | 39.1 | 39.8 | 42.5  | 45.3  | 49.7  | 53.1  | 46.9  |
| Highest max., °F. ....               | 112.0 | 110.2 | 105.4 | 98.0  | 86.8 | 76.0 | 73.0 | 79.0 | 86.6  | 97.4  | 101.8 | 106.2 | 112.0 |
| Lowest min., °F. ....                | 37.7  | 35.2  | 32.3  | 29.6  | 28.0 | 24.8 | 25.0 | 26.2 | 28.0  | 31.0  | 32.6  | 35.0  | 24.8  |
| Number of days 90° and over          | 13.0  | 11.3  | 8.0   | 1.2   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.3   | 2.1   | 5.7   | 41.6  |
| Number of days 100° and over         | 2.2   | 1.4   | 0.7   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.1   | 1.1   | 5.5   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.1   | 0.8   | 5.3  | 7.8  | 7.9  | 6.6  | 5.9   | 1.8   | 0.3   | 0.1   | 36.6  |
| <b>Manjimup—</b>                     |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 78.3  | 79.4  | 74.8  | 69.5  | 62.8 | 59.3 | 57.4 | 58.7 | 61.4  | 64.7  | 71.0  | 75.3  | 67.7  |
| Mean min., °F. ....                  | 53.7  | 54.0  | 53.0  | 50.5  | 46.5 | 44.5 | 42.5 | 43.0 | 43.7  | 46.2  | 49.3  | 51.8  | 48.2  |
| Highest max., °F. ....               | 107.0 | 105.0 | 102.0 | 92.0  | 81.0 | 72.0 | 71.0 | 76.4 | 82.5  | 92.0  | 99.3  | 100.0 | 107.0 |
| Lowest min., °F. ....                | 42.0  | 40.0  | 38.0  | 35.0  | 34.0 | 33.0 | 27.0 | 30.0 | 31.0  | 33.0  | 35.0  | 40.0  | 27.0  |
| Number of days 90° and over          | 5.7   | 4.3   | 3.3   | 0.5   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.3   | 2.0   | 16.1  |
| Number of days 100° and over         | 0.3   | 0.1   | 0.2   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.1   | 0.7   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.1   | 0.5  | 1.3  | 2.3  | 3.2  | 2.1   | 0.1   | 0.0   | 0.0   | 9.6   |
| <b>Pemberton—</b>                    |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 78.7  | 78.5  | 75.1  | 68.9  | 63.6 | 60.1 | 57.9 | 59.6 | 61.6  | 64.6  | 69.8  | 73.9  | 67.7  |
| Mean min., °F. ....                  | 55.4  | 56.1  | 54.8  | 51.3  | 48.4 | 46.8 | 44.4 | 44.2 | 44.9  | 46.6  | 49.8  | 52.9  | 49.6  |
| Highest max., °F. ....               | 106.0 | 103.0 | 102.0 | 93.0  | 80.0 | 72.0 | 70.0 | 78.0 | 83.0  | 87.0  | 95.0  | 100.0 | 106.0 |
| Lowest min., °F. ....                | 40.0  | 40.0  | 39.0  | 37.0  | 32.0 | 34.0 | 32.0 | 30.0 | 31.5  | 35.0  | 35.8  | 39.0  | 30.0  |
| Number of days 90° and over          | 3.9   | 2.8   | 2.5   | 0.4   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.5   | 2.1   | 12.2  |
| Number of days 100° and over         | 0.6   | 0.0   | 0.1   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.7   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.0   | 0.2  | 0.7  | 1.3  | 1.6  | 0.9   | 0.2   | 0.0   | 0.0   | 4.9   |
| <b>Mt Barker—</b>                    |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Temperature:                         |       |       |       |       |      |      |      |      |       |       |       |       |       |
| Mean max., °F. ....                  | 78.1  | 78.3  | 74.1  | 69.7  | 63.0 | 58.8 | 57.2 | 58.7 | 61.9  | 65.3  | 71.3  | 75.4  | 67.7  |
| Mean min., °F. ....                  | 54.1  | 54.3  | 53.4  | 50.5  | 46.8 | 44.1 | 42.0 | 42.4 | 44.0  | 45.9  | 49.3  | 52.2  | 48.3  |
| Highest max., °F. ....               | 111.0 | 110.5 | 105.0 | 96.8  | 87.0 | 75.8 | 70.0 | 77.0 | 84.8  | 96.0  | 102.9 | 109.3 | 111.0 |
| Lowest min., °F. ....                | 35.0  | 39.0  | 38.5  | 36.0  | 33.0 | 32.0 | 28.0 | 29.7 | 31.0  | 33.0  | 34.0  | 34.0  | 28.0  |
| Number of days 90° and over          | 4.3   | 4.0   | 2.5   | 0.4   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.1   | 1.0   | 2.8   | 15.1  |
| Number of days 100° and over         | 0.8   | 0.8   | 0.2   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.1   | 0.3   | 2.2   |
| Number of days 36° and under         | 0.0   | 0.0   | 0.0   | 0.1   | 0.3  | 1.5  | 3.5  | 3.3  | 1.9   | 0.4   | 0.0   | 0.0   | 11.0  |

## THUNDERSTORMS

Thunderstorms are most frequent along the Kimberley coast where they occur during the 'Wet' season but are practically unknown in the 'Dry'. In the remainder of the tropics they occur over roughly the same period but the season is a little shorter and the storms less frequent.

In most of the State south from the tropics thunderstorms are most frequent in the summer months but in the south-west they are more uniformly distributed and in many places in coastal districts they are most frequent in winter.

The winter storms are often accompanied by hail which, however, is usually not heavy enough to cause any damage. Hail accompanying summer storms can be much heavier, and occasionally damages ripening crops in the wheat belt. Both winter and summer thunderstorms may be accompanied by severe squalls, but these are infrequent.



## EVAPORATION

Except in the lower south-west, evaporation from a free water surface exceeds the annual rainfall, and in a large proportion of the State it is more than ten times greater than the rainfall.

It is least in the winter months, amounting in July to less than one inch in the far south-west, and to about eight inches in the northern tropics. In January, when evaporation is highest, it totals about five inches on the far south coast and reaches fourteen inches in the East Gascoyne and North-Eastern Meteorological Districts. Further north, evaporation is reduced by the moister air over the tropics at this time of the year.

The map on page 47 shows total annual evaporation throughout the State.

## GROWING SEASON

Less moisture is required to sustain plant life when evaporation is low than when it is high, and the minimum amount required can be related to evaporation from a free water surface.

That part of the year during which rainfall is greater than this minimum amount (the 'effective rainfall'), may be taken as the *growing season*. The map on page 49 shows the length of this season in the agricultural area of the State. It is based on average monthly rainfall and effective rainfall, the latter being calculated from the formula  $P = 0.54 \times E^{0.7}$  (after Prescott), where P is effective rainfall and E is evaporation (both in inches per month).

## METROPOLITAN CLIMATE

Perth has more sunshine and a greater number of clear days during the year than any other State capital city. It also has the wettest winter, the driest summer, and is the windiest of the capital cities. The highest temperature on record for Perth is 112.2° (8 February 1933) and the lowest 34.2° (7 July 1916).

## CLIMATOLOGICAL DATA—PERTH BUREAU OF METEOROLOGY

(For other data relating to Temperature and Rainfall see preceding tables)

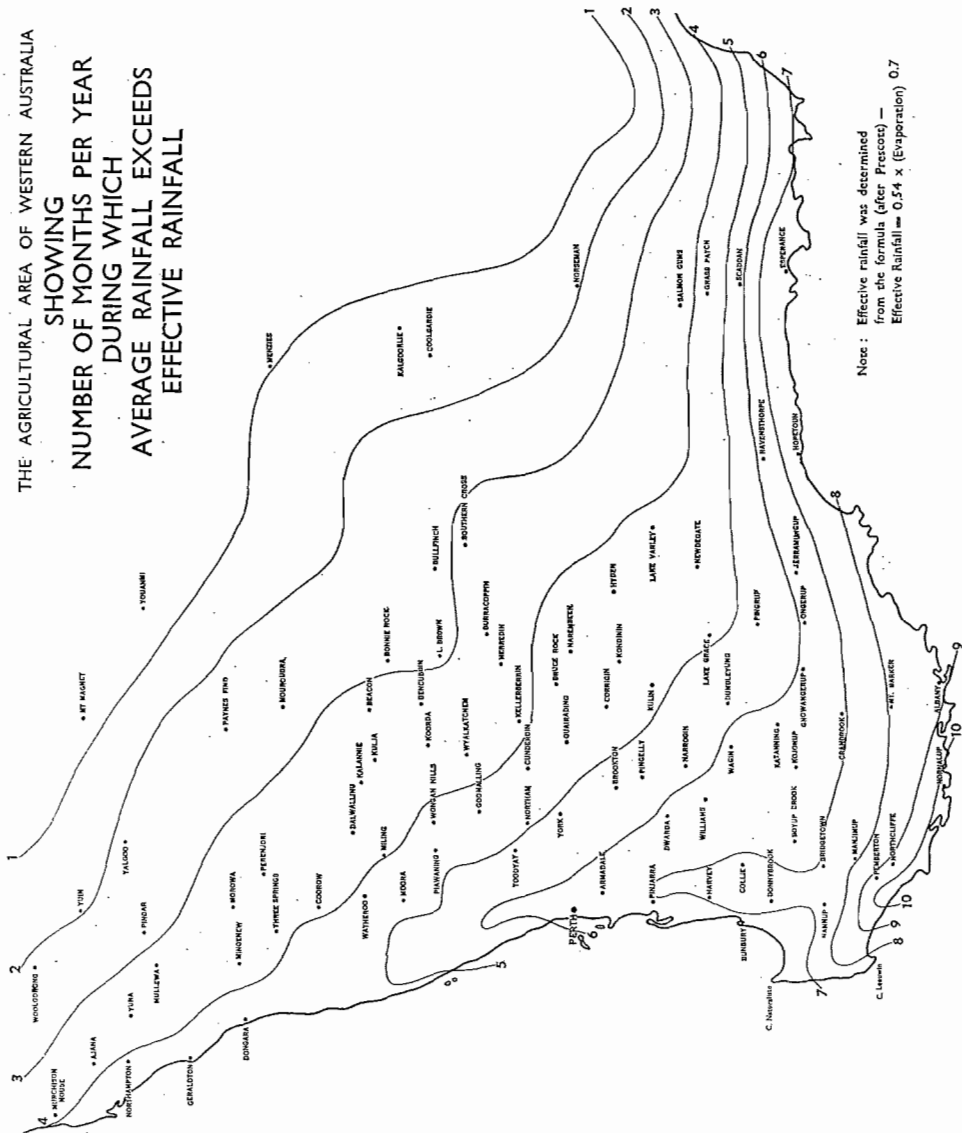
| Month                                 | Wind                    |           |              |              | Temperature       |                       |      |              | Relative humidity<br>(Saturation = 100%) |                                                               | Sun-<br>shine | Cloud<br>(proportion<br>of sky<br>covered) | Evapora-<br>tion |                |
|---------------------------------------|-------------------------|-----------|--------------|--------------|-------------------|-----------------------|------|--------------|------------------------------------------|---------------------------------------------------------------|---------------|--------------------------------------------|------------------|----------------|
|                                       | Prevailing<br>direction |           | Speed        |              | Highest in<br>sun | Lowest<br>terrestrial | Mean | At 3<br>p.m. | Mean<br>daily<br>amount                  | Mean of<br>readings<br>at 9 a.m.,<br>3 p.m.,<br>and<br>9 p.m. |               |                                            |                  | Mean<br>amount |
|                                       | 9<br>a.m.               | 3<br>p.m. | Aver-<br>age | High-<br>est |                   |                       |      |              |                                          |                                                               |               |                                            |                  |                |
| Number of<br>years of<br>observations | 30 (a)                  |           | 30 (a)       | 54           | 62                | 67                    |      | 30 (a)       |                                          | 30 (a)                                                        | 30 (a)        | 30 (a)                                     |                  |                |
| January .....                         | E.                      | SSW.      | mph          | mph          | °F.               | date                  | °F.  | date         | %                                        | %                                                             | hours         | %                                          | inches           |                |
| February .....                        | ENE.                    | SSW.      | 10.9         | 50           | 177.3             | 22/1914               | 39.5 | 20/1925      | 53                                       | 43                                                            | 10.4          | 29                                         | 10.37            |                |
| March .....                           | E.                      | SSW.      | 10.7         | 54           | 173.7             | 4/1934                | 29.8 | 1/1913       | 52                                       | 43                                                            | 9.8           | 31                                         | 8.63             |                |
| April .....                           | ENE.                    | SSW.      | 10.1         | 70           | 167.0             | 19/1918               | 36.7 | (b)          | 57                                       | 46                                                            | 8.8           | 35                                         | 7.52             |                |
| May .....                             | NE.                     | SSW.      | 8.5          | 63           | 157.0             | 8/1916                | 30.8 | 26/1960      | 60                                       | 48                                                            | 7.5           | 42                                         | 4.62             |                |
| June .....                            | NE.                     | WSW.      | 8.4          | 74           | 146.0             | 4/1925                | 25.0 | 31/1964      | 68                                       | 58                                                            | 5.7           | 54                                         | 2.80             |                |
| July .....                            | N.                      | NW.       | 8.4          | 80           | 135.5             | 9/1914                | 25.9 | 27/1946      | 72                                       | 63                                                            | 4.8           | 59                                         | 1.82             |                |
| August .....                          | NNE.                    | W.        | 8.8          | 85           | 133.2             | 13/1915               | 25.1 | 30/1920      | 73                                       | 63                                                            | 5.4           | 56                                         | 1.76             |                |
| September .....                       | N.                      | WNW.      | 9.4          | 97           | 145.1             | 29/1921               | 26.6 | 18/1966      | 71                                       | 60                                                            | 6.0           | 56                                         | 2.37             |                |
| October .....                         | ENE.                    | SSW.      | 9.4          | 68           | 153.6             | 29/1916               | 27.2 | (c)          | 64                                       | 57                                                            | 7.2           | 49                                         | 3.44             |                |
| November .....                        | SE.                     | SW.       | 10.0         | 65           | 161.2             | 19/1954               | 29.8 | 16/1931      | 64                                       | 54                                                            | 8.1           | 48                                         | 5.38             |                |
| December .....                        | E.                      | SW.       | 10.7         | 63           | 167.0             | 30/1925               | 34.8 | 1/1968       | 57                                       | 47                                                            | 9.6           | 39                                         | 7.65             |                |
| Year—                                 | E.                      | SSW.      | 11.0         | 64           | 168.8             | 11/1927               | 38.0 | 29/1957      | 54                                       | 46                                                            | 10.4          | 32                                         | 9.69             |                |
| Average....                           | E.                      | SSW.      | 9.7          | ....         | ....              | ....                  | .... | ....         | 62                                       | 52                                                            | 7.8           | 44                                         | ....             |                |
| Extremes                              | ....                    | ....      | ....         | 97           | 177.3             | 22/1/14               | 25.0 | 31/5/64      | ....                                     | ....                                                          | ....          | ....                                       | ....             |                |
| Total                                 | ....                    | ....      | ....         | ....         | ....              | ....                  | .... | ....         | ....                                     | ....                                                          | ....          | ....                                       | 66.05            |                |

(a) Standard 30 years' normal (1911–1940).  
8 September 1952 and 6 September 1956.

(b) Recorded on 8 March 1903 and 16 March 1967.

(c) Recorded on

THE AGRICULTURAL AREA OF WESTERN AUSTRALIA  
SHOWING  
NUMBER OF MONTHS PER YEAR  
DURING WHICH  
AVERAGE RAINFALL EXCEEDS  
EFFECTIVE RAINFALL



Note: Effective rainfall was determined  
from the formula (after Prescott) —  
Effective Rainfall =  $0.54 \times (\text{Evaporation}) \times 0.7$

## SNOW

Snow has been known to fall as far north as Wongan Hills, but it is only in the southern districts that it occasionally lies on the ground. It is seen on top of the Stirling Range for a short time nearly every winter, but elsewhere is very infrequent and of negligible importance.

## INTERSTATE COMPARISONS

In general, humidity and rainfall are lower in Western Australia than in corresponding places in eastern Australia. The following table shows average rainfall, mean humidity and temperature for groups of reporting stations at approximately the same latitude. The stations have been selected in such a way that, in each pair, one is on the west coast and the other on the east coast or, where a pair relates to inland stations, each station is situated at about the same distance from the coast. The group appearing last in the table has been included to provide a comparison between observations at Albany, the most southerly town in Western Australia, and those at places elsewhere in Australia at about the same latitude. The height above mean sea-level is also given for each station.

## INTERSTATE COMPARISONS—RAINFALL, HUMIDITY, TEMPERATURE

| Reporting station                           | Height<br>above<br>mean<br>sea-<br>level | Average rainfall  |                      | Relative humidity (a) |                      | Average daily mean<br>temperature |                      |
|---------------------------------------------|------------------------------------------|-------------------|----------------------|-----------------------|----------------------|-----------------------------------|----------------------|
|                                             |                                          | May to<br>October | November<br>to April | May to<br>October     | November<br>to April | May to<br>October                 | November<br>to April |
|                                             | feet                                     | inches            | inches               | %                     | %                    | °F.                               | °F.                  |
| Bunbury ....                                | 17                                       | 29.96             | 5.01                 | 77                    | 70                   | 57.0                              | 67.5                 |
| Sydney, New South Wales ....                | 138                                      | 21.53             | 23.27                | 66                    | 69                   | 58.2                              | 69.3                 |
| Perth ....                                  | 52                                       | 30.24             | 4.80                 | 69                    | 55                   | 58.2                              | 70.8                 |
| Newcastle, New South Wales ....             | 112                                      | 20.56             | 20.80                | 70                    | 74                   | 58.7                              | 69.7                 |
| Kalgoorlie ....                             | 1,247                                    | 5.16              | 4.53                 | 58                    | 48                   | 58.0                              | 74.5                 |
| Cobar, New South Wales ....                 | 822                                      | 5.88              | 6.73                 | 59                    | 46                   | 56.3                              | 75.2                 |
| Geraldton ....                              | 13                                       | 16.04             | 2.39                 | 67                    | 62                   | 62.3                              | 73.0                 |
| Brisbane, Queensland ....                   | 137                                      | 12.01             | 28.08                | 66                    | 69                   | 63.3                              | 74.7                 |
| Wiluna ....                                 | 1,700                                    | 3.21              | 6.59                 | 50                    | 35                   | 60.4                              | 80.9                 |
| Charleville, Queensland ....                | 965                                      | 6.19              | 11.78                | 55                    | 46                   | 61.1                              | 79.5                 |
| Carnarvon ....                              | 15                                       | 6.48              | 2.60                 | 63                    | 63                   | 65.5                              | 77.4                 |
| Bundaberg, Queensland ....                  | 45                                       | 10.86             | 31.51                | 73                    | 74                   | 64.5                              | 75.7                 |
| Mundiwindi ....                             | 1,840                                    | 2.74              | 8.28                 | 39                    | 30                   | 63.0                              | 82.4                 |
| Longreach, Queensland ....                  | 612                                      | 3.92              | 11.62                | 50                    | 50                   | 65.7                              | 82.3                 |
| Onslow ....                                 | 14                                       | 4.45              | 4.88                 | 55                    | 56                   | 69.3                              | 82.9                 |
| Mackay, Queensland ....                     | 35                                       | 11.49             | 51.67                | 78                    | 80                   | 66.8                              | 77.7                 |
| Port Hedland ....                           | 25                                       | 3.33              | 9.23                 | 50                    | 59                   | 72.6                              | 85.3                 |
| Townsville, Queensland ....                 | 73                                       | 5.49              | 37.57                | 66                    | 73                   | 71.7                              | 80.3                 |
| Derby ....                                  | 53                                       | 1.67              | 23.78                | 51                    | 65                   | 76.9                              | 86.5                 |
| Innisfail, Queensland ....                  | 22                                       | 35.88             | 103.27               | 85                    | 85                   | 69.7                              | 78.1                 |
| Wyndham ....                                | 23                                       | 1.13              | 25.51                | 43                    | 59                   | 80.9                              | 88.0                 |
| Cooktown, Queensland ....                   | 17                                       | 8.08              | 59.79                | 76                    | 78                   | 75.1                              | 81.1                 |
| Albany ....                                 | 41                                       | 28.75             | 8.87                 | 76                    | 73                   | 55.8                              | 64.3                 |
| Adelaide, South Australia ....              | 140                                      | 14.42             | 6.67                 | 64                    | 45                   | 56.5                              | 69.6                 |
| Swan Hill, Victoria ....                    | 230                                      | 7.88              | 5.21                 | 70                    | 54                   | 53.4                              | 69.8                 |
| Canberra, Australian Capital Territory .... | 1,837                                    | 11.85             | 11.45                | 72                    | 61                   | 57.5                              | 64.0                 |

(a) Saturation = 100%.

## Chapter II—continued

### Part 3—The Vegetation of Western Australia<sup>(1)</sup>

With an Account of the Family Rutaceae

Contributed by P. G. Wilson

(Western Australian Herbarium, Department of Agriculture)

#### THE FLORA OF WESTERN AUSTRALIA

The State of Western Australia occupies about one-third of the land area of the continent and its flora contains approximately half of the total number of vascular plant species. It consists of about 6,500 flowering plants (angiosperms), 15 gymnosperms (e.g. cycads and conifers) and 50 ferns. The families of flowering plants which predominate in number of species in Western Australia are those which also predominate in the other States, e.g. the Myrtaceae, Leguminosae, Proteaceae, and Epacridaceae. None of the larger families is restricted in its distribution to Australia although several, such as the Styliaceae, Goodeniaceae and Epacridaceae, are only poorly represented elsewhere. Below the level of the family there are large groups which are endemic to Australia and it is often these which give the individuality to the Western Australian vegetation. Examples are the Chloanthoideae (Verbenaceae), Prostantheroideae (Labiatae), Persoonieae and Banksieae (Proteaceae), and the Epacrideae (Epacridaceae). All these groups are Australia-wide in distribution and, except for five small families, endemism in Western Australia is at the genus and species level only.

The distribution of species is of course dependent on the past tectonic and climatic history of the continent, as well as on present-day climatic and edaphic (soil condition) factors, and a knowledge of this history contributes to an understanding of the present-day plant geography.

It is generally accepted that in the Palaeozoic era Australia was united with the continents of southern Africa, South America and Antarctica into a common land-mass known as Gondwana. During this period the countries had a common flora exemplified by the *Glossopteris* elements (which were fern-like plants) but they lacked any flowering-plant ancestors. The break-up of the Gondwana land-mass began during the Jurassic era, also before the emergence of flowering plants in Australia. Thus, if this is correct, any present-day relationship between the floras of the southern continents must be due to causes other than that of a direct land connection in the past.

Following the break-up of Gondwana and the dispersal of the southern continents, it is thought that Australia came into contact in the north-east with a continent made up of New Guinea and a land which, in part at least, now lies beneath the ocean in the Coral Sea zone. It was presumably from this continent that, towards the end of the Cretaceous period, the early-flowering plants and conifers entered Australia.

The flora of the early Tertiary era consisted partly of plants now associated with the New Guinea rain forests (the cinnamomum flora), partly of an apparently cool temperate assemblage, and partly of the typical Australian element. In the first category were found such broad-leaved genera as *Cinnamomum* and *Tristania*. In the second the genera *Dacrydium*, *Podocarpus*, *Araucaria*, *Nothofagus*, and *Phyllocladus*. And in the third, *Banksia*, *Eucalyptus*, *Callitris* and *Casuarina*.

(<sup>1</sup>) See *Appendix* for additional information contained in earlier issues of the Year Book.

It is possible that a change from an equable climate to a markedly seasonal one in the middle Tertiary period caused certain genera to die out, to be restricted to refuges or to survive only in southern moist regions. In Western Australia the cinnamomum element was largely eliminated while the cool-temperate assemblage was much reduced. The genus *Nothofagus*, for instance, is now extinct in this State, while of *Podocarpus* only one species remains and this is restricted to the forests of the South-West. In contrast, the Australian-element diversified and adapted itself to the varied climatic conditions and to the impoverished soil which is general throughout Western Australia. It also gave rise to a flora resistant to fire and in some ways apparently, adapted to it. An example of this adaption is the ability of some eucalypts to regenerate from their epicormic buds or from their lignotubers. Other adaptations are seen in the woody fruits of some Proteaceae which release their seeds after burning, and in the stimulus fire has on the germination of seeds which are lying dormant in the soil.

During the later period of diversification the south-west region of Western Australia was probably effectively isolated from the east by a shallow sea which occupied the present Nullarbor Plain, while the arid interior also restricted transcontinental movement of species. The plants in this south-west district were therefore able to evolve in semi-isolation and this they did to produce a flora rich in both number of species and in percentage of endemics.

The families which have been most successful in the South-West as exemplified by both number of species and size of populations, are those which, as mentioned above, flourish over a large part of Western Australia, and also in the other States. Within these families, however, the genera are frequently endemic to the South-West Botanical Province, an area which extends from Shark Bay in the north to Israelite Bay in the south, and bounded inland approximately by the ten-inch isohyet. In the family Proteaceae the genera *Dryandra*, *Stirlingia*, *Synaphea* and *Franklandia* are endemic. In the Myrtaceae the genera *Conothamnus*, *Eremaea*, *Phymatocarpus* and *Regelia* are also limited to this region.

At the species level the endemism is even more marked and it is estimated that about 75 per cent of the species in the South-West Botanical Province are found nowhere else.

The five families which are endemic to Western Australia are also limited (or almost limited) in their distribution to the South-West Province. These are Cephalotaceae, Eremosynaceae, Emblingiaceae, Ecdeiocoleaceae, and Anarthriaceae. The first four families are monotypic (they have only one genus each with one species), while the last is monogeneric but with several species. *Cephalotus*, the Albany Pitcher Plant, is the only one of these endemics which is at all widely known. Its fame rests in its flask-shaped leaves with lids, which it possesses in addition to normal foliage leaves. The species is found in boggy, mineral-deficient situations, where the pitchers act as traps for insects, the flesh of which is absorbed and presumably provides the plant with additional nitrogen.

The genus *Eremosyne* is a low herb with insignificant flowers; it is known from only a small area in the Karri forests. Although considered to be distinct, both *Eremosyne* and *Cephalotus* are related to the large and widespread family Saxifragaceae, and presumably are segregates from the same ancestral group.

The only species in the Emblingiaceae, *Emblingia calceoliflora*, is a prostrate plant with small flowers. It is probably related to the *Polygala* family.

The species in the families Anarthriaceae and Ecdeiocoleaceae are all plants of the heaths, and in habit resemble the 'rushes' and sedges of the families Restionaceae and Cyperaceae to which they are undoubtedly related.

While the initial isolation of the flora (with its consequent diversification) of the South-West Province was due to tectonic, and secondarily climatic developments, it is likely that edaphic factors now also prevent the movement of species, for the soils of the Province are, on the whole, extremely deficient in those minerals required by most plants for normal growth. To this deficiency the native plants are adapted and it is in the areas of great deficiency that the flora exhibits in its heath plants some of its greatest diversity and display of colour.

## THE FAMILY RUTACEAE IN WESTERN AUSTRALIA

One of the groups of flowering plants which illustrates the relationship of the flora of Western Australia to that of the other States and the rest of the world is the family Rutaceae.

The genus *Ruta*, from which the family name is derived, is a native of the northern hemisphere. Known locally in England as the 'herb of grace' for its actual or fancied virtues, it was (and still is) considered to be of culinary and medicinal importance, a reputation probably founded on the astringent oil in its leaves which imparts a piquancy to food. The presence of a sprig in a house, it is claimed, will contribute towards a zest for living as well as help to ward off pests and diseases. The species of Rutaceae in Western Australia include no plant of comparable repute although many possess some of its properties. The plant *Correa*, for instance, was at one time used by sealers for making a brew reminiscent of tea and the leaves in the form of a poultice were applied to wounds by the Aborigines, while along some of the streams of the South-West is found a shrub (*Phebalium anceps*) whose sap will cause blistering of the skin as do some species of *Ruta*.

All the Rutaceae species of Western Australia possess glands which secrete a strongly smelling oil, and it is probable that if some of these plants had been known to the early herbalists, they would have ascribed to them properties similar to those they gave to the European species.

The Rutaceae family as a whole is distributed throughout the temperate and tropical regions of the world, but certain tribes are largely confined to one or other of the continents. Only four of the eleven are represented in Australia and, of these, three are found in Western Australia. They are the Aurantieae, the Zanthoxyleae and the Boronieae.

The tribe Aurantieae, which includes the citrus fruits of commerce, has only one Western Australian representative, *Paramignya trimera*. It is a scrambling shrub armed with spines and bears as its fruit a small, scarcely-edible berry. The plant is grown in Java as a hedge and, presumably because of its thorns, is able to keep stock under control. In Western Australia it is known only from the tropical coast but little collecting has been carried out in the region where it is likely to be found.

A few species, also belonging to the Aurantieae, occur in eastern Australia but the majority are found in south-east Asia and, considering the present distribution of our one native species, it would seem likely that it is a relatively recent introduction from that area.

The tribe Zanthoxyleae is likewise represented by a single genus containing one species. It is *Geijera linearifolia*, also known as 'sheep bush' or 'oil bush'. The plant is found in the south-east of the State where it forms a small tree, and in fact it is the only tree member of the Rutaceae indigenous to Western Australia. Four other species of *Geijera* are known, all from the other States of Australia.

The third tribe, the Boronieae, includes the other fourteen Rutaceae genera found in Western Australia; of these, six are endemic as are most of the species within the other eight genera. The endemic genera and species are largely confined to the South-West Botanical Province, a fact which supports the hypothesis that this area has been more or less isolated from the other States by climatic, edaphic, or tectonic factors for a very long time, possibly since the mid-Tertiary period. The species which are not endemic are coastal or near coastal through at least part of their range where their distribution is more or less continuous with neighbouring States. Examples are *Boronia lanuginosa* (syn. *B. artemisiifolia*) which is a tropical coastal species, and *Correa reflexa* var. *coriacea*, a temperate south-coastal plant. The only other non-endemic members are *Boronia coerulescens* and two species of *Microcybe*. These are all found in the south-east of Western Australia as well as along the Great Australian Bight in South Australia.

The eight non-endemic genera are *Boronia*, *Eriostemon*, *Phebalium*, *Crowea*, *Microcybe*, *Urocarpus* (*Asterolasia*), *Philotheca*, and *Drummondita*.

The first genus, *Boronia*, is known to the public mainly through the 'brown boronia' (*Boronia megastigma*), which is sold in the early spring in the streets of Perth on account of its lemon-scented flowers. The plant is a native of the seasonally swampy lands of the South-West between Albany and Manjimup where it forms low thickets. It is now grown



commercially in Victoria and in other places for sale as cut flowers and for the perfume industry. Beside the brown boronia there are over forty other species of *Boronia* in Western Australia. They range in size from herbs of a few inches to shrubs over twelve feet high, the 12 ft giant being *Boronia molloyae* (*B. elatior*), a slender shrub of the creek margins in the forests of the South-West. A group of *Boronia* species of particular interest are those placed in the section *Heterandrae*, which includes both *B. molloyae* and *B. megastigma*. These species have only four fertile anthers instead of the normal eight and they usually possess in addition a massive stigma. The section appears to be heterogeneous as its members are independently related to species included in several different sections. This would suggest that the heterandry has arisen several times, possibly in response to a particular pollen vector not found elsewhere, for the species in this section are again restricted to the South-West Botanical Province.

The genus *Urocarpus* is represented by four species. It differs from all other members of the Boronieae in having flowers which develop in succession in clusters so that buds and fruit can be present in the same head. The Western Australian species have flowers which are 2-3 carpellate, a character separating them from the species found in the other States in which the flowers are 5-carpellate.

The genera *Phebalium* and *Eriostemon* contain numerous species, many of which are notoriously difficult to designate as belonging to the one or the other genus. Each genus can, however, be divided into several sections which appear to be natural and can be clearly circumscribed. Several of these sections are independently related to other genera which suggests, as in the section *Heterandrae* in *Boronia*, that both *Phebalium* and *Eriostemon* contain a heterogeneous assemblage of species. Of particular interest in speciation is the section *Phebalium* because, although many of the species appear to be distinct if growing in isolation, when growing together they often freely hybridise. This habit appears to be of recent origin and may be due to the introduction over the past 150 years of exotic pollen vectors such as the honey bee.

The genera *Drummondita*, *Philotheca* and *Crowea* all have interesting disjunct distributions. The first genus is represented by three species in southern Western Australia and by one species in north-east Queensland. The second occurs on the western edge of the Great Victoria Desert in Western Australia and otherwise in New South Wales and Victoria. And the last consists of three species, one of which is found in the south-western corner of Western Australia, while the other two occur in eastern Victoria and New South Wales. This distribution suggests that in the past, possibly the late Tertiary era, a much wetter climate permitted a greater east-west plant migration than is now conceivable.

The endemic genera, except for *Diplolaena*, are all monotypic. One of the more outstanding of these is the genus *Rhadinanthus* with its species *R. euphemiae* (syn. *Nematolepis euphemiae*). It is found on some of the mountains of the south coast between Hopetoun and Israelite Bay where it grows into columnar-shaped subshrubs up to two feet high. The bilobed leaves and the pale-green flowers are tightly clustered around the normally single unbranched stem. The flower morphology and seed is of the type found in *Chorilaena* and in *Phebalium rude*, both of which are also endemic to Western Australia.

The genus *Diplolaena* is the only endemic member of the Rutaceae with more than one species. These are not, however, well-defined and some taxonomists are inclined to treat the genus as being composed of two or three very polymorphic species. *Diplolaena* contains some of the most spectacular of the Rutaceae, for its flowers, although individually practically reduced to stamens and ovary, are clustered together and surrounded by a common involucre of bracts as is found in the daisy family (Compositae). The involucre is sometimes red and the long exserted stamens are red or green. This gives the appearance of a single brightly coloured flower, from which character it has been given the name of 'native rose'. A claim for historical recognition lies in it being part of the first recorded collection made by a European of Australian plants. The collection of *Diplolaena grandiflora* was made by William Dampier in the Shark Bay area in 1699. Soon after it was described and illustrated in his book *A Voyage to New Holland etc. in the Year 1699*.

Two other monotypic endemic genera are *Muiriantha* and *Chorilaena*. The former is a small perennial with pendulous yellowish-green flowers. It is only found on some of the mountains of the Stirling Range. The genus *Chorilaena* is a shrub or small tree and is found in the forests of the heavier-rainfall areas in the South-West. It has pendulous green flowers, always in clusters of six, while the leaves resemble those of the European oak from which character it received the species name of *C. quercifolia*.

The Western Australian Rutaceae can therefore be seen to be isolated both in a geographical and plant-systematic sense. The only close link outside of Australia is through the tropical plant *Paramignya trimera* and this species would appear to be of relatively recent introduction. Apart from the genus *Geijera* the rest of the Rutaceae belong to the tribe Boronieae which is endemic to Australia, with the exception of a single species that is found in New Zealand. The affinities of the Boronieae appear to be greatest with South African genera in the tribe Diosmeae and it is interesting that the predominantly Australian families Proteaceae and Restionaceae are also found in South Africa.

### VEGETATION PROVINCES

It has been said that of all the factors which determine and control the vegetation of the earth, the climatic factor is the most important, and rainfall and temperature are the most important of the climatic elements. In Western Australia there are three distinct climatic regions. These are the tropical north with a short, hot, rainy period, the temperate south with a rainy period occurring in the coldest months, and the arid interior which has no regular rainfall pattern. The flora is remarkably different within these three areas which for this reason have been used as natural divisions of the flora. Diels referred to them as the Northern, the South-West and the Ereman Provinces. A map showing the boundaries of the three Provinces appeared in the *Western Australian Year Book*, No. 7—1968 and earlier issues.

The description of the climatic and vegetative characteristics of these Provinces and their Formations contained in the following sections is by the late C. A. Gardner, formerly Government Botanist of Western Australia.

#### Climatic Characteristics

The *Northern Province* extends over the Kimberley Division to some few miles southward from the Fitzroy River, thence contracting into a narrow coastal isthmus in the vicinity of the Eighty Mile Beach, and expanding southward to include the De Grey River and the greater part of the Fortescue system. It is the area which, lying north of the Tropic of Capricorn, receives its rain entirely in the summer months, with a seasonal rainfall during the four wettest months ranging from about seven inches in its southern portions to over forty inches in parts of the Kimberley Division, and has an annual mean maximum temperature of 90° F. or over, although during the growing season temperatures may be even higher. The season from the commencement of April until the end of October is relatively rainless.

The *South-West Province* extends from the southern end of Shark Bay in the north to Israelite Bay in the south. On the western and southern sides it is bounded by the ocean, while its inland boundary passes close to Mullewa, Morawa, Koorda, Bencubbin, Burracoppin, Hyden, Ravensthorpe and Grass Patch. It is pre-eminently the winter rainfall province which receives its maximum rainfall from May to August inclusive and, with the exception of the southern portion, experiences a seasonal drought extending from November to March or April. The average maximum temperature is less than 80° F. with much lower temperatures during the growing season.

The *Ereman Province* lies between the Northern and the South-West Provinces, and occupies approximately two-thirds of the total area of the State of Western Australia. It is intermediate in character between the other two; its rainfall is received either from extensions of summer rainfall southward (and this makes up the greater portion, especially such rainfall as is received from tropical hurricanes during the late summer months), or in the south from extensions of the winter systems, while, rarely, a general rainfall may occur throughout.

### Vegetative Characteristics

The *Northern Province* is essentially the savannah-steppe Province in that a herbaceous ground-covering mainly composed of grasses occurs. This varies from the rich grasslands of the Kimberley to the harsh spinifex 'steppe' of the country southward from the Fitzroy, broken only by the alluvial grassland plains of the De Grey and Fortescue districts, especially the Roebourne Plains. Scrubland as such is unknown, except to a very limited extent in the rough sandstone range country of north-west Kimberley. Forests as such do not occur and Mulga too is absent. Floristically the Province is characterised by the part played by the 'Indo-Melanesian Element' in its constitution. In places this element may predominate to the extent that amongst the trees *Eucalyptus* plays a secondary role, and deciduous trees are prominent. The grotesque Baobab is common, together with various soft-wooded trees, while the herbaceous growth is rich in members of the *Hibiscus* family and several others. With the exception of the river bank and swamp formations, most herbaceous growth is either dead or resting during the winter months.

The *South-West Province*, on the other hand, is characterised by a total absence of the Indo-Melanesian influence, and its flora bears a distinct southern or 'Antarctic' impress. Trees and shrubs predominate with a marked diminution of grasses, and there is no true grassland. The herbaceous species are of winter growth, and the plants remain dormant during the dry summer months, especially the species of *Acacia* and Casuarinaceae. The Proteaceae, which assume a minor role in the North, here hold sway, as do the Myrtaceae and Leguminosae. The principal formations are forest woodland and scrubland, with extensive tracts of sand heath. Mulga and spinifex are absent and the various salt bushes either exist as inhabitants of the physiologically dry salt pans, or occur only marginally. There is a distinctive plant architecture among the woody plants in which the effect of the dry season is apparent.

The *Eremean Province* is again intermediate. Floristically it is characterised by the 'Australian Element', recruited from northern and southern influences, and those hardy species which have arisen in response to an adverse environment. Notably there is an increase in the spacing of plants due to root competition between neighbours. The result is a series of 'open formations'; Mulga bush, consisting of leafless species of *Acacia* with resinous or stiff leaf-like phyllodes; a predominance among the shrubs of species of *Acacia*, *Cassia* and the attractive species of *Eremophila*, notable for the size and colour of their blossoms. The Northern influence is expressed most strongly by the Spinifex (*Triodia*) which is the dominant tussocky grass of the lighter and stony soils, while the Mulga occupies the more closely-grained soils, the true mulga (*Acacia aneura*) being restricted to hard-pan soils. The Southern Element is most strongly asserted in the loose red sand and around granite rocks, the former carrying those sand-loving species for which the South-West is famous (even the Blackboy extends into the heart of the Eremea) while the species of the granite rocks owe their existence to an improvement in the water content of the soil in addition to the shelter and shade provided by declivities. In the northern portions of the Province we find, where watercourses provide permanent pools and moister conditions than elsewhere, an intrusion of the Northern Element, especially in the grasses and the herbaceous flora generally. Savannah and steppe occur in the north, Mulga and spinifex steppe occupy the middle areas, while in the south we have woodland formations, with some degree of heath development. The salt soils carry distinctive associations of salt-tolerant plants in which salt bushes are predominant, and this same formation occurs on the limestone soils of the Nullarbor Plain. Forests are absent.

### VEGETATION FORMATIONS

Within the three large Vegetation Provinces plant species are grouped into associations which are basically dependent on soil type. The soil, within the limits of each rainfall zone, governs the amount of water available to the plants and influences the habit and character of the plant cover. Thus there are Forest Formations, Woodland Formations, Shrub Formations and many others.

### The Forest Formations of the South-West

*The Jarrah Forest.* The most important of the forest formations of the South-West is that dominated by the Jarrah (*Eucalyptus marginata*), which reaches its greatest development in the lateritic soils from the Darling Scarp eastward to the twenty-inch isohyet, although it does occur also on the sandy coastal soils. Within the forest area Jarrah forms an almost pure stand, but along watercourses Blackbutt (*Eucalyptus patens*) is common, while Marri (*Eucalyptus calophylla*) is almost always present where sandy soils occur. In the richer soils of the valleys, Wandoo (*Eucalyptus redunca* var. *elata*) and Powder Bark Wandoo (*Eucalyptus accedens*) commonly occur, the latter being usually associated with granite outcrops. The understorey of the Jarrah forest consists principally of *Banksia* and the related *Persoonia*, *Hakea* and *Dryandra*, together with the Christmas Tree (*Nuytsia floribunda*), Sheoak (*Casuarina fraserana*), Blackboy (*Xanthorrhoea preissii*) and *Zamia* (*Macrozamia riedlei*) in varying associations.

*The Karri Forest.* To the south of the Jarrah forest, in an area where the rainfall is heavier and more evenly distributed throughout the year, the Karri (*Eucalyptus diversicolor*) forms almost pure stands in certain light types of soil, mainly on the hillsides. Associated with it in the valleys is Bullich (*Eucalyptus megacarpa*), a tree which closely resembles Karri, while Jarrah and Marri occur where there are gravelly or sandy soils. The understorey consists of the Karri Sheoak (*Casuarina decussata*), Peppermint (*Agonis flexuosa*), Warren River Cedar (*Agonis juniperina*), Bull Banksia (*Banksia grandis*) and River Banksia (*Banksia verticillata*). The shrubby components are Karri Wattle (*Acacia pentadenia*) and Hazel (*Trymalium spathulatum*) with *Hovea*, *Crowea* and *Boronia* providing masses of colour in the flowering season.

*The Tingle Forest.* Around the lower reaches of the Frankland River, the Karri trees are largely replaced by Red Tingle (*Eucalyptus jacksonii*) occurring mainly on the slopes and tops of hills, and Yellow Tingle (*Eucalyptus guilfoylei*) found mainly in the valleys and low situations generally. The associated vegetation is almost identical with that of the Karri forest.

*The Wandoo Forest.* There are few large areas of true Wandoo forest in the South-West, although the tree is widely distributed in the country to the north and east of the Jarrah belt. Where the Wandoo penetrates into the Jarrah forest it is associated with an understorey which, though closely resembling that of the Jarrah forest, lacks *Persoonia*, Sheoak and Christmas Tree. In the more open stands to the east, however, it is associated with a much reduced shrubby undergrowth, and frequently with Jam (*Acacia acuminata*). Within the Wandoo forest, the Mallet species *Eucalyptus astringens* and *E. gardneri* form dense associations on stony hillsides, while in the southern portion of the forest the Swamp Yate (*Eucalyptus occidentalis*) occurs freely on the low-lying country.

*The Tuart Forest.* The Tuart (*Eucalyptus gomphocephala*) occurs in a typical forest formation between Ludlow and Busselton where it is associated with Peppermint, species of *Banksia* and a large number of herbaceous species. The formation extends northward as far as the Hill River and throughout its occurrence is restricted to limestone soils. To the north of Ludlow the forest gradually merges into a sparse woodland formation with an abundance of shrubby undergrowth and relatively few herbaceous species.

### Woodland Formations

The Woodland formations differ from the forests of the South-West in being less uniform. Whereas the forest is invariably dominated by a single species, the woodland on the other hand consists of a series of co-dominant species which occupy relatively small areas in the intricate pattern which makes up the mosaic of the Woodland formation. The principal trees are the Salmon Gum (*Eucalyptus salmonophloia*), Gimlet (*Eucalyptus salubris*), Morrel (*Eucalyptus longicornis*) and Yorrel (*Eucalyptus gracilis*). Many other species are locally dominant and the undergrowth consists of species of *Acacia*, *Grevillea*, *Hakea* and mallee forms of *Eucalyptus*. This formation is chiefly South-Western, but it extends also into the Ereman Province where, although the tree species remain fairly constant, the undergrowth changes in character with an increasing number of the species of Poverty Bush (*Eremophila*), Saltbushes (*Atriplex*) and Bluebushes (*Kochia*).

### Shrub Formations

*The Mallee Eucalypts.* The mallee form of *Eucalyptus* is found in many districts from the west coast to the South Australian border, and it is absent only from the forest areas of the South-West. Mallee thickets reach their greatest development in the alluvial soils, but they occur in almost any type of soil. In the lighter soils they frequently occur in association with other shrubs, particularly tea tree which at times actually dominates in a sandy habitat.

*The Mulga Bush.* The Mulga bush occupies a large part of the Ereman Province. This formation extends almost without interruption from the west coast between Onslow and the Wooramel River eastward as far as New South Wales and, although its species may change, it maintains its character and identity throughout. The species of *Acacia* referred to as Mulga have a greyish resinous foliage and it is the dominance of these species, more than anything else, which gives the Mulga bush its character. Component shrubs are rather widely spaced. Another characteristic of the formation is its differential response to rain, a winter precipitation producing an immediate germination of vast numbers of annual and perennial herbs and shrubs, while summer rains promote a vigorous growth of grasses.

*The Sand Heath.* It is in the sand heath formation that the flora of the State displays the greatest number and diversity of its species, as well as the greatest development of colourful and interesting endemic forms. The most extensive sandplains are found at the northern and eastern extremities of the South-West Province, between Northampton and the Murchison River and from Ravensthorpe to Israelite Bay. They occur also on the eastern fringes of the South-West Province, and in the Ereman Province where important areas occur at Comet Vale and to the east and south of Southern Cross.

### Savannah and Steppe Formations

Except for a weak development in Jam and York Gum (*Eucalyptus loxophleba*) country in the South-West, savannah and steppe formations are restricted to the Northern and Ereman Provinces where there are the necessary climatic conditions of summer rains alternating with a dry cool winter. On river flats the dominant species is the Coolabah (*Eucalyptus microtheca*) with a grass element consisting of species of *Sorghum* and Citronella Grass (*Cymbopogon* spp.). In the sandier soils Spinifex (*Triodia* spp.) is the dominant grass, while the tree layer consists of a number of bloodwoods and the Micum tree (*Eucalyptus brevifolia*). On the basalt soils the Grey Box (*Eucalyptus tectifica*) is associated with certain cabbage gums and Kangaroo grass (*Themeda australis*). An interesting type of open savannah occurs in coastal country between the De Grey and Fitzroy Rivers and is referred to as Pindan. In this formation, several species of *Acacia* are associated with a large number of grasses both annual and perennial although in recent years the introduced Buffel Grass (*Cenchrus ciliaris*) is dominating the grass cover.

Southward from the Fitzroy River is the large area of Spinifex steppe-dominated by *Triodia*, where very few trees occur. The shrubs are mainly species of *Acacia* and *Cassia*. This formation gradually merges into the more open desert country of the interior, an area which is only now becoming known botanically.





### PINCUSHION HAKEA

(*Hakea laurina* R.Br.)

Pincushion Hakea is a shrub or small tree growing to twenty feet tall, with an open or dense rounded crown, sometimes of a slightly pendulous habit. The flowers are crowded in short racemes with the long styles exerted in all directions giving a rounded pincushion effect. The flowers, which open in autumn and early winter, are cream and reddish-pink at first, turning deep red with age. They are followed by woody fruit, each containing two black winged seeds. The species ranges from the Narrogin and Stirling Range districts eastwards almost to Israelite Bay.

*Blocks by courtesy of the National Parks Board of Western Australia*

### CHRISTMAS TREE

(*Nuytsia floribunda*)

The largest member of the mistletoe family, *Nuytsia floribunda* is a root parasite. It occurs in coastal areas southward from the Murchison River and eastward to Cape Arid, on the south coast east of Esperance, and extends inland as far as Tammin. It rarely reproduces itself from seed, but forms small colonies of apparently independent trees which are connected by underground stems. The generic name commemorates Pieter Nuyts, a member of the party aboard the Dutch vessel 'Gulden Zeepard' which made a close examination of the southern coastline in 1627.



## WESTERN AUSTRALIAN HERBARIUM

The State Herbarium building, which was officially opened on 5 March 1970, is located in the Collier pine plantation, South Perth. The three-storey building has a unique design, with wings radiating in a cross formation from a central hexagonal service core, office and laboratory section. It provides, for the first time, ideal storage conditions for the State's collection of plants, and adequate facilities for botanists to study them.

At present, more than 100,000 specimens are held in the Herbarium. Most are of Western Australian origin, but there is an increasing representation of flora of other States, as well as a collection of cultivated species.



*Block by courtesy of  
the Department of Agriculture*



## Chapter II—continued

### Part 4—The Fauna of Western Australia

Contributed by

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#### DISTRIBUTION

##### Terrestrial Vertebrates

An observer who looks carefully at the fauna of a large land mass like the Australian continent will soon discover that its animals are not distributed uniformly throughout it. He will find that groups of species which are characteristic of some places are missing from others. This is because the distribution of animals results both from their response to the physical (i.e. ecological) conditions of their environment (and these are not uniform from place to place), and from their past histories. For example, the presence of routes along which a species could have moved in the past, and of barriers which would have made its movement from one place to another impossible, decide whether any species could have reached a particular locality by today. But whether it has persisted there until today depends upon local conditions having been suitable for it.

The relationship between the distribution of a species and the character of its environment may be demonstrated dramatically and most easily by comparing the distribution of animals with that of climate, and in particular with its components of temperature, rainfall and the time of the year at which rain falls. In Western Australia many species lie within one or other of the boundaries of two rather different climatic regions. These are the South-West with its regular and plentiful rainfall during cold winters, and the Kimberley with regular, plentiful rainfall during hot summers. The remainder of the State receives intermittent and unreliable rainfall in quantities which vary widely; some parts of this area (e.g. the Pilbara) receive their small amount of rain principally in the summer and other parts (e.g. the Nullarbor) in the winter.

An analysis of most of the Western Australian groups of vertebrate animals shows that they can be referred to three faunal assemblages characteristic of these climatic regions. These assemblages are called *faunas* and have been named by zoogeographers *Bassian* which, in this State, is the fauna characteristic of the South-West; *Torresian* which, in this State, is characteristic of the Kimberley; and *Eyrean* which is the fauna which occupies the land between. While the composition of a fauna is, generally speaking, characteristic of the area in which it occurs, the occurrence of a particular species in a fauna does not mean that it will not be found in another because each of the faunas has several elements which are sufficiently wide in their requirements for them to occur as 'foreigners' in the faunas of neighbouring regions. Examples of these are the species with predominantly Torresian populations (and apparently histories of origin) which are found today in the otherwise Eyrean fauna of the Pilbara district of the North-West; and various Eyrean species which occur in the Bassian fauna of the South-West.

Among the birds the sharpest faunal break is between the Torresian fauna of the Kimberley division and the Eyrean fauna of the Pilbara. The Kimberley is the headquarters in Western Australia of the Scrub Fowl (*Megapodius freycinet*), the Fruit Pigeons (Ptilinopinae), Lorikeets (*Trichoglossus* and *Psittenteles*), the White Cockatoo (*Cacatua galerita*) and most of the Grass Finches. The Torresian species which penetrate further southwards include the Brolga (normally only to Onslow), White-breasted Wood Swallow (to Shark Bay), and the Brown Honeyeater (right through to the South-West).

Among mammals there seem to be a few truly Torresian species in Western Australia. Examples would be the Fruit Bats or Flying Foxes (*Pteropus* and *Macroglossus*), the Little Rock Wallaby (*Paradarcas concinna*), the Jungle or River Wallaby (*Macropus agilis*) and the Antelope Kangaroo (*Macropus antilopinus*). On the whole most of the mammal species which occur in the Kimberley seem to be characteristic of that part of the Eyrean fauna inhabiting the country which receives intermittent rainfall during the summer.

Even among birds, the boundary between the majority of the Eyrean species and the bulk of the Bassian species is less well defined than that which separates Eyrean and Torresian faunas as there is a good deal of overlapping. For example, the line which separates the woodland eucalypts and the mulga, the so-called 'mulga-eucalypt line', is the extreme limit of most Bassian species, though many do not range inland beyond a line connecting Geraldton, Moora, Northam and the Stirling Range. The mulga-eucalypt line separates, to quote an example, the main distributions of the Grey Kangaroo (Bassian) and the Red Kangaroo (Eyrean). This line is the northern limit of other well known Bassian species such as the Red Wattle Bird.

The South-West of the State has representatives of many well known Bassian species also found in south-eastern Australia. These include among birds, the Brush Bronzewing, White-tailed Black Cockatoo, Western Rosella, Scarlet Robin, Yellow Robin, Southern Emu-Wren, Silvereye, White-naped Honeyeater, Western Spinebill, New Holland Honeyeater and Red-eared Firetail. Among mammals there are the Pigmy Possum, the Wambenger, the Grey Kangaroo, the Tammar Wallaby, the Brush Possum and various dunnarts (marsupial mice, *Sminthopsis*). Among frogs there are various *Crinia* and *Heleioporus inornatus* and *australiacus*; and fishes such as *Galaxias* and *Nannoperca*. However, there has been an extensive intermingling of Eyrean and Bassian elements in the South-West on a scale not paralleled in south-eastern Australia. In the South-West we have a blend of faunas in the sclerophyll forests which, though essentially Bassian in character, contain such Eyrean intrusives as the Purple-crowned Lorikeet, the Twentyeight Parrot, the Rufous Tree-creeper, the Western Warbler, the Banded Blue Wren and the Red-tipped Diamond-bird.

It must be recognised also that the distribution of animals that we see today may be a very recent pattern, and subject to continual fluctuation. Studies of fossil pollen in the South-West suggest there have been fluctuations in the relative abundance of Jarrah, Marri and Karri trees over the last few thousand years. Even more marked fluctuations in vegetation may have been produced by climatic changes accompanying glaciation and deglaciation in high latitudes and altitudes over the past 2 million years. Marked changes in vegetation would usually be accompanied by changes in fauna. We know that the Marsupial Wolf or Tiger (*Thylacinus*), the Koala (*Phascolarctos*) and other marsupials, some of them now extinct throughout their ranges in Australia, once lived in the South-West, and it is possible that climatic changes were responsible for their vanishing from that area of Western Australia.

Climatic alterations, on a minor scale, are constantly going on. In the past half-century, or longer, there has been a considerable change in northern Europe, Asia and America, an amelioration in some parts and a drying-up in others, with widespread effects on the distribution of animals. Something similar appears to have been taking place in Western Australia. Many dry-country bird species, of the Eyrean faunal assemblage, have made notable extensions of range into the south-west corner. These include the Galah, Little Corella, Budgerygah, Smoker Parrot, Crested Pigeon, Black-faced Woodswallow, Crested Bell-bird, Blue-and-white Wren, Black-throated Butcher-bird and Little Crow. The records of local naturalists, who keep district lists of local birds and mammals over a period of years, are very useful sources of data for plotting these changes. Frequent Museum surveys will provide more positive information.

In some cases distribution changes due to natural causes may be masked or modified through the alterations of habitat due to settlement. These habitat changes act to the detriment of woodland birds but favour open-country species (like pipits and plovers).

### Coastal Marine Fauna <sup>(1)</sup>

The nature of the coastal waters varies from the warm mangrove-lined mud flats of the north to the clean sandy bays and cool crystal-clear waters of the south. The types of coastal marine habitats depend on the range of tide, the exposure to oceanic swells, the sediments carried off the land by wind or river and some local biological activities such as reef coral or algal building. There is a gradual change in water temperature, salinity and other physical characteristics of the sea as one moves along the long Western Australian coastline of 4,350 miles; these changes reflect the nature of the adjacent water mass modified by local effects such as occur in large and small embayments, near river mouths or behind protecting headlands.

The coastal waters may be divided into several broad zones, as follows:

1. North: from the Western Australian-Northern Territory border to Cape Leveque with very broken coastline, a high tidal range, high runoff from well vegetated hinterland and no exposure to heavy oceanic swell.
2. North-north-west: from Cape Leveque to Cape Keraudren with eighty miles of low beach, a high tidal range, little regular runoff from desert sands which are blown in to the sea by the 'South-East Trades'.
3. North-west: from Cape Keraudren to North West Cape with an indented coastline, moderate tidal range, irregular runoff from some mountains and desert sands.
4. West-north-west: from North West Cape to Kalbarri with some high cliffs, a deep embayment (Shark Bay), moderate tidal range, irregular low runoff from little vegetated desert hinterland and exposed to the south-west oceanic swell.
5. West-south-west: from Kalbarri to Cape Naturaliste with fairly smooth low white sandy coastline and some limestone headlands; rainfall moderate with little runoff from coastal sands, water clear; tidal range low, coast exposed to the south-west swell.
6. South-west: from Cape Naturaliste to Israelite Bay with broken headland and surf beach formations, high south-west swell exposure, low tidal range, many inlets and low-volume river discharges.
7. South-east: from Israelite Bay to the Western Australian-South Australian border with smooth coastal outline of beaches and some cliffs, modified exposure to south-west swell, low tidal range and low rainfall runoff.

Certain coastal marine areas are special in the sense that they represent either a transition (*i.e.* rapid change of character) between two adjacent zones or possess unique features found in such combinations nowhere else on the coast. Examples of such special places are the coastal waters in the Broome to Derby region, around North West Cape, in Exmouth Gulf, in Shark Bay, the Perth metropolitan beaches (Mandurah to Wanneroo), around Cape Naturaliste and around Cape Leeuwin.

The islands and reefs off the coast are also regarded as special because of their marine faunal peculiarities; for example, the Houtman Abrolhos, the Monte Bellos, the Rowley Shoals, the Ningaloo-Cardabia Barrier Reef and the Recherche Archipelago.

The marine fauna of the north coast is distinct from that of the south coast although a few species do occur in both regions. The northern fauna is regarded as part of the Indo-West Pacific fauna, and the southern fauna of Western Australia as part of the southern Australian fauna. On the west coast there are several species which are endemic to this region only. One of these is the Western Australian commercial rock lobster *Panulirus cygnus* and another is the Western Australian commercial jewfish *Glaucosoma hebraicum*.

### Fauna of Inland Waters <sup>(2)</sup>

The inland waters are of many types and possess very varied faunas. They may be divided into four main ecological groupings: (1) the rivers of the Kimberley Division; (2) the river systems of the North-West from the De Grey to the Murchison; (3) the streams,

(<sup>1</sup>) Written in collaboration with Dr R. W. George. (<sup>2</sup>) Written in collaboration with Dr E. P. Hodgkin.

swamps, and lakes of the south-west corner; and (4) the temporary waters of the dry inland represented by two widely different habitats, (i) freshwater claypans and soaks (including man-made dams) and (ii) the salt lakes.

Marked seasonality characterises river flow in the Kimberley Division because of the alternation of regular summer rain with winter drought. The river pools and many isolated springs support an extensive fauna of fish, insects, molluscs and other animals, many of which show close affinities with the aquatic fauna of Asia and the Indo-Malay Archipelago.

The rivers of the North-West from the De Grey to the Murchison flow only intermittently, and between times of flood the fauna must survive in widely separated spring-fed pools in river beds. These pools, like those at Millstream Station on the Fortescue River, are often of striking beauty. Their fauna is relatively sparse as compared with the richer assemblages in the Kimberley rivers, the most conspicuous elements being a few fish species and a freshwater tortoise (*Chelodina steindachneri*) which is confined to the region.

The permanent hill streams of the South-West have a diverse arthropod fauna. Most of these are insects but, in addition, there are several species of freshwater crayfish and freshwater mussels in slower-running parts—Marron (*Cherax tenuimanus*) occur in permanent streams of deep water; Jilgie (*C. quinquecarinatus*) in shallow permanent water; Koonac (*C. preissi*) make burrows in the mud of swamps. A species of a closely related group, the so-called 'land-crabs' (*Engaewa*), has been recently discovered in the swamps of the South-West. The freshwater mussel *Westralunio carteri* is confined to the streams of the South-West. Most rivers stagnate and may become saline in summer; they are reduced to chains of large or small pools to which the fauna is restricted. The small transparent prawn *Palaemonetes* is often abundant in these pools. Shallow permanent lakes and swamps near the coast also have a fairly varied insect fauna, among which certain species of dragonflies are particularly abundant; at times there are enormous numbers of *Daphnia* and related small crustaceans.

The inland freshwater claypans are characterised by an interesting ephemeral fauna, mainly of phyllopod Crustacea. The most conspicuous is the large shield shrimp (*Triops australiensis*) but a variety of fairy shrimps (Anostraca and Conchostraca) occur also. The eggs of these creatures survive for years in the dried mud and development is rapid when the claypans fill after occasional rains.

The most conspicuous animals in the waters of the salt lakes are the brine shrimps (*Artemia* and *Parartemia*), which at times build up to such high population densities as to attract large flocks of Banded Stilts, which breed only in certain of the inland salt lakes. The Salt Lake Snails *Coxiella* reach their greatest diversity and abundance in the South-West saline lakes.

The fishes of the inland waters are described in a subsequent section.

## THE COMPOSITION OF THE FAUNA

The fauna of Western Australia includes representatives of all major phyla of the Animal Kingdom and individuals range in size from the Blue Whale (*Balaenoptera musculus*), the largest mammal that has ever lived, to minute single-celled protozoa which cannot be seen without a microscope. No estimate can be made of the number of species, and probably the number of species of insects alone out-numbers all the rest by a comfortable margin. Here we have not attempted to describe all phyla. The vertebrates are given fairly full treatment because they are obvious and familiar animals to most of us. The insects (mostly those of economic importance) are dealt with in Part 5 of this Chapter, and the remaining phyla are treated in a few paragraphs which confine themselves to groups of interest.

### THE VERTEBRATE FAUNA

#### Mammals

Unlike the birds and reptiles, wild mammals are not frequently seen in most parts of Western Australia. This is because most of the species are small and secretive and appear

only at night. However, there are exceptions and, as any traveller in inland and northern parts of the State can attest, kangaroos of one species or another can often be seen in large numbers during daylight hours.

Most species of mammals have distinct ecological preferences which allow them to be categorised into one or other of the three main faunal groups which are described earlier in this Part under the heading *Distribution*. For example, in the kangaroo family, the Tammar Wallaby (*Macropus eugenii*), the Quokka (*Setonix brachyurus*), and the Brush Wallaby (*Macropus irma*) are found only in the South-West or on certain isolated islands off the coast. Of these, the Brush Wallaby is closely related to the South Australian Toolache Wallaby (*Macropus greyi*) and the Tammar to the Flinders Island Wallaby and the now extinct St Peter Island Wallaby of South Australia. The most familiar kangaroo of the dry country with unreliable rainfall is the Red Kangaroo or Marloo (*Megaleia rufa*), while in the summer-rainfall country of the Kimberley Division we find such species as the Jungle Kangaroo or River Wallaby (*Macropus agilis*), the Little Rock Wallaby (*Peradornas concinna*) and the Northern Nail-tailed Wallaby or Karrabul (*Onychogalea unguifer*). In addition to the species which sort out in this convenient way, there are others which are widely distributed and in fact occur as members of all three faunal assemblages. The most familiar members of the family which do this are the Euro or Biggada (*Macropus robustus*), the Boodie (*Bettongia lesueur*), and the Rock Wallaby (*Petrogale penicillata*). Of these, the Euro may still be found anywhere in suitable local habitats from the Kimberley to the South-West and inland across the South Australian border. At one time this was true also of the Boodie and the Rock Wallaby which, however, are today unfortunately absent from much of their former range.

So far, only the kangaroos have been mentioned but, in fact, representatives of all three major divisions of the mammals (*i.e.* monotremes, marsupials and placentals) occur in the State.

The egg-laying monotremes are represented by the Echidna (*Tachyglossus aculeata*), sometimes called Spiny Anteater or Porcupine. This curious and completely inoffensive animal is not uncommon in the country around Perth and it even appears on occasions in densely-settled suburban areas. In drier districts, its diggings, made in its search for insects, are familiar around rocky hills and breakaways.

Marsupials, or pouched mammals, occur in great variety in Western Australia. The kangaroos and wallabies, already mentioned, are the herbivorous members of the group. These animals are the Australian evolutionary equivalent of the antelopes, deer, and horses of the other continents and there is often an extraordinary similarity in structure between members of the kangaroo family and these other herbivores. These similarities extend even to such details as the physiology and shape of the stomach and other organs of digestion. The reproductive systems of marsupials and their physiology have also long been of great interest to biologists because they differ from those of other animals. For example, it is now known that in the Quokka, and some other wallabies, the adults mate again immediately after the birth of the 'joey'. The embryo which is the product of this second mating does not develop immediately but is held in a dormant state in the female system. However, if the first young joey is lost from the pouch, this dormant embryo immediately begins to develop and a second joey is produced after a minimum period of time.

In Western Australia the kangaroos and wallabies are all terrestrial (there are no tree kangaroos), and even their arboreal relatives, the phalangerids, are few in number as compared with other parts of Australia. The Brush Possums, the Pigmy Possums and the Ring-tails have Western Australian representatives, but the Koalas and the striped Possums are absent, and of the four species of flying possums of eastern Australia only one (*Petaurus breviceps*) occurs in Western Australia and that only in the Kimberley Division. Although the species of possums in Western Australia are few in number, there are some unique forms which are of great interest. One of these is the rare Scaly-tailed Possum (*Wyulda*) of the Kimberley; unlike other Australian possums this animal has a hairless scaly tail and only twelve specimens of it are known. There is also the curious and rarely-seen

Honey Possum (*Tarsipes*) of the South-West. Wombats are known to have occurred in Western Australia around the turn of the century and were thought to be extinct until a small colony was rediscovered in 1965 near Caiguna in the Eucla Division.

Although the large carnivorous marsupials no longer live in the State, the smaller representatives of this group are still fairly common. There are two separate species of native-cats, a southern species (*Dasyurus geoffroii*) and a northern one (*Dasyurus hallucatus*), as well as many species of smaller carnivorous and insectivorous forms. One of the smaller members of this family, the Dibbler (*Antechinus apicalis*), one of our least-known marsupials and last recorded in 1884, was rediscovered during 1967 at Cheyne Beach near Mount Manypeaks on the south coast. Studies are being made at La Trobe University on its biology.

The remaining group of marsupials is that commonly called the bandicoot family. One of these, the Pig-footed Bandicoot (*Chaeropus ecaudatus*) is probably the State's rarest mammal, but it once occurred in the Nullarbor region where its remains have recently been discovered in caves and two living specimens of it were collected by John Gilbert in 1841 some miles to the north-east of Northam. No confirmed record has been made of the species in Western Australia since then. On the other hand another species of bandicoot, the Quenda, or Short-nosed Bandicoot (*Isodon obesulus*), is one of the commonest of marsupials. Its scratchings are common in country gardens and the little animal is often run over and found dead on roads. It lives largely on insects, and being nocturnal it is seldom seen but it is nevertheless very common in many areas in the South-West.

The third main group of mammals is that of the higher mammals or placentals. Animals of this group occur in Western Australia in addition to the marsupials and the monotremes, and it always comes as something of a surprise to visitors (who generally have a strong preconception of Australia as a land in which all but introduced mammals and the Dingo are pouched mammals and monotremes) to learn that there are many species of Western Australian native placental mammals. In fact, if the seals, whales, and Dugong which occur around our coasts be counted, the species of native placental mammals outnumber the marsupial and monotreme species.

The composition of the mammal fauna is shown in the following table.

| Kinds of wild mammals      | Number of species occurring in Western Australia<br>(a) | Kinds of wild mammals                       | Number of species occurring in Western Australia<br>(a) |
|----------------------------|---------------------------------------------------------|---------------------------------------------|---------------------------------------------------------|
| Monotremes ....            | 1                                                       | Introduced placentals—                      |                                                         |
| Marsupials ....            | 60                                                      | Rodents ....                                | 5                                                       |
| Native placentals—         |                                                         | Land carnivores ....                        | 2                                                       |
| Bats ....                  | 23                                                      | Ungulates (Horses, Deer, Camels, etc.) .... | 9                                                       |
| Rodents ....               | 24                                                      | Rabbits ....                                | 1 17                                                    |
| Marine mammals :           |                                                         |                                             |                                                         |
| Seals (b) ....             | 2                                                       |                                             |                                                         |
| Dugong ....                | 1                                                       |                                             |                                                         |
| Whales ....                | 22                                                      |                                             |                                                         |
| Land carnivores—Dingo .... | 1 73                                                    | TOTAL, ALL SPECIES                          | 151                                                     |
|                            | —                                                       |                                             | —                                                       |

(a) Total numbers of species are from *A Guide to the Native Mammals of Australia* by W. D. L. Ride. (b) Only resident seals are counted. Antarctic seals are occasionally 'shipwrecked' on southern coasts but these are clearly stragglers into the area.

Within Western Australia the best-established groups of native placental mammals, i.e. the bats and rodents, are distributed in much the same ecological manner as are the marsupials; some are dry country forms like *Leggadina hermannsburgensis*, the small mouse which builds mounds of pebbles on stony ridges<sup>(3)</sup>, others are predominantly animals of the wet tropics like the majority of the Fruit-bats or Flying Foxes (*Pteropus*

(3) It is suspected that these may be dew-traps.







#### WESTERN SPINEBILL AND PALLID CUCKOO

It is very seldom that the Western Spinebill (*Acanthorhynchus superciliosus*) is unfortunate enough to be parasitised by cuckoos and even more unlikely is it to be chosen as a host by the large Pallid Cuckoo (*Cuculus pallidus*). In the case illustrated, the baby cuckoo has grown too large for the Spinebills' tiny nest and has half fallen, half fluttered to a nearby branch, where the hard-working honeyeaters feed it. As the cuckoo grows, its loud, rasping, begging cry often attracts other birds which also feed it in addition to the foster parents.

*Blocks by courtesy of BP*

#### MASKED FINCH

Plainest of the twenty Australian finches, the Masked Finch (*Poephila personata*) nevertheless has a charm of its own. It is very tame in the wild, and will visit burnt out campfires searching for charcoal which it uses in the construction of the nest, strewing the charcoal liberally in the egg chamber. Of the Australian finches, the Masked Finch is the only one to build its nest on the ground. The nest is bottle shaped with a small entrance at one end and is woven entirely from grass stems.

Four to six pinkish-white eggs are usually laid.



Block by courtesy of BP

NANKEEN KESTREL  
(*Falco cenchroides*)

Smallest of the Western Australian falcons, the Kestrel is the only hawk habitually to use a hollow for nesting, either in a cliff or in a tree. Three to five brown eggs streaked with darker markings are laid. The young are fed on mice, lizards and grasshoppers but in the more settled areas the diet is almost exclusively mice, and up to thirty are destroyed in one day. The Kestrel is easily recognised by its habit of hovering in the wind, scanning the ground below for signs of life.

and *Macroglossus*), while yet others are confined to the country of reliable winter rainfall in the South-West, e.g. the Southern Bush-rat (*Rattus fuscipes*). These native placental mammals are of great zoological interest because some of them, and in particular the native rats and mice, have been here for many millions of years and closely parallel (in adaptation to our stringent ecological conditions) their relatives in similar places in other lands. Thus, we have hopping-mice (*Notomys*), like miniature kangaroos, which are very similar in appearance and habits to the jumping-mice (*Zapodidae*) of the American and Eurasian dry-lands, and the jerboas (*Dipodidae*) of Africa; but it must be emphasised that the jumping specialisations of our own hopping-mice have evolved quite independently within Australia.

Some of our native placental mammals are economically important. Until 1963 a shore-based Western Australian fishery at Carnarvon depended upon the migrating groups of Humpback Whales (*Megaptera novaeangliae*) which move along the western coast between their feeding grounds in Antarctic waters and their breeding places in the tropics. Unfortunately, immoderate exploitation of the stocks (especially the breeding stock) had so reduced the population that it was in danger of extermination and the shore-based fishery collapsed. Another whale fishery, at Albany, is dependent upon Sperm Whales (*Physeter catodon*). The catching of Southern Fur-seals (*Arctocephalus doriferus*), formerly lucrative, is now no longer permitted. The Dugong (*Dugong dugon*) was once an important source of food for the natives of the coastline from Shark Bay to the Northern Territory. The Dingo (*Canis familiaris dingo*) has probably not been in Australia for as long as the other native mammals, and may well have entered with the Australoid people who were ancestral to our present Aborigines. In some parts of the State the Dingo is a major problem to the pastoral industry because of its attacks on livestock.

The preceding table also shows that there is a large number of introduced species as well as native mammals. These are now a part of the wild mammal fauna of Western Australia and all are placentals. Some of these species are also agricultural and pastoral pests and they have become so well entrenched in the environment that there is no doubt that any discussion of the mammalian fauna of the State must take them into account and mention should be made of some of them here. Red Deer (*Cervus elephus*) occur spasmodically in the South-West around Pinjarra, Waroona and Harvey. Camels (*Camelus dromedarius*) occur in large numbers and are distributed through the Eastern Goldfields up through the Pilbara and into the Kimberley. They have been declared vermin around Laverton, Nullagine, Port Hedland, and Halls Creek. Donkeys (*Equus asinus*) have a distribution very much like that of the camel and also occur generally throughout the Kimberley. Wild goats (*Capra hircus*) are ubiquitous in dry country but are mainly concentrated in the Murchison and the North-West. A small herd of Black-buck (*Antilope cervicapra*) occurs near Geraldton. Rabbits (*Oryctolagus cuniculus*) are widespread in Western Australia but are only of economic significance south of the Murchison. They are by no means the problem that they used to be, due largely to programmes of intensive rabbit extermination. Foxes (*Vulpes vulpes*), declared vermin, are also widespread but do not commonly occur north of the De Grey River, having only been reported spasmodically from the Kimberley Division. The domestic cat run wild (*Felis catus*) occurs commonly in the bush and is an efficient predator on native fauna. It became feral in the early days of settlement and soon spread throughout the Colony. The naturalist Keartland while a member of the Calvert Scientific Exploring Expedition in 1896, recorded that 'in the desert of North-West Australia' he saw a tabby cat at least 400 miles from the nearest house. Earlier still the ornithologist Tom Carter writing in 1887 from the Carnarvon district spoke of 'the domestic cat, which is found quite wild and of a large size all through the colony'.

Examination of the composition of the older mammal fauna of Western Australia, i.e. monotremes, marsupials, bats and native rodents, as set out in the following table, reveals that only one-eighth of all species recorded from the State today appear to occur only in Western Australia. The South-West contains by far the greatest number of endemic species.

ENDEMISM OF NATIVE MAMMALS TO WESTERN AUSTRALIA  
(excluding marine mammals)

| Group                         | All<br>endemic<br>and non-<br>endemic<br>species | Number of endemic species— |                                          |                                               |                                         |
|-------------------------------|--------------------------------------------------|----------------------------|------------------------------------------|-----------------------------------------------|-----------------------------------------|
|                               |                                                  | Total<br>endemics          | Endemics<br>north of<br>Fitzroy<br>River | Endemics of<br>South-West<br>Land<br>Division | Endemics<br>of<br>remainder<br>of State |
| Monotremes .....              | 1                                                | ....                       | ....                                     | ....                                          | ....                                    |
| Native cats .....             | 23                                               | 5                          | 1                                        | 2                                             | 2                                       |
| Marsupial moles .....         | 1                                                | ....                       | ....                                     | ....                                          | ....                                    |
| Bandicoots.....               | 7                                                | ....                       | ....                                     | ....                                          | ....                                    |
| Possums .....                 | 8                                                | 2                          | 1                                        | 1                                             | ....                                    |
| Wombats .....                 | 1                                                | ....                       | ....                                     | ....                                          | ....                                    |
| Kangaroos and Wallabies ..... | 20                                               | 4                          | ....                                     | 3                                             | 1                                       |
| Rats .....                    | 24                                               | 3                          | ....                                     | 2                                             | 1                                       |
| Bats .....                    | 23                                               | ....                       | ....                                     | ....                                          | ....                                    |
| Dingo .....                   | 1                                                | ....                       | ....                                     | ....                                          | ....                                    |
| Totals .....                  | 109                                              | 14                         | 2                                        | 8                                             | 4                                       |

### Birds

The bird fauna of Western Australia consists of a selection of the species occurring in eastern Australia, with only a very minor development of endemic forms. All of these latter, except one (the Western Australian King Parrot, *Purpureicephalus spurius*), have a close and obvious affinity to other Australian forms. The quantitative relationship of the Western Australian bird fauna to that of Australia as a whole is indicated in the following table, which has been prepared on an ecological basis.

|                         | Number of<br>breeding species |           | Number of non-breeding<br>visiting migratory species |           |
|-------------------------|-------------------------------|-----------|------------------------------------------------------|-----------|
|                         | Western<br>Australia          | Australia | Western<br>Australia                                 | Australia |
| Land birds .....        | 307                           | 499       | 6                                                    | 8         |
| Inland water birds..... | 51                            | 52        | 33                                                   | 42        |
| Sea birds .....         | 25                            | 38        | 33                                                   | 55        |
| Total .....             | 383                           | 589       | 72                                                   | 105       |

Representatives of most of the families and genera of Australian birds occur in this State. Notable absentees include the Cassowary (*Casuarius casuarius*), Brush Turkey (*Alectura lathami*), several of the fruit-pigeons, the Crimson Rosella (*Platycercus elegans*), Lyre-bird (*Menura novae-hollandiae*), several honeyeaters including the Regent (*Zanthomiza phrygia*), Apostle-bird (*Struthidea cinerea*), Cat-birds (*Ailuroedus*), Satin Bower-bird (*Ptilonorhynchus violaceus*) and Rifle-birds (*Ptiloris*).

Space is insufficient to detail all the forms occurring in Western Australia. Mention may be made only of some distinctive species and groups which are common and widely distributed.

The Emu (*Dromaius novae-hollandiae*) is still numerous all over the State and is occasionally encountered in the Darling Range near Perth. Australia's only breeding species of penguin, the Fairy Penguin (*Eudyptula minor*) nests on islands off the southern and south-western coasts as far north as Carnac near Fremantle. The Mallee-fowl or Gnow (*Leipoa ocellata*) is still plentiful and, after a period of decline during which its disappearance was feared, it is now increasing in abundance. All of the widespread

species of Australian quails occur but owing probably to the scarcity of natural grasses in the south are not individually very numerous. Among the pigeons two species have shown notable recoveries in population strength. After a long period of scarcity the Common Bronzewing (*Phaps chalcoptera*) began a cycle of increase about 1936 and is still very abundant. The rare Flock Pigeon (*Histriophaps histrionica*) of the more arid country of the North-West and the far North has declined all over Australia and had not been recorded in this State since 1927 until 1958 when considerable flocks were observed in the Hamersley Range and the Fortescue River country. It has also reappeared in parts of the Kimberley Division.

A very distinctive member of the rail family is the Black-tailed Native Hen or Gallinule (*Tribonyx ventralis*). It is a creature of the drier country but is subject to violent fluctuations in numbers, when it is liable to invade the South-West in great strength. A famous occasion was in May 1833 when it overran the settlers' fields and gardens around Perth and did considerable damage to the crops. Similar irruptions took place in 1853, 1886, 1897 and 1919. Later invasions, such as those in 1952 and 1964, have been on a much more modest scale. Of the three Australian grebes the most plentiful is the Hoary-headed Grebe (*Podiceps poliocephalus*) which assembles in the winter in big flocks on the southern estuaries, including that of the Swan River.

In the petrel group there are five breeding species in local waters. The most numerous is one of the mutton-birds, the Wedge-tailed Shearwater (*Puffinus pacificus*) which nests on most islands between Carnac in the south and Sable Island, in the Dampier Archipelago, in the north. A second mutton-bird, the Fleishy-footed Shearwater (*P. carneipes*) nests between Cape Leeuwin and the Archipelago of the Recherche; it is a migratory species and in the winter months migrates to the north-western sector of the Indian Ocean. A similar trans-equatorial migrant is the White-faced Storm-petrel (*Pelagodroma marina*), a diminutive form rarely observed at sea. It nests often in vast aggregations on islands off the south coast and as far north as the Abrolhos. All of these species nest in the spring and summer months. The remaining two breed in the winter. The Great-winged Petrel (*Pterodroma macroptera*) shares the nesting islands off the south coast with the Fleishy-footed Shearwater in a sort of 'Box and Cox' relationship. The black and white Little Shearwater (*Puffinus assimilis*) has a wider nesting range, from the Recherche to as far north as the Abrolhos; in former times it nested at Parrakeet Island off Rottnest Island. In the winter months some twenty-two species of southern-breeding petrels visit local seas. They vary in size from the little Wilson Storm-petrel (*Oceanites oceanicus*), barely larger than a swallow, to the great Wandering Albatross (*Diomedea exulans*). The Wilson Storm-petrel 'winters' all along the Western Australian coast to the tropics and is a familiar sight around fishing boats in Shark Bay. The most common of the albatrosses is the Yellow-nosed Albatross (*Diomedea chlororhynchus*) and may be seen as far north as Point Cloates. The most familiar of these visitors is the dusky Giant Petrel (*Macronectes giganteus*). Ringing experiments have demonstrated that the birds seen here are first-year individuals making circumpolar flights round the Southern Hemisphere; marked birds found in the South-West had been ringed a few months previously in their nests at Heard Island, Macquarie Island, and islands in the South Orkneys in the South Atlantic.

All of the five species of Australian cormorants or shags occur locally. Despite complaints of their depredations on commercially important fish, investigations have cleared the birds of blame, though one species, the Black Cormorant (*Phalacrocorax carbo*), specifically identical with the Cormorant of Europe, does occasionally include edible fish in its diet. One marine species, the Pied Cormorant (*P. varius*), which enters the Swan River estuary and Peel Inlet, is mainly responsible for the guano deposits on the coastal islands. Deposits at Shark Bay were commercially exploited in the last century and at one stage, in 1850, a detachment of troops was stationed at The Quoin Bluff, Dirk Hartogs Island, to ensure the collection of royalties. Pelicans in Western Australia, unlike those in eastern Australia, breed only on coastal islands and not on inland waters. Until recently the nearest breeding place to Perth, and presumably the origin of most of the Swan River Pelicans, was Pelican Island, Shark Bay. However, since 1962 a breeding colony has become established at Peel Inlet, Mandurah.

Fourteen species of terns are recorded for the southern parts of the State and three more for the Kimberley Division. Three of the seventeen are migrants from the Northern Hemisphere and ringed individuals of the European Common Tern (*Sterna hirundo*) and the Arctic Tern (*S. macrura*), marked in northern Europe, have been recovered near Fremantle. These birds must have reached our coast via the Cape of Good Hope. The Silver Gull (*Larus novae-hollandiae*) is noteworthy for having two breeding seasons in the southern part of the State. On the islands at Safety Bay, for example, there is an egg-laying peak in the autumn and another in the spring.

The numerous Order of wading or shore-birds (sandpipers, dotterels, and plovers) includes a few locally-breeding species but the majority are migrants from the Northern Hemisphere, where they breed in the tundra zone of northern Asia. Though they frequent ocean beaches and estuaries, as well as swamps and lakes, they are listed in the category of 'inland water birds' in the table on page 66. Some twenty-five species of these birds, commonly called 'snipe' (though the true Snipe of eastern Australia, *Gallinago hardwickii*, does not occur in this State) migrate to Western Australia. In addition there are sixteen species of this Order which breed in Australia. One of them, the Red-capped Dotterel (*Charadrius alexandrinus*), is virtually identical with the rare Kentish Plover of England. Here it is very common and nests at Pelican Point on the Swan River. Another local breeder is the remarkable Banded Stilt or Rottneest Snipe (*Cladorhynchus leucocephalus*) which is an attractive inhabitant of the salt lakes of Rottneest Island. However, it nests only on the inland salt lakes. The nesting habits remained long unknown until colonies were discovered at Lake Grace and Lake King in 1930.

The Australian Bustard ('Wild Turkey', *Eupodotis australis*) is a magnificent bird which has been largely exterminated by shooters over much of south-eastern Australia and in the developed South-West of this State. It is not uncommon in sparsely-settled areas and individuals occasionally appear on the open coastal country quite near Perth. It has recently been demonstrated by ringing that the Straw-necked Ibis ranges between south-western Australia and northern and eastern Australia. Fledglings marked in the nests at Muchea have later been taken in the North-West, the Kimberley Division, Arnhem Land and near Orange (New South Wales).

The Brolga (*Grus rubicunda*) is a northern bird normally found as far south as Onslow, but some individuals may wander into the outer parts of the South-West as occurred in 1952. In the heron family a new bird has been added to the State list—the Cattle Egret (*Bubulcus ibis*), which appears to have colonised northern Australia from Indonesia and has now spread over much of eastern and Western Australia.

There are eighteen species of swans and ducks occurring in the State, one of the most remarkable, perhaps, being the Cape Barren Goose, which is now restricted to the islands of the Recherche Archipelago. Recent leg-ringing experiments have shown that the common and widespread Grey Teal (*Anas gibberifrons*) wanders indiscriminately all over Australia, its movements being influenced by availability of surface waters.

The State is also well provided with hawks and eagles, twenty-four species being found within its limits. Most are harmless economically and the few that do take chickens and lambs are not serious depredators, though there is controversy on the role of the Wedge-tailed Eagle (*Aquila audax*) which is, however, classified by the Agriculture Protection Board as vermin in certain districts in the central and north-west portions of the State.

There are not as many species of the parrot group in Western Australia as there are in eastern Australia but one species, the Western Australian King Parrot or Red-capped Parrot (*Purpureicephalus spurius*), is restricted to the South-West and has no near relatives elsewhere. The Twentyeight Parrot is a form of the Port Lincoln Parrot (*Barnardius zonarius*) and is common almost everywhere, being regularly present in King's Park, a natural reserve adjacent to the City of Perth.

The Kookaburra (*Dacelo gigas*), so common in the forests of the South-West, is not a Western Australian native but was introduced from eastern Australia by the Acclimatisation Board during January 1897. A similar species, however, the Blue-winged Kooka-



burra (*D. leachii*) occurs in the north, as far south as the Wooramel River. The Rainbow-bird (*Merops ornatus*) in the south is a strict migrant, arriving regularly in the first week in October. Local birds migrate to the north of the State, the wintering area being from the Gascoyne River northward, but some individuals cross the Timor Sea to the Indonesian islands. There are eleven cuckoo species in our area, the commonest being the Pallid Cuckoo (*Cuculus pallidus*) whose plaintive insistent note is heard soon after the winter rains set in.

In the great group of passerines, or song-birds (Order Passeriformes), the most celebrated is the Noisy Scrub-bird (*Atrichornis clamosus*), a primitive almost-flightless bird which until recently was believed to be the only Australian bird which had become extinct since white settlement. The last specimen was collected by the ornithologist A. J. Campbell at Torbay in 1889, but late in 1961 a surviving population was discovered at Two Peoples Bay east of Albany. Space is insufficient to deal in any detail with other members of this large Order. Throughout the State there are 172 species, of which 95 occur in the southern, settled parts and at least 33 are found in King's Park. A distinctive robin, the White-breasted Robin (*Eopsaltria georgiana*), occurs in the South-West. It is a relative of the yellow robins and is found in the dense coastal and forest thickets from Geraldton southward and east to Albany and the Porongurups. The Western Warbler (*Gerygone fusca*) is a sweet-voiced songster which may be heard in the street trees of Perth, the only Australian capital city in which it lives; in the other States the bird is an inland species. Another distinction of the Perth metropolitan area is that four species of blue-wren, a greater number of species than in the environs of any other capital city, have been noted there. One species, the Red-winged Wren (*Malurus elegans*), which used to live near the city, disappeared when Herdsman Lake was drained. The remaining species are the Splendid Wren (*Malurus splendens*), occasionally still seen in the University grounds; the Blue-and-white Wren (*Malurus leuconotus*) in the coastal dune scrubs, and the Causeway and Pelican Point samphire flats; and the Variegated Wren (*Malurus lamberti*) in the dune thickets. Honeyeaters are numerous, the largest, the Red Wattle-bird (*Anthochaera carunculata*), being a familiar bird in metropolitan streets and gardens. Most of the grassfinches are restricted to the Kimberley Division, where ten species are found. However, one of them, the widespread Zebra Finch (*Taeniopygia castanotis*), nests as near to Perth as Northam and York. Two bower-birds occur in the State. The Great Bowerbird (*Chlamydera nuchalis*) is confined to the Kimberley Division, but the Spotted Bowerbird (*C. maculata*) is found in the North-West and ranges south to the East Murchison country and Malcolm in the Eastern Goldfields.

In contrast with all other Australian States there are very few species of exotic birds established in Western Australia. (The same is true of the Northern Territory.) In the towns of the South-West two turtledoves are plentiful, the Indian (*Streptopelia chinensis*) and the Senegal (*S. senegalensis*). The Goldfinch (*Carduelis carduelis*), an escapee from aviaries, breeds freely in the Perth metropolitan area and around Albany. Recently another cage-bird escapee, the Red-browed Finch (*Aegintha temporalis*), an eastern Australian species, has established itself east of Kalamunda in the Darling Range near Perth. The Indian or Ceylon Crow (*Corvus splendens*) repeatedly arrives at Fremantle on ships from the Orient but the vigilance of officers of the Department of Agriculture and port officials has led to the successful eradication of the unwanted immigrants. The House Sparrow (*Passer domesticus*) has been similarly kept at bay at Fremantle. This species did, however, make a temporary colonisation, from South Australia, in the vicinity of Eucla and Mundrabilla in 1917-18 but it failed to make any headway and disappeared from that sector.

## Reptiles

In Western Australia the reptiles are represented by three major zoological groups or Orders. These are the Chelonia (four marine species of turtles and six of freshwater tortoises), Crocodilia (two of crocodiles) and the Squamata (sixty-two species of snakes and 159 of lizards).



The freshwater tortoises of Western Australia, like those of the rest of the continent, belong to the ancient group of side-necked tortoises. In most other parts of the world tortoises retract their heads straight backwards bending their necks in a vertical S-shaped curve. Australian tortoises, and certain others from South America, bend their necks sideways; this is believed to be an ancient character. Although the species of Western Australian tortoises are few, they are of great interest and their distributions are far from well understood. This is especially true of the species inhabiting the Kimberley. Freshwater tortoises do not seem to fall into simple faunal zone classifications. The common long-necked tortoise of the South-West, *Chelodina oblonga*, is closely related to the long-necked tortoise of the Kimberley Division, *Chelodina rugosa*. However, neither of the short-necked tortoises of the Kimberley Division, *Emydura australis* and *Elseya dentata*, is represented in the South-West. The river systems from the Irwin, in the Northern Agricultural Division to the De Grey in the northern Pilbara, have their own tortoise (*Chelodina steindachneri*), while a highly specialised short-necked tortoise (*Pseudemydura umbrina*) is apparently confined to a few square miles of winter swamps between Upper Swan and Bullsbrook to the north of Perth. Because of its vulnerability to extinction this last species is rigidly protected.

Marine chelonians also occur in large numbers around the coasts. The Green Turtle (*Chelonia mydas*), the species which is used for soup making, comes ashore to lay its eggs on the northern beaches. Attempts are made from time to time to exploit this species commercially; two turtle-fishing boats are at present licensed to operate off the North-West coast.

There are two species of crocodiles in Western Australia. One is the harmless fish-eating Freshwater Crocodile (*Crocodylus johnstoni*) and the other the dangerous Salt-water or Estuarine Crocodile (*C. porosus*). Both species are confined to northern parts of the State and both are now protected by law. Until recently the latter formed the basis of a lucrative trade in hides.

Snakes and lizards are common and widespread throughout the State, and in numbers of obvious individuals they are probably surpassed among the vertebrates only by the birds. In the South-West, Bobtails (*Trachysaurus rugosus*) can often be seen crossing the roads at most times of the year, while the walker among coastal sand dunes on warm days cannot avoid noticing innumerable small dragon-lizards which move away from in front of him. In the southern part of the State the largest lizard which is at all common is the Goanna (*Varanus gouldi*). These are frequently between three and four feet in length. In northern areas the Perentie (*Varanus giganteus*) exceeds it in size. A few species are confined to the South-West and of these the most interesting are Mueller's Snake (*Rhinophlocephalus bicolor*), the Little Brown Snake (*Elapognathus minor*), the Black-Striped Snake (*Vermicella calonota*) and the Slender Snake Lizard (*Pletholax gracilis*) which is also one of our rarest species of lizard. An Eyrean species which never ceases to surprise the visitor is the terrible-looking Mountain Devil (*Moloch horridus*). This lizard is actually one of the most gentle and harmless of animals and lives exclusively on ants.

The snake fauna of the State is diverse and, like that of other parts of Australia, contains many venomous species, the best known being the Tiger Snake (*Notechis scutatus*), the Dugite (*Demansia affinis*), the Gwardar (*D. nuchalis*), the Death Adders (*Acanthophis antarcticus* and *A. pyrrhus*) and the Mulga Snake (*Pseudechis australis*).

The snakes and lizards are well described in Glauert's *Handbook of the Snakes of Western Australia* and *Handbook of the Lizards of Western Australia* (see bibliography at the end of this Part).

Because of the great distance of the Kimberley Division from centres of scientific research, insufficient is known of its snakes and lizards. As in the case of some of the smaller mammals, some endemic species of lizards have been described, but until much more scientific collecting and research has been done it will not be possible to evaluate such apparently-unique species. Some Kimberley species of lizard, e.g. the Frilled Lizard (*Chlamydosaurus kingi*), through being commonly illustrated in journals because of their bizarre appearance, have become familiar to the public.

### Amphibia<sup>(4)</sup>

Unlike the other continents Australia has no newts or salamanders (Urodela) or worm-like gymnophionans (Apoda). However, frogs (Anura) are abundant.

The frogs of Western Australia fall into the same grouping (Bassian, Eyrean and Torresian) which was mentioned in the section on mammals. However, they lack the diversity of genera and species shown by other groups and only ten genera with about thirty species are known from south of the Tropic of Capricorn. Of these, two genera, *Metacrinia* and *Myobatrachus*, each with one species, are restricted to the South-West. Most of the other kinds of frogs are distinct from, but related to, species found elsewhere in Australia.

Since most of Western Australia is exceedingly dry it is of interest to note that frogs are common in these arid regions. Those species of *Heleioporus* which occupy marginal-desert habitats overcome drought conditions by burrowing into the damp sub-soil. However, the arid-country species of *Neobatrachus* frequent clay soil where deep burrows are impossible and water can be lost. These species show no special capacity to endure greater water loss than *Heleioporus* species, but they do display an exceptional capacity for rapid replacement of water when water is present, as for example after thunderstorms. The water-holding frog, *Cyclorana platycephalus*, is found in inland and northern parts of the State. All 'desert' species retain an aquatic larval life, but this is much shorter than that of species in the well-watered parts of the State. The only species lacking aquatic larval development occur in the wetter South-West; these are *Myobatrachus gouldii*, *Metacrinia nichollsi* and *Crinia rosea*. *Myobatrachus gouldii* is the only species which exhibits any strong dietary preference and eats only termites (Isoptera).

### Freshwater Fishes

The truly freshwater fish fauna of the southern part of the State is, by eastern Australian standards, an impoverished one and the species, with the exception of the freshwater catfish ('cobblers'), are diminutive in size. Most of the species are representatives of eastern Australian genera, such as the Pygmy Perch (*Nannoperca vittata*), Mountain Trout (*Galaxias truttaceus*), Black-striped Minnow (*G. pusillus*), and the Native Minnow (*G. occidentalis*). Others are more distinctive, with no near relatives in eastern Australia, such as the Nightfish (*Bostockia porosa*), the King River Perchlet (*Nannatherina balstoni*) and the newly-described scaled galaxiid (*Lepidogalaxias salamandroides*). There are several gobies (*Glossogobius suppositus* and *Lizagobius olorum*) and Hardyheads (including *Atherinosoma edelensis*, *A. rockinghamensis*, *A. elongata* and *Craterocephalus cuneiceps*). A lamprey (*Geotria australis*) ascends the rivers to breed and has been recorded north to the Swan River system, but is more abundant in the streams emptying on the south coast. An eel (*Anguilla australis*) has been recorded from the South-West but it is not known whether it is native to the area or has been introduced.

The north-western rivers have a richer fish fauna. The most widespread is the Spangled Perch (*Therapon unicolor*), a useful food fish which occurs in all rivers south to the Murchison. A large catfish (*Arius australis*) reaching 5 lb in weight, occurs in the systems south to the Fortescue. The Rainbow Fish (*Melanotaenia*), popular with aquarists occurs in the river systems of the Pilbara and the Kimberley. The remarkable Blind Gudgeon (*Milyeringa veritas*) and blind eel (*Anommatophasma candidum*) occur in wells and subterranean channels in the North West Cape area. The Kimberley Division has an even larger series of freshwater fishes. These include a catfish (*Neosilurus brevior-salis*), various Bony Bream (*Fluvialosa*), various perch-like fishes (*Therapon*, *Acanthoperca*), Gudgeons (*Carrassioops*) and two freshwater saw-fishes (*Pristis clavata* and *Pristiopsis leichhardti*). There is also a freshwater eel (*Anguilla bicolor*) in these far northern waters.

### Marine Fishes<sup>(5)</sup>

The marine fish fauna of Western Australia is probably richer in species than that of any other Australian State. This is because the fish of the northern part of the State's very long coastline belong to the rich tropical Indo-Pacific fauna, while its southern fauna

(4) Written in collaboration with Prof. A. R. Main. (5) Contributed by Dr G. F. Mees.

is a temperate one which includes many elements peculiar to Australian waters. The most up-to-date list of the species of Western Australian fish, published in 1948, enumerates 740 species, but since that time collecting has revealed about 120 more. Even so, this figure is still far short of the total number which, it is suspected, will eventually be found to be in the neighbourhood of 2,000.

From this it can be seen that there is much to be learnt about fish of Western Australia but it is probable that only a few of these species are confined to Western Australian waters. At present it seems that most of the fish occurring in the tropical part of the State are widely distributed, and species often range throughout the whole of the tropical Indian and Pacific Oceans, while the species which are found along the south coast usually occur also in the waters of South Australia, Victoria, Tasmania and southern New South Wales.

Between Cape Leeuwin and Shark Bay both northern and southern elements are found, the tropical element dominating as far south as the Houtman Abrolhos.

In addition to the widely-distributed tropical and southern elements, there are a number of species, between thirty and forty, which seem to be peculiar to Western Australia. It is necessary to be cautious here for two reasons. Firstly because the Indo-Pacific fish fauna is, as a whole, poorly known and some fish, at present only recorded from Western Australia, may actually have wider ranges. Secondly, our classification of fishes is still imperfect so that fishes which we regard as endemic to Western Australia may be known from some other region, but under different names. On the other hand there can be no doubt that at least a proportion of these species which we now believe to be endemic will prove to be confined to Western Australian waters.

In the following very incomplete review, a number of the more important and interesting families and species are listed.

Of the major groups, the Elasmobranchii (sharks and rays) are richly represented, with nearly eighty species, of which the most familiar are the Port Jackson Shark (*Heterodontus portusjacksoni*), the Carpet Shark or Wobbegong (*Orectolobus maculatus*) and the shark known locally as the Swan River Whaler (*Carcharhinus leucas*), which can be caught in the Swan River as far upstream as the Garratt Road Bridge. It occurs during the summer months and one non-fatal attack in the Swan River has been attributed to this species. The Port Jackson Shark, the Carpet Shark and the Swan River Whaler are regarded as harmless to man; of the dangerous species, the Tiger, the Whaler and the White Pointer are perhaps the best known. Four fatalities from shark attack have been recorded for Western Australia (in 1803, 1923, 1925 and 1967) and a few people are known to have been maimed. It may be said, however, that in Western Australia the danger of shark attack is low.

Most major families of bony fishes are represented, but only a number of the more interesting or familiar species can be mentioned here.

There are about ten species of true herring (Clupeidae), one of which, the Pilchard (*Sardinops neopilchardus*) will in future probably become of economic importance. The rather similar-looking *Amblygaster postera* seems to be confined to Western Australia. The State is particularly rich in sea-horses and pipe fishes, there being some twenty-five species. The most familiar of these is perhaps the leafy sea-horse (*Phyllopteryx foliatus*) which is often found on the beaches after storms. The so-called Sand Shark or Rat Fish (*Gonorhynchus greyi*), a peculiar fish and the sole representative of its family, deserves mention; it is fairly common off sandy coasts of the South-West. Though eels are represented by several families and over twenty species, only three are common in the South-West; the Snake Eel (*Ophisurus serpens*), a slender golden brown eel inhabiting sandy estuaries, which is often taken for a snake and referred to as the water snake; Woodward's Eel (*Gymnothorax woodwardi*), found on rocky shores, yellowish green with a network of grey lines; and the Conger Eel (*Conger wilsoni*), which normally is dark brown in colour.

Garfishes (Hemiramphidae) are common. Of their relatives the Long Toms (Belontiidae), only *Belone ciconia* is common in the South-West the others being more tropical in distribution, though one of the northern species, *Belone hians*, has been found as far south as Rottnest Island.

Silversides and hardyheads (Atherinidae) are well represented and so are mullets (Mugilidae). Some representatives of these groups have been mentioned in the preceding section, which deals with freshwater fishes.

The family Serranidae, known as groper, rock cod, etc. are well represented by nearly thirty species. The best known is the North-west Groper (*Epinephelus tauvina*) which attains a length of more than seven feet. Most species have a very wide, mainly tropical, distribution, but *Epinephelus rankini* is only known from a restricted area round Onslow and must be looked upon as endemic to Western Australia. In temperate waters the preceding family is more or less replaced by the related Hypoplectrididae.

Some small families, like the Australian Salmon (Arripidae), Whiting (Sillaginidae) and Snappers (Sparidae) are of great economic importance, though there are only a few species. On the other hand the Skipjacks (Carangidae) are the largest family of the State and comprise some thirty species. Another group which are also called Snappers (Lutjanidae) is prominent in the tropical part of the State. These are often referred to as North-west Snappers and should not be confused with the southern Snapper (*Chrysophrys unicolor*) which belongs to the Sparidae.

Coral fishes (Chaetodontidae) are richly represented, mainly along reefs in the tropics, but a number of species come down to the Albrohros Islands, and some even near to Perth. Most species have a very wide distribution in the Indo-Pacific, but one, *Chaetodon assarius*, has not been found outside Western Australia.

The Mackerel family (Scombridae), which includes mackerel, Spanish mackerel, tuna, bonito and albacore, is important both in tropical and temperate waters. The related marlins and swordfishes, well known to sporting fishermen, also occur in these waters.

Flatfishes (Heterosomata) occur in a great variety of species, and the same can be said of Parrotfishes and Wrasses (Scaridae and Labridae). All these groups are as yet very insufficiently known.

The stargazers and stonelifers are sluggish bottom fishes that deserve mention because of their unusual shape. One, *Ichthyoscopus barbatus*, occurs off the south-west coast and also in South Australia, and is regularly caught by anglers. Another species, *Ichthyoscopus insperatus*, a common fish of the north-west coast from Broome to Shark Bay, seems to be confined to Western Australia. The dragonets (Callionymidae), of which nine species have been recorded, are smaller, but their pretty appearance attracts attention, and one species, *Dactylopus dactylopus*, widely distributed in the Indo-Pacific, is regularly found off sandy beaches as far south as Rockingham.

Blennies (Blenniidae), weedfish (Clinidae), and gobies (Gobiidae) are small fishes of which there are many species; blennies are most plentiful in rockpools and on reefs in the tropics, while gobies are also found on sandy bottoms.

There are some twenty species of scorpion fishes known from the State, the most familiar of which are *Scorpaena sumptuosa* in the south, and the small *Scorpaena bynoensis* in the north; the first-mentioned species is also interesting in that, though it has been known for almost a century, it has never been recorded from outside Western Australia. Of the closely-related Synancejidae, the feared stone fish, three species are known from the State, one of which, *Erosa daruma*, is apparently restricted to the North-West and is known from but two specimens. A related species occurs in Queensland and Japan.

Flatheads (Platycephalidae) are common in the temperate part of the State.

An interesting family is that of the angler fishes or toad fishes (Antennariidae). Their curious shape with the leg-like pectoral fins always excites attention. There are about a dozen species, two of which are endemic to the State. One of these is *Echinophryne glauerti* which is occasionally found washed up on City Beach.

Leatherjackets (Monacanthidae) are a large group distinguished by the rough leathery skin and a single large erectile spine on the nape. Some species, like *Chaetoderma penicilligera*, are common and of attractive appearance.

Of the blowfish family, the common Blowie (*Tetraodon (Spheroides) pleurogramma*) needs special mention; it is extremely plentiful off the coast at Fremantle and in the Swan River estuary. It is poisonous to eat and is greatly disliked by anglers who find that it greedily takes their bait. Fishes of this family contain a poisonous substance called Tetraodontoxin and the celebrated navigator Captain James Cook was very ill after eating a blowfish in the course of a voyage in the Pacific in 1774. Boxfishes (Ostraciontidae) and porcupine fishes (Diodontidae) are related groups, each represented by a number of species.

Further information about the commercial fishes in Western Australian waters is given in the Fisheries section of Chapter VIII, Part 1—*Primary Production* where the principal species of edible fish are listed together with the quantities of each species caught. The section also contains additional information relating to whaling (see *Mammals* earlier in this Part).

#### THE INVERTEBRATE FAUNA<sup>(6)</sup>

The invertebrate fauna of Western Australia is large and varied, as one would expect in a third of a continent which extends from temperate to tropical zones and includes both coastal and desert areas. Rather than spread our descriptions too thinly over this enormous field we have restricted ourselves to a brief summary of the position in relation to a few selected groups in which work is being actively carried out.

Several invertebrate species are commercially exploited here, the most important being the marine crayfish or rock lobster (*Panulirus cygnus*) which supports an extensive export fishery. Others commercially important include several species of octopus and squid, the Blue Swimming Crab ('Blue Manna', *Portunus pelagicus*), several species of prawns, two species of scallop (*Amusium balloti* and *Pecten modestus*), and the rock oyster (*Crassostrea tuberculata*). Pearl-shell was fairly extensively fished along the north-west coast but this fishery has now declined, the small quantity of pearl-shell now taken being used in the developing pearl-culture industry.

A summary of the terrestrial and freshwater invertebrate fauna and their ecology is given in Main's *Guide for Naturalists* (1968).

#### Echinodermata

The echinoderms of Western Australia have been shown by Clark (1946) to be derived from the Indo-Malayan fauna. Most species of northern Australia are widely distributed in the Indian Ocean and Malayan archipelago, while as one passes southward these decrease in proportion to the endemic species until on the south-western coast nearly nine-tenths of the echinoderms are endemic to the region.

All five groups of echinoderms, feather stars (Crinoidea), sea stars (Asteroidea), brittle stars (Ophiuroidea), sea urchins (Echinoidea), and sea cucumbers (Holothuroidea) are well represented. Eighty-five species of sea stars and fifty-five species of sea urchins are recorded from Western Australia including the continental shelf. The other groups have smaller numbers of species.

On the rocky and sandy shores of the South-West about twenty species of sea stars are common in shallow water. One of the most abundant is *Coscinasterias calamaria* which is widely distributed in the Southern Hemisphere. Sea urchins are represented by about twelve common species; on rocky shores the most abundant of these is *Heliocidaris erythrogramma* which has a southern Australian distribution.

In Cockburn Sound, between Garden Island and the mainland south of Fremantle, an abundant but specialised echinoderm fauna exists. This consists mainly of the small sea urchin (*Temnopleurus michaelsoni*), the biscuit urchin (*Peronella lesueurii*), the heart urchin (*Echinocardium cordatum*) and the sea star (*Stellaster inspinosus*). On the south coast, King George Sound has long been known as a rich collecting ground for echinoderms, but the fauna of other bays and inlets is much less well known.

(6) Written with assistance from Drs R. W. George, E. P. Hodgkin, Barbara Y. Main and B. R. Wilson, Mr G. W. Kendrick, and Mrs L. Marsh.

Little is known of the echinoderm fauna of the northern coasts, and almost all that we do know comes from the publications of H. L. Clark (see bibliography at the end of this Part) who collected extensively in the Broome area and made smaller collections in other places. Near Broome, a wide variety of echinoderms was collected in his dredges and along the shore. In more recent years new collections have been made in the region but the specimens have not yet been studied.

The Crown of Thorns starfish (*Acanthaster planci*) which feeds on living corals and has been responsible for extensive damage to coral reefs in other regions is known to occur off the north-west coast, but there are no records of large populations. Specimens have been reported from Admiralty Gulf, Barrow Island, and the North West Cape area.

## Mollusca

The molluscan fauna of the Western Australian coastline has not been recently catalogued, but from the area within thirty-five miles of Fremantle 270 species of bivalves (Pelecypoda), and univalves (Gastropoda) are recorded. The smaller groups, chitons (Amphineura), octopus and cuttlefish (Cephalopoda) and tusk shells (Scaphopoda) are also represented.

Molluscs dominate the intertidal rocks of the west coast, especially chitons, periwinkles, and limpets; the limpets range from the very large *Patellanax laticostata* to the small *Notoacmea onychitis*. On the north-western coast, rock oysters (*Crassostrea tuberculata*) and barnacles take the place of limpets intertidally. The oysters are fished commercially for food on a small scale in places where extensive beds are uncovered at low tide.

Bivalves occur mainly on sandy and muddy bottoms such as those of Cockburn Sound and King George Sound, and along the north-western coast. They are less plentiful on the unstable sandy shores of the open western coast. The pearl-shell fishery of north-west Australia is based on several species, mainly the Black-lipped Pearl-shell (*Pinctada margaritifera*) and the Silver-lip (*P. maxima*). The Shark Bay Pearl-shell (*P. carchariarium*) is abundant in Shark Bay and has been fished there commercially. Commercial beds of the scallop *Amusium balloti* and the mussel *Mytilus edulis planulatus* also occur in Western Australian waters but only sporadic, small-scale attempts to exploit them have been made.

Many species of cowrie shells occur on the rocky shores of the north-west coast while a few species such as *Zoila friendii* and *Austrocyprea reevei* are confined to the south-western corner of the State. The north-west coast also has many endemic species of volute shells such as *Volutoconus hargraevsi*, *Amoria macandrewi* and *Cymbiola nivosa*.

Two kinds of gastropods without visible shells are conspicuous members of the marine fauna off Fremantle. One is the large sea-hare (*Aplysia gigantea*) with a small internal shell; it may be cast up on the beaches in large numbers after winter storms. The other is a nudibranch, with no shell at all, the colourful *Glossodoris westraliensis*, well known to visitors to Rottnest Island.

The non-marine molluscan fauna (terrestrial and aquatic) is quite diverse. Conspicuous in the South-West are species of the pulmonate genus *Bothriembryon*, which are adapted to a wide variety of habitats from cool temperate rain forest to arid steppe. In the Kimberley, North-West, and arid regions generally the snail family Camaenidae predominates. Throughout the State there are also many other smaller and inconspicuous terrestrial snails and a small number of aquatic snails and bivalves.

## Coelenterata

This group includes the corals (Anthozoa), the hydroids (Hydrozoa) and jellyfish (Scyphozoa).

Reef-building corals occur on the north-western coast in abundance and form reefs as far south as the Abrolhos Islands (29°S.), and Port Gregory (28°S.) on the mainland. Further south, reef-building corals are few in number and occur as small reefs and as scattered colonies on islands off the coast, but not on the coast itself. The staghorn coral *Acropora* is plentiful around the Abrolhos Islands and at Port Gregory but it has not been

found further south except in Pleistocene fossil beds on Rottnest Island. Two or three species of corals extend east of Albany, and one, *Plesiastrea urvillei*, occurs right along the south coast of Australia.

Soft-corals are abundant on the muddy reefs of much of the north-west coast but few species occur on the west coast. The brightly-coloured fan coral *Mopsella* is common on rocky reefs of the west and south coasts.

Jellyfish of a few species, such as the white *Aurelia aurita* and the brown *Phyllorhiza punctata*, are common in the Swan River in summer. *Carybdea rastonii*, a small, venomous but not dangerous 'sea-wasp', occurs on the open coast in the south-west where it is sometimes a nuisance to swimmers, especially in the summer months. *Chiropsalmus*, a larger and potentially dangerous 'sea-wasp' has been reported at Broome in the months of December and January.

### Crustacea

The most important commercial species of crustacean in Western Australian marine waters is the rock lobster or 'Cray', *Panulirus cygnus*. It occurs from North West Cape in the north to Hamelin Bay in the south. In the tropics five additional species of *Panulirus* occur; these are collectively referred to as 'Green Crays' (*Panulirus versicolor*, *P. ornatus*, *P. homarus*, *P. penicillatus* and *P. polyphagus*). On the southern coast occurs *Jasus novae-hollandiae*, which is the commercial species of rock lobster (crayfish) in south-eastern Australia, but it is not of economic importance in this State.

The Swan River Prawn or School Prawn (*Metapenaeus dalli*) is taken by amateur and professional fishermen in the west coast estuaries by small hand-hauled nets. In the northern gulfs and bays larger prawns of the genus *Peneus* and *Metapenaeus* are sought by large commercial prawn trawls for export. The present main centres are at Shark Bay, Exmouth Gulf and Nickol Bay and exploration of waters around the Kimberley Region is continuing. The main species are the Western King Prawn (*P. latisulcatus*), the Brown Tiger Prawn (*P. esculentus*) and the Banana Prawn (*P. merguensis*).

The Blue Swimming Crab (*Portunus pelagicus*), plentiful in the summer in the estuaries of the Swan River and at Mandurah, is one of the common commercial crabs of Australia.

Two common species of crab are the Rock Crab (*Leptograpsus variegatus*) and the Ghost Crab (*Ocypode convexa*). The Rock Crab scrambles among rocks and jetty piles of the west and south coasts, whereas the Ghost Crab digs spiral burrows at the edge of the beach and is endemic to the west coast.

Of the many other species of non-commercial crustaceans some groups have been recently monographed by scientific workers. These are the swimming crabs, mantis shrimps and pebble crabs.

Crustacea are also common in inland waters (see *Fauna of Inland Waters* earlier in this Part).

### Spiders

Like most other invertebrate groups, the spiders are represented by a large number of genera and species and it is not possible at this stage to give an accurate picture of the relationships of the Western Australian fauna to the rest of Australia. Early work on the Western Australian spiders was restricted to the description and naming of species. Research now is centred on investigations of the biology of various species and the special adaptations of endemic forms to the particular conditions of the Western Australian environment. The most interesting of the spiders, when viewed from this aspect, are the burrowing groups, including primarily the Mygalomorphae ('trapdoor' spiders) and the Lycosidae (Wolf spiders). Some of these forms show special adaptations to semi-arid environments, to reduced food supply, and to flash-flooding, such adaptations being paralleled in many taxonomically unrelated genera. It is also of interest that some families, which in other parts of the world and in the wet forests of Australia are primarily web weavers and litter dwellers, are burrowers in the arid parts of Western Australia (and also



in other dry parts of Australia). Such forms are essentially nocturnal and escape the unfavourable conditions of the day by remaining in their burrows and some species seal their burrows during the summer period.

### Insects

The more important insect species occurring in Western Australia (particularly those of economic significance) are dealt with in Part 5 of this Chapter.

## CONSERVATION OF THE FAUNA

In recent years the need to conserve the Western Australian fauna has received considerable publicity—this need has certainly never been greater than it is at present. In this State where new land has been brought into production for agriculture and the pastoral industry at a rate of approximately 1 million acres a year, and where the ever-increasing tempo of industrialisation and mining activity is obvious to all through its effect in increased population, the position of the native fauna is serious. This is because human introductions such as sheep and cattle, as well as the more direct effect of the plough and the scrub roller, are radically changing the environment, but also because an increase in human population has meant a higher level of utilisation of wild stocks such as ducks (which form a basis for sport), kangaroos (which form a basis for a lucrative trade in pet meat and hides), and rock lobsters (which support the most valuable single Australian fishery).

From the early days of settlement in Western Australia, legal provisions were in existence under which land could be reserved but, in early years it was not realised that the preservation of habitat is basic to conservation and that protection of individuals against killing is of insignificant value except in specialised cases (see below). In the early days, protection was afforded to some game animals, such as kangaroos, to prevent them from being shot out, but it was not until land development became widespread in the South-West that the first real attempt was made to set aside a large permanent native fauna and flora reserve. This was in 1894 when 160,000 acres were gazetted between Pinjarra, North Dandalup and the Bannister. Unfortunately, this reserve later became alienated.

From this early attempt at habitat conservation has grown a very conscious need for extensive reserves carefully sited and selected in order to provide security for a representative sample of all the major habitats throughout the State. In 1959, a committee of the Australian Academy of Science produced such a plan for Western Australia and this plan has provided in subsequent years the basis for a policy of land acquisition for this purpose by the two major bodies who control land for conservation, *i.e.* the National Parks Board and The Western Australian Wild Life Authority.

Outside the reserves, fauna gains its protection through the Fauna Conservation Act. This Act replaced an earlier Game Act of 1912-1913 which had the rather different primary purpose of providing some measure of protection for those species of native fauna shot or hunted for sport. Under the Fauna Conservation Act, all native vertebrate terrestrial fauna, except those species declared vermin or declared otherwise unprotected, are protected against being taken, hunted, or confined. Owing to the very complex relationship between many species and their environment, such protective legislation has only a very limited long-term conservative effect in areas of closer settlement or intensive agriculture. On the other hand, in pastoral and forest areas, and in unalienated crown land not in fauna reserves, the legislation is much more valuable. The most important achievement of such protective legislation, however, is that it makes people conscious of the need to protect our native fauna and it is very likely that this educational function is its main justification except:

- (i) where animals occur on small islands or restricted places on the mainland in such numbers or in massed concentrations that they are vulnerable to destruction by man. Local examples are the Noisy Scrub-bird at Two Peoples Bay near Albany, sea birds in nesting concentrations on small islands, and island populations of mammals such as the Quokka on Rottnest or the various wallabies on Bernier and Dorre Islands in Shark Bay.

- (ii) where they are killed in the mass for commercial purposes, *e.g.* Humpback Whales, Fur Seals, Kangaroos;
- (iii) where they are killed for sport, *e.g.* the Bustard (Plains Turkey), ducks;
- (iv) where they are taken in very large numbers for zoos, circuses, or aviculture, *e.g.* finches and parrots.

In addition to its protective role, the Fauna Conservation Act establishes The Western Australian Wild Life Authority which is responsible for:

- (i) the initiation of conservation-oriented research in relation to the fauna;
- (ii) the acquisition, control, planning and management of an adequate system of sanctuaries (*i.e.* land reserved partly or entirely for the purpose of fauna conservation) including the preparation and implementation of working plans for each area; and
- (iii) advising the Minister for Fisheries and Fauna in relation to fauna conservation generally.

In Western Australia today the only terrestrial native fauna subject to any marked degree of human predation are ducks, eagles, emus, kangaroos of three species (the Grey, the Red, and the Euro) and the dingo. Excepting for certain vermin species on which a bonus is payable, figures for the total annual number killed are not available and until they are, and details of population size and rate of stock recruitment are known, it will not be possible to say whether these species are in serious danger. At present, only the crudest methods (*i.e.* of observing abundance and then subjectively comparing this with previous experience) can be used to say whether it is necessary to apply protection to prevent a serious decline in numbers.

By contrast, the position of the marine fauna is very different. There, intensive work has been done on whale, fish and invertebrate stocks in past years. There has been some cause for alarm in connection with an apparently depleting rock lobster stock, but conservative measures have been developed, and there are very good grounds for belief that these have been successful. The great reduction of the population of Humpback Whales due to over-predation is a matter of considerable shame—it illustrates well the dilemma of an industry which is faced with the alternative of a low level of fishing over an indefinite period, or a highly lucrative but short period of exploitation as though the stock were not capable of regeneration (a procedure akin to a mining operation). In the case of the whaling industry in Western Australia the position was complicated by the fact that the stock was hunted both by the shore-based Western Australian fishery and by the international pelagic fleets operating in the Antarctic.

At present, our greatest need is information upon which to base proper conservative measures. Protective legislation, no matter how effective it is in protecting individuals, must not be regarded as effective in conservation unless measures to protect the environment are also taken. As a result, the authors believe that the stages of work most urgent at present to conserve the Western Australian fauna are as follows.

- (i) to complete the reservation of lands designated in the report of the Western Australian Sub-committee of the Australian Academy of Science.
- (ii) recognising that these areas are designated upon the best available information as to habitat type, but not upon actual surveys of the fauna, the authors believe that the areas must now be given thorough biological surveys to ensure that populations of all Western Australian species of animals and plants are contained within them; and also to estimate, as far as possible, the sizes of the populations which they contain.
- (iii) to get under way an increased amount of long-term work on the biology of species which are suspected to be vulnerable. Through this work their particular requirements will be discovered and an endeavour can then be made to ensure that the reserves contain these requirements.

- (iv) to insist on proper monitoring for any annual crop taken from vermin or other species subject to human predation so that these populations can be maintained at the level consistent with the State's particular requirements, and yet to avoid their extermination.

In Western Australia, land development has not yet gone too far for the State to preserve a representative section of its fauna and flora for all time. The keys to this are habitat conservation, reserve management, and education in conservation thinking. Through these means, it will also be able to ensure that as much wild life as possible remains in altered environments as well. Indeed, if roadside verges, small township reserves and timber lots on farms are preserved, a surprisingly large number of native creatures will survive. The importance of these minor habitats, often regarded condescendingly by professional biologists who focus their attention on big reservations, cannot be sufficiently stressed. It is in these areas that the ordinary people and tourists gain an acquaintance with the native fauna and flora. Here man and animals will contrive to co-exist in intimate association with each other and so help to reinforce a popular sentiment for conservation.

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## Chapter II—continued

### Part 5—Entomology in Western Australia

With Particular Reference to Agriculture

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The entomological field in Western Australia is so vast and the number of active workers on the subject so few that much still remains to be learned about the insects found in this State. A wide range of environmental conditions exists, from the tropical north to the temperate south, and the geographical isolation of the State has allowed the development of numerous endemic forms. As may be expected, the insect fauna of the Kimberley Division shows closer affinities with that of North Queensland than with the lower half of the State. The central desert, which reaches the coast to the south along the Great Australian Bight and to the north along the Eighty Mile Beach, forms an effective barrier discernible in the distribution of flora, mammals, insects and birds.

Owing to the limitations of space no attempt has been made to cover all the various insect orders which occur in the State, but the economic importance of various groups and their influence on major agricultural industries have been outlined, and some of the more outstanding forms of general interest have been mentioned. A section has been included dealing with the use of pesticides in Western Australia.

#### CLASS INSECTA (Insects)

##### Order Collembola (Springtails)

The springtails include the lucerne flea (*Sminthurus viridis*) which was introduced into this State from eastern Australia in about 1910. It has spread to almost all the clover-growing areas in the South-West and is a very serious pasture pest. Partial control is exercised by the predatory bdellid mite (*Bdellodes lapidaria*).

##### Order Odonata (Dragonflies and Damselflies)

These insects are predatory in both the immature and adult stages and are usually regarded as beneficial creatures. However, they sometimes injure vegetable seedlings by ovipositing into furrow-irrigated crops. This has occurred mainly at Carnarvon where surface water is scarce and where irrigated plants are presumably mistaken for aquatic vegetation.

In order to survive in the diverse climatic conditions which exist in Western Australia, some members of the dragonfly group have developed the ability to breed in highly saline waters and to take advantage of ephemeral inland pools.

##### Orders Orthoptera, Mantodea, Blattodea, Phasmatodea (Grasshoppers, Locusts, Mantids, Cockroaches, etc.)

The grasshoppers and locusts are represented by a large number of different species. The most important pest form is the small plague grasshopper (*Austroicetes cruciata*). The normal habitat of this species lies roughly between the ten inch and the fifteen inch isohyets. For breeding it favours hard, bare soil and as extensive areas once utilised for wheat growing have now reverted to grazing, these uncultivated tracts periodically give rise to serious grasshopper swarms, which menace the adjacent wheat lands. The Australian plague

locust (*Chortoicetes terminifera*), so troublesome in other States, occurs in Western Australia but rarely as a plague species. In the Kimberley the yellow-winged locust (*Gastromargus musicus*), the migratory locust (*Locusta migratoria*) and the spur-throated locust (*Austracris guttulosa*) assume plague proportions, but in the southern agricultural districts they occur in the solitary phase only. The mantids (Mantidae) are represented by many different species. Their well-developed fore-limbs are admirably adapted for catching prey and, like their foliage-feeding relatives the phasmatids or leaf insects (Phasmatidae), their colouring harmonises remarkably with the sticks and leaves on which they rest. The cockroach fauna includes a large number of native species as well as several introduced forms. The commonest pest species is the cosmopolitan American cockroach (*Periplaneta americana*). Some large and quite colourful forms occur in the inland regions with the genus *Polyzosteria* well represented.

#### Order Isoptera (Termites)

The so-called white ant is a serious pest in all parts of the State. Earth-dwelling types occur mainly, and among the most important species may be cited the large *Mastotermes darwiniensis* of the north and the widely distributed *Coptotermes acinaciformis*. The large mounds of the grass-eating *Nasutitermes triodiae* are characteristic of certain landscapes in the pastoral areas. Heavy annual losses are caused by termite damage and the use of such chemicals as dieldrin, aldrin, chlordane and creosote is recommended for the protection of timber structures.

#### Order Phthiraptera (Lice)

Indigenous species occur on birds and native mammals, and various introduced forms infest domestic poultry, horses, cattle and sheep.

#### Order Thysanoptera (Thrips)

This order is represented locally by a large number of native species as well as several introduced forms. The most serious native species is *Thrips imaginis* which may swarm in apple blossoms and seriously affect the crop setting.

*Thrips tabaci*, often called the tobacco or onion thrips, is a carrier for the plant disease spotted wilt. Severe damage to tomato plants may result from this virus.

#### Order Hemiptera (Bugs, Aphids, Scale Insects)

This group contains a large number of pest species, many of them introduced. A serious vegetable pest is the green vegetable bug (*Nezara viridula*) which is partially controlled by an introduced wasp parasite, *Trissolcus basalis*. The native Rutherglen bug (*Nysius vinitor*) may at times swarm on vegetables and fruit trees, but seems less serious in this State than on the other side of the continent. The crusader bug (*Mictis profana*), so named because of the light-coloured St Andrew's cross on the back of the adult, feeds normally on acacias and other native plants, but it frequently invades cultivated areas and it may be troublesome to young citrus. The apple dimpling bug (*Campylomma livida*) is a native species which sometimes causes severe malformation of apples by feeding upon the very small developing fruit.

One native aphid (*Anomalaphis comperei*) has been recorded. The only two districts from which it has so far been collected are Albany and Karridale where it has been found infesting native peppermint (*Agonis flexuosa*). A point of interest about these occurrences is that the aphids were associated with a heavy Argentine ant infestation in the area. Since the removal of the ants, following dieldrin spraying, no further aphids have been discovered.

Numerous introduced species occur as pests on vegetables, garden plants and fruit trees, e.g. *Myzus persicae* (peaches, potatoes, rape, etc.), *Toxoptera aurantii* (citrus), *Brevicoryne brassicae* (cabbages, cauliflowers, rape, etc.) and *Eriosoma lanigerum* (woolly aphid of apples). The cowpea aphid (*Aphis craccivora*) which carries a virus disease of subterranean clover known as 'stunt' has also been found attacking lupins.



Of the native coccids the gall-forming members of the genus *Apiomorpha* are among the most remarkable. The woody galls in which the female insects pass their days vary from small structures a fraction of an inch across to woody knobs the size of an apple. From an economic point of view, however, the various introduced scale insects demand most attention. Included in the list of pest species are the following:

- San Jose scale (*Quadraspidiotus perniciosus*), which is a serious pest of apples.
- Citrus red scale (*Aonidiella aurantii*), which is found mainly on citrus but with a wide host range.
- Brown olive scale (*Saissetia oleae*), which is found attacking citrus, stone fruits and garden shrubs.
- White wax scale (*Ceroplastes destructor*), which is mainly a pest of citrus but also attacks many cultivated shrubs.
- Soft brown scale (*Coccus hesperidum*), which has a wide host range but is of greatest importance on citrus.
- Grass-crown mealybug (*Antonina graminis*), which is a widespread and troublesome pest causing damage to lawns particularly in the warmer parts of the State.

### Order Coleoptera (Beetles)

This order is the dominant one among existing insects and is represented in Western Australia by many and varied forms. The carnivorous ground beetles (Carabidae) are widely distributed, one of the best-known species being the bright green stink beetle (*Calosoma schayeri*). The tiger beetles, of the sub-family Cicindelinae, are of interest not only because of the metallic colouration seen in many forms but because of their association with the inland salt-lakes. The larvae are subterranean and may be collected by digging on the lake margins.

The ladybirds (Coccinellidae) comprise a group of considerable economic importance and in addition to native species the State contains a number specially introduced to combat various scale insects and aphids. Among the best known of the introduced species are *Cryptolaemus montrouzieri* and *Leis conformis*. The larvae of *Cryptolaemus* are covered with a whitish material which makes the insect superficially resemble the mealybugs upon which it feeds. *Leis conformis* in conjunction with the wasp parasite *Aphelinus mali* plays an important role in combating the woolly aphid of apple trees. Destructive leaf-eating ladybirds belonging to the genus *Henosepilachna* were once found only in the northern parts of the State where they attack vegetables, especially pumpkins and melons. In 1956, specimens of *Henosepilachna* were collected in Perth. Since then they have become established in several suburban areas, but how the introduction occurred is not known.

The jewel beetles (Buprestidae) contain some of the most colourful beetles to be found anywhere in the world. Western Australia is particularly rich in species and at times the beetles may be found in large numbers on flowering mallee and sand plain flora. One of the commonest is the metallic green *Stigmodera gratiosa*, and one of the largest is *Julodimorpha bakewelli*, measuring almost three inches in length. Although the beetle larvae are wood borers, closely resembling the 'bardee' in appearance and habits, they are of little economic importance.

The cockchafers or scarabs (Scarabaeidae) are represented by a great diversity of forms. Several species may swarm on to flowering fruit trees and roses in the early summer and are popularly known as spring beetles. The bronze-coloured *Colymbomorpha lineata* is a common pest of apple trees during the blooming period and the saddle-backed beetle (*Phyllotocus ustulatus*) sometimes visits citrus blossoms in large numbers. An introduced species commonly known as the black beetle (*Heteronychus arator*) has gained a firm footing in the State and is a troublesome pest of lawns and turf. It is also growing in importance as a pasture and vegetable pest. A native species of *Colpochilodes* has caused spasmodic damage to cereal crops and clover pastures in the southern portions of the State.

The longicorn beetles (Cerambycidae) are a group of wood-boring insects represented by a number of different species. They are often blamed for the death of forest eucalypts, although investigations have shown that heavy beetle infestations are usually secondary

and that healthy trees are seldom seriously affected by the beetles. The larval stage of this group is the so-called 'bardee', at one time prized by the Aborigines as food. They are not a pest of structural timber as they do not attack seasoned material.

The leaf beetles (Chrysomelidae) may superficially resemble ladybirds in general appearance as some of them are rounded and quite brightly coloured. Two species have been introduced into the State for the purpose of combating St John's Wort, a troublesome weed in some districts. *Chrysomela gemellata* and *C. hyperici* were originally introduced into Australia from the South of France and liberated in Victoria with very satisfactory results. The local colonies were obtained from the latter source and have become established in several districts. In some situations a reduction in St John's Wort can be attributed definitely to beetle activity, but in many areas the picture is obscure due to the extensive use of chemical sprays.

Common pest species in eastern Australia are the pumpkin beetles (*Aulacophora hilaris* and *Rhaphidopalpa palmerstoni*). These beetles are found in the north of the State but do not extend into the cooler latitudes.

The weevils (Curculionidae) are a very specialised group characterised by the presence of a rostrum or 'snout' which bears the mouth and antennae. The genus *Leptopius* contains a number of large greyish weevils, many of which breed in association with acacias. One of the best-known members of the family is *Catasarcus rufipes* which feeds on eucalypt foliage and may disfigure young street trees. The almost world-wide rice weevil (*Sitophilus oryzae*) is our principal pest of stored grain, but the granary weevil (*S. granarius*) also occurs. Two common orchard pests are the introduced apple weevil (*Otiorrhynchus cribricollis*) and Fuller's rose weevil (*Pantomorus cervinus*).

#### Order Neuroptera (Lacewings)

This order contains a number of useful insects, for many of the neuropterous larvae feed upon scale insects and other pests. The family Myrmeleontidae has a number of large, rather dragonfly-like species, the larval stages of which build conical sand pits and are commonly known as ant lions. Amongst the most remarkable of the local lacewings are two members of the family Nemopteridae in which the hind wings are greatly modified. In the genus *Croce* they are long and thread-like and in the spoonwinged lacewing (*Chasmodon hutti*) they are spoon-shaped or paddle-shaped.

#### Order Diptera (Flies, Mosquitoes, etc.)

This group contains a vast number of species, many of which are of major economic importance.

The mosquitoes are well represented, the commonest species being the brown house mosquito (*Culex fatigans*) and the yellow-fever mosquito (*Aedes aegypti*). The latter species is the carrier for dengue fever in the northern portion of the State. The anophelines are represented by the widely distributed *Anopheles annulipes* and several much rarer forms. *A. annulipes*, together with *Aedes alboannulatus*, have played an important part in the spread of the rabbit virus *Myxomatosis*.

Of the introduced flies, those causing most trouble are the Australian sheep blowfly (*Lucilia cuprina*) and the Mediterranean fruit fly (*Ceratitis capitata*). The buffalo fly (*Haematobia exigua*) is a serious stock pest in the Kimberley Division of the State, but so far has not become established in the cattle areas of the south. It is believed to have originally reached Australia on buffaloes introduced from Asia.

The common house fly (*Musca domestica*) is widespread as is also the native bush fly (*Musca vetustissima*).

Insecticides such as DDT, dieldrin and the various organic phosphates gave outstanding control of various fly pests for several years. The widespread development of resistance in both housefly and blowfly populations has greatly complicated the matter, however, and drawn attention to the importance of preventive measures, such as sanitation in the case of houseflies, and the Mules operation and crutching in the case of the sheep blowfly.

The March flies (Tabanidae) are well represented but, although their blood-sucking habits render them annoying, both to livestock and humans, they are not a serious pest.

Of the many useful flies may be mentioned the blowfly-like tachinids which parasitise caterpillars, grasshoppers and other pests and the bee flies (Bombyliidae) which parasitise the eggs of other insects. The maggots of the bombyliid fly (*Cryptomorpha flaviscutellaris*) are commonly found in the egg pods of the small plague grasshopper (*Austroicetes cruciata*).

#### Order Siphonaptera (Fleas)

A number of introduced as well as native fleas occur in this State. *Echidnophaga myrmecobii*, found originally on native mammals, is a very common parasite of rabbits in the drier parts of the State. The poultry stickfast flea (*E. gallinacea*) closely resembles the former species but is mainly a pest of poultry and domestic animals. The oriental rat flea (*Xenopsylla cheopis*), the human flea (*Pulex irritans*) and the cat and dog fleas (*Ctenocephalides felis* and *C. canis*) are among the most important introduced species.

#### Order Lepidoptera (Moths, Butterflies, etc.)

The primitive swift moths (Hepialidae) are represented locally by a number of very beautiful forms. The larvae are wood borers but do not occur in sufficient numbers to constitute a serious forestry pest. Several large and striking members of the genus *Aenetus* occur in the lower South-West.

A group of small native moths of the family Pyralidae, sub-family Crambinae and commonly known as pasture webworm moths (*Hednota pedionoma*, *H. crypsichroa*, etc.) is a serious pest of cereal crops (excepting oats) and grass pastures. Depredations are controlled by planting on clean fallow, but the recent trend towards ley farming has greatly favoured these pests.

A family of considerable interest to the orchardist is the Tortricidae, for to this group belong the codling moth (*Cydia pomonella*) and the oriental fruit moth (*C. molesta*). Outbreaks of codling moth have occurred on a number of occasions, but drastic eradication measures have so far prevented this major apple pest from becoming permanently established and have given Western Australia the distinction of being the only large apple-producing country where the moth is not a major problem. The oriental fruit moth has not reoccurred since eradication measures were taken against an outbreak in the Bickley Valley in 1952.

One of the best-represented families is the Noctuidae (cutworms) which contains several important pests. Included under this heading are the climbing cutworm or native budworm (*Heliothis punctigera* and *H. armigera*), the cluster caterpillar (*Spodoptera litura*), the rough bollworm (*Earias huegeli*), the brown cutworm (*Agrotis munda*) and the southern army worm (*Persectania ewingii*). The first four species are serious pests in the cotton areas of the north. The fruit-sucking moth (*Othreis materna*) also belongs to this group and causes heavy losses in citrus fruit grown around pastoral homesteads in the Kimberley and the North-West. In almost all cases where moths and butterflies are regarded as pests it is only the caterpillar stage which is destructive. The fruit-sucking moth, however, has a rasp-like proboscis capable of piercing orange and citrus skins and then sucking up the juice. Fortunately the creatures do not normally range to the citrus areas of the South-West.

One of the most remarkable members of the family Agaristidae is the whistling moth (*Hecatesia thyridion*). The male of this species is active just at sunset and makes a loud clicking noise during its fast circling flight.

Other common moth pests are the cabbage moth (*Plutella maculipennis*), the potato moth (*Phthorimaea operculella*) and the apple looper moth (*Chloroclystis laticostata*).

The beautiful *Carthaea saturnioides* with its large eye spots on the wings superficially resembles the emperor moths. Its range is restricted to south-west Australia and the creature is much prized by collectors.

The butterfly fauna of the State lacks many large and showy forms. Some of the northern species such as *Hypolimnas bolina nerina* are quite colourful but the State has nothing to compare with the conspicuous and beautiful species found in the tropics of eastern Australia.

The blues (*Lycaenidae*) are well represented and the association of many larvae with ant nests renders the group a particularly interesting one.

The skippers (*Hesperiidae*) are relatively drab-coloured butterflies with strong powers of flight. Over twenty species are recorded from the State and some forms are endemic to the South-West.

Only one butterfly is of economic importance and that is the introduced cabbage white butterfly (*Pieris rapae*) which reached this State in 1943. It attacks cabbages, cauliflowers and related plants as well as one or two other strong-tasting herbs such as watercress. The butterfly belongs to the whites, or *Pieridae*, which group contains a number of native species. Several members of this family, including the introduced cabbage white, display extraordinary powers of flight and the native caper white (*Anaphaeis java teutonia*) has been observed to carry out mass migrations of remarkable proportions on the eastern side of the continent.

### Order Hymenoptera (Bees, Wasps, Ants)

The wood wasps and *Sirex* wasps (*Siricidae*) include several pests which have been established in New Zealand and Tasmanian pine forests. Imported timber (including 4 million superficial feet of prefabricated housing material) has been fumigated from time to time following the location of infested material.

The sawflies (*Tenthredinidae*) are represented locally by a number of native forms. The larvae of the genus *Perga* may often be seen in caterpillar-like clusters amongst the foliage of eucalypts. An introduced sawfly (*Caliroa cerasi*) is a common pest on pear and plum trees. The smaller parasitic wasps (ichneumonids, chalcids and their allies) are well represented and play an important role in combating many insect pests. Some attack caterpillars, some aphids and scale insects and other insect eggs, so that without their aid the problem of pest control would be even more difficult than at present.

The ant fauna (*Formicidae*) of the State is extremely varied. One of the best-known native species is the meat ant or mound ant (*Iridomyrmex detectus*) which often nests on gravel paths and road-sides. Among the most remarkable of the local ants may be listed *Camponotus inflatus*, the honey-pot ant of the interior, and *Myrmecia regularis* of the karri forest area which has the frog *Metacrinia nicholli* as a tolerated guest in its nest. The honey-pot ant derives its name from the fact that certain individuals in the nest store honey until their abdomens become inflated to the size of grapes. This honey is then regurgitated to other ants as required. These ants were once prized by the natives as a food delicacy.

Two important introduced ant pests are the Argentine ant (*Iridomyrmex humilis*) and the Singapore ant (*Monomorium destructor*). The Argentine ant was once widespread in the metropolitan area, Albany and Bunbury, with several other country outbreaks. The insect has been reduced in recent years, however, as a result of a large-scale control campaign. The scheme involved the spraying of all infested areas, with government-controlled labour, and a restriction on the movement of goods likely to spread the pest. Since the commencement of the campaign in 1954 approximately 57,000 acres have been treated at a cost of just under \$2 million.

The social wasps (*Vespidae*) were once known only from the northern portion of the State. About 1949, however, colonies of *Polistes variabilis* were located in various parts of the Perth suburban area and they have now extended to some of the orcharding districts in the Darling Range. How the introduction occurred is not known.

The burrowing wasps, including the sand wasps (*Pompilidae*), the flower wasps (*Scoliidae*) and solitary ants (*Mutillidae*) are well represented. The latter are, of course, not true ants but the wingless females bear a superficial resemblance to ants which is further accentuated by their ability to inflict a painful sting. The flower wasps are particularly numerous and winged males carrying wingless females are common around flowering plants in the early summer. Of the solitary ants the black and white *Ephutomorpha cribricollis* is the best known. Most of the wasps mentioned are beneficial, for they store caterpillars and other insects in mud nests and underground burrows to serve as food for the wasp grubs.

The majority of native bees are solitary forms although some, like the Colletidae, often choose a common site for nest burrowing and hundreds of tunnels may be located close to one another.

The leaf-cutting bees (Megachilidae) often attract notice from their habit of cutting circular pieces from rose leaves and other foliage for use in nest construction.

The only native social bees belong to the genus *Trigona* which does not occur in the southern portions of the State.

#### CLASS ARACHNIDA (Spiders, Mites, Ticks, etc.)

Creatures grouped under the above heading are, of course, not true insects and will be dealt with only very briefly. Several forms are of considerable economic importance, as for example the cattle tick (*Boophilus microplus*) and the fowl tick (*Argas persicus*). The cattle tick is confined to the Kimberley Division and its range corresponds roughly with that of the buffalo fly. The ornate kangaroo tick (*Amblyomma triguttatum*) is a common species. It is occasionally collected as an accidental parasite on domestic animals and man.

The most serious mite pest is the red-legged earth mite (*Halotydeus destructor*) which is very destructive to young legumes and other seedlings. It may be particularly troublesome on subterranean clover pastures. Other mites of importance to orchardists and market gardeners are the spider mites (Tetranychidae) which include such cosmopolitan species as the two-spotted mite (*Tetranychus urticae*) and the bryobia mite (*Bryobia rubrioculus*).

Spiders constitute a large group, most of which are useful on account of their insectivorous habits, although bites from some of the larger species may produce painful after-effects. The most dangerous local spider is the red-backed spider (*Latrodectus mactans hasselti*). This species, whose bite may even prove fatal, is easily recognised by the conspicuous red streak down the centre of the abdomen.

Scorpions of various kinds are widely distributed over the State and the larger ones may be able to inflict a painful sting. There is one record of a baby dying at Pemberton from the effects of scorpion venom but no other reports of serious after-effects are available and, generally speaking, the group is of little local importance.

#### PEST CONTROL WITHOUT INSECTICIDES

The past twenty-five years might be regarded as the era of chemical pest control, for, since the advent of DDT, there has been a constant stream of new pesticides, many of which have given almost miraculous control of serious agricultural pests as well as the carriers of many human and stock diseases. However, there is an increasing awareness of harmful side-effects which may result from the wholesale use of chemicals, and their application is now being restricted as much as possible.

Two of the most serious problems associated with the use of pesticides are the accumulation of residues in foodstuffs and animal tissues, and the development of resistance by many types of insects and mites.

##### Residues

In addition to their direct health hazards, the residue problems have an important effect upon international quarantine and world trade, and the World Health Organization has suggested certain principles which should be followed when considering consumer safety. At its conference in 1961, a Joint Meeting on Pesticide Residues sponsored by the Food and Agriculture Organization defined these principles as follows :

The contamination of human and animal food should be restricted to the lowest possible level and the amount of a residue should not be higher than that which results from good agricultural practice, provided that the final amount is accepted as safe for long-term consumption by man.

Regulations governing the use of pesticides in Western Australia are based upon these principles and appropriate Government committees have been constituted to keep a check on possible health hazards and environmental pollution which may result from the widespread use of chemicals.

### Resistance

Resistance to pesticides is not a new problem, but the number of insects and mites showing resistance, or increased tolerance, to one or more chemicals has grown so rapidly in recent years as to constitute a major problem. Local pests now showing varying degrees of resistance to chemicals which once gave excellent control, include the Australian sheep blowfly (*Lucilia cuprina*), the house fly (*Musca domestica*), the rice weevil (*Sitophilus oryzae*), the rust-red flour beetle (*Tribolium castaneum*) and the two-spotted mite (*Tetranychus urticae*), and so alternative control measures are being investigated for these and other species.

### INTEGRATED PEST CONTROL

In an effort to reduce the use of chemicals and, particularly, those dangerous to humans and wildlife or associated with resistance, various other methods of pest control are now receiving attention, and renewed emphasis is being placed upon biological control and the use of natural enemies such as parasites, predators and different types of disease.

Some of our most serious agricultural pests have been introduced from abroad, and one of the reasons for their pest status is the fact that many insects, mites and weeds have been able to flourish in their new environment, free from the controlling influence of natural enemies. As a result of this knowledge, surveys have been made in many foreign countries to select parasites and diseases which could be safely established in Australia to help in pest control. Western Australia's interest in this matter dates back to 1901 when George Compere was jointly employed by the Californian and Western Australian Governments to collect beneficial insects for trial in both countries. As a result of this early work and numerous subsequent introductions, many useful insects and mites have been established in Western Australia with beneficial results (Jenkins, 1946).

Some of the most successful introductions relate to wasp parasites and predatory ladybirds which attack scale insects; a tiny wasp which controls woolly aphids on apple trees; a wasp parasite which attacks the egg rafts of the green vegetable bug, and a small wasp which attacks the caterpillars of the conspicuous cabbage white butterfly.

Current introductions of considerable interest are several predatory mites which have been introduced by CSIRO to combat the lucerne flea and the red-legged earth mite, and a series of dung-feeding beetles to destroy cow droppings and so reduce the breeding grounds for the buffalo fly and the bush fly.

In addition to the introduced parasites and predators there are a wide variety of native insects and mites, which have an important influence on many pest species. The native budworm (*Heliothis punctigera*) is attacked by the small Tachinid flies (*Exorista curriei* and *Goniophthalmus australis*). Small parasitic wasps as well as the mud daubers and spider hunters dispose of many plant-feeding caterpillars, while assassin bugs, mantids, lacewings, scarab beetles and robber flies all destroy many harmful species.

In recent years the widespread use of pesticides has not only created residue and resistance problems, but it has greatly reduced the population of many beneficial insects, both natural and introduced, with the result that pests which were of minor importance in earlier years have suddenly assumed plague proportions. This applies, particularly, to various orchard infesting mites, and so efforts are being made to reduce the use of pesticides to a minimum and to find selective chemicals which exercise maximum control over the pest species and have a minimal effect upon parasites and predators.

### Insect Diseases

Bacteria, viruses and fungi all take their toll of insects, and naturally-occurring diseases have been found affecting native budworms, cluster caterpillars, house flies, grasshoppers, webworm caterpillars, potato moth caterpillars and various other species. The

commercial production and use of disease organisms pose many difficulties, but these matters are being investigated under local conditions. A bacterial culture of *Bacillus thuringiensis* is already available as a commercial product, but tests against the cluster caterpillar and native budworm in the Kimberley have been disappointing.

### Host Resistance

It has long been known that some plants are more resistant than others to attack by certain diseases and pests, and this has been exploited by plant breeders for the protection of several crops. Many Western Australian apple trees are grown on Northern Spy and other resistant rootstocks to reduce damage by the woolly aphids, and resistant stocks are also used by many vignerons as a safeguard against grape Phylloxera (*Viteus vitifoliae*). Although a pest in parts of eastern Australia, Phylloxera is not present in Western Australia, but the use of resistant stocks would greatly reduce the damage should the insect ever gain a footing in this State.

Pesticides are likely to remain the most important means of insect control for some years to come, but alternative treatments are being sought with increasing intensity. In addition to the methods already outlined, the genetic manipulation of insect populations, the use of anti-feeding and sterilisation techniques, the use of heat and cold for insect control, and the development of improved cultural and crop handling techniques indicate some of the likely alternatives which may replace chemicals in the years to come.

### FURTHER SOURCES OF INFORMATION

The difficulties confronting anyone trying to review in a few pages the entomological fauna of such a large State as Western Australia will be better appreciated if it is remembered that in the *Western Australian Year-Book* for 1898-99 the late A. M. Lea expressed the opinion that there were about 30,000 species of insects indigenous to this State. Many additions have been made in the last sixty years and one is faced with the problem of deciding which creatures warrant special mention and which must be excluded for lack of space. The general reader interested in consulting other short reviews of the local insect fauna is referred to A. M. Lea's article in the 1898-99 Year Book under the title of 'The Insects of Western Australia'; in the Year Book for 1900-01 the late H. M. Giles wrote 'A Glimpse of Western Australian Entomology'.

Two short summaries have also appeared in conjunction with science conferences in this State. The *Handbook and Review* published for the 1926 meeting of the Australasian Association for the Advancement of Science contained an article by L. J. Newman and the *Handbook* for the 1947 meeting of the Australian and New Zealand Association for the Advancement of Science printed a short summary of the local insects by L. Glauert.

Readers interested in more technical summaries are referred to Professor G. E. Nicholl's 'The Composition and Biographical Relation of the Fauna of Western Australia' (*A.N.Z.A.A.S.*, Vol. XXI, 1933, p. 93), the relevant volumes of *Die Fauna Südwest-Australiens* by Michaelsen and Hartmeyer, 1907-1930, and the report of the Swedish expedition under Dr E. Mjöberg.

More detailed information relating to the forms of economic importance will be found in the publications of the Western Australian Department of Agriculture.

Additional references, which cover aspects of Australian entomology and pesticide usage, were given in the Year Book for 1971 and earlier issues.





## CHARACTERISTICS OF THE NATURAL REGIONS OF WESTERN AUSTRALIA

The subdivision of Western Australia into Natural Regions (see map on page 91) has been described by E. de C. Clarke in *Jour. Roy. Soc. West. Aust.* vol. XII, pp. 117-32. A summary of the characteristics of these different Natural Regions (reprinted by courtesy of the University of Western Australia Press from Clarke, Prider and Teichert: *Elements of Geology for Western Australian Students*) is given below.

| NATURAL REGION                                            | TOPOGRAPHY                                                       | GEOLOGY                                                         | RAINFALL                                                                                                  | WATER SUPPLY (a)                              | VEGETATION, ETC.                                          |
|-----------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------|
| ANTRIM<br>(geographic)                                    | Tableland                                                        | Cambrian sediments and lavas                                    | Summer, monsoonal, 20 to 40 inches                                                                        | Catchments, wells and artesian                | Grassland and savannah                                    |
| NORTH KIMBERLEY<br>(geographic)                           | Dissected stony tableland                                        | Younger Precambrian                                             | Summer, monsoonal, 30 inches or more                                                                      | Streams, springs, catchments                  | Luxuriant in valleys, sparse on tableland                 |
| FITZROY<br>(chief river)                                  | Very wide valleys and low hills                                  | Palaeozoic (largely Permian)                                    | Summer, monsoonal, 20 to 30 inches                                                                        | Catchments and artesian                       | Grassland and savannah                                    |
| CANNING<br>....<br>(A. W. Canning, surveyor and explorer) | Sand ridges and table-top hills                                  | Palaeozoic and Mesozoic                                         | Summer, 15 inches or less                                                                                 | Springs, pools, artesian water? (undeveloped) | 'Spinifex' (species of <i>Triodia</i> ) and desert shrubs |
| CARNEGIE<br>....<br>(David Carnegie, explorer)            | Sand ridges and table-top hills                                  | Mesozoic, Palaeozoic and Younger Precambrian                    | Variable and unreliable, probably about 5 inches                                                          | Catchments                                    | 'Spinifex' and desert shrubs                              |
| WARBURTON<br>....<br>(Warburton Range)                    | Hills (some over 3,000 feet) separated by sandy country          | Older Precambrian                                               | Variable and unreliable, perhaps about 5 inches. Probably better than Carnegie Region owing to high hills | Catchments, some springs                      | 'Mulga' (species of <i>Acacia</i> ) and 'Spinifex'        |
| NORTH-WEST<br>....<br>(common usage)                      | Rugged hills, Rivers in well-defined valleys                     | Younger and Older Precambrian. Many economic minerals           | Variable, unreliable, 15 inches or less                                                                   | Wells, pools                                  | 'Spinifex', few shrubs and trees                          |
| MURCHISON<br>....<br>(common usage)                       | Ridge hills and breakaways. Rivers in shallow beds. Salt 'lakes' | Older Precambrian. Economic minerals especially gold and nickel | Summer or winter, unreliable, 10 inches or less                                                           | Wells (potable groundwater)                   | 'Mulga'. Eucalypts scarce except along rivers             |

|                                   |     |                                                                                           |                                                                            |                                                    |                                                                                                 |                                                                                                                                                               |
|-----------------------------------|-----|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KALGOORLIE ...<br>(chief town)    | ... | Less hilly than Murchison. Salt 'lakes'. No defined water-courses except salt lake system | Older Precambrian. Economic minerals especially gold and nickel            | Mainly winter, unreliable, 10 inches or less       | Catchments. Ground water too salty for use                                                      | Eucalypt forest, especially Salmon Gum ( <i>E. salmonophloia</i> ), Gimlet ( <i>E. salubris</i> ) and Red Morrel ( <i>E. longicornis</i> )                    |
| WHEAT BELT ...<br>(common usage)  | ... | Same as Kalgoorlie Region                                                                 | Older Precambrian, but few 'greenstones'                                   | Winter, reliable, 10 to 20 inches                  | Similar to Kalgoorlie Region, but ground water potable in many places; therefore wells frequent | Eucalypt forest—Salmon Gum, Gimlet, and Morrel                                                                                                                |
| JARRAH ...<br>(chief timber)      | ... | More dissected than Wheat Belt Region, especially near Darling Scarp                      | Like Wheat Belt Region but there is an extensive cuirass of laterite       | Winter, reliable, 25 to 40 inches                  | Streams and springs                                                                             | Forest of Jarrah ( <i>E. marginata</i> ), Wandoo ( <i>E. rudunca</i> var. <i>elata</i> ), Karri ( <i>E. diversicolor</i> ) and Marri ( <i>E. calophylla</i> ) |
| CARNARVON ...<br>(chief town)     | ... | Elevated plain with table-top hills                                                       | Palaeozoic, Mesozoic, Tertiary and later                                   | Summer or winter, very unreliable, about 10 inches | Artesian in many places. Catchments, pools                                                      | Sparse scrub in north, denser in south                                                                                                                        |
| GREENOUGH ...<br>(river)          | ... | Sandstone tableland                                                                       | Mesozoic and older                                                         | Winter, 15 to 20 inches                            | Springs, wells and catchments                                                                   | Scrub                                                                                                                                                         |
| PERTH ...<br>(chief town)         | ... | Coastal plain                                                                             | Mesozoic and later                                                         | Winter, reliable, 20 to 35 inches                  | Springs, wells, artesian                                                                        | Scrub, swamp and forest                                                                                                                                       |
| STIRLING ...<br>(prominent range) | ... | Undulating tableland with abrupt ranges                                                   | Siliceous Tertiary sediments with inliers of Younger and Older Precambrian | Winter, 15 inches or less                          | Catchments. Stream water generally too salty for use                                            | Heath and swamp                                                                                                                                               |
| NULLARBOR ...<br>(geographic)     | ... | Tableland, no hills                                                                       | Calcareous Tertiary sediments                                              | Winter, 10 inches or less                          | Catchments. Sub-artesian                                                                        | Poor grassland                                                                                                                                                |

(a) 'Wells' refers to those that draw on ground water, but are not artesian. 'Catchments' refers to water collected on the surface—naturally in gnamma holes, artificially by conserving the run-off. 'Pools' refers to pools in watercourses and includes rock holes.

## CHAPTER III—CONSTITUTION AND GOVERNMENT

Western Australia is one of the six federated sovereign States which, together with the Northern Territory and the Australian Capital Territory, constitute the Commonwealth of Australia. Thus, in addition to having its own Parliament and executive government, it is represented in the federal legislature. As well as government at the Federal and State levels, there is a third system, that of local government, which functions through City Councils, Town Councils and Shire Councils.

### OUTLINE OF CONSTITUTIONAL DEVELOPMENT

A Legislative Council was established in Western Australia shortly after its foundation as a Crown Colony and sat for the first time in February 1832. The Council was non-elective and consisted of the Governor and four senior officials. In 1839, membership was increased to nine when the Governor nominated four unofficial members. Additional appointments were made from time to time until the dissolution of the nominee Legislative Council in 1870 with the inauguration of representative government as provided for in the Australian Colonies Government Act of 1850. This Act, which enabled the establishment of representative governments in other Australian Colonies, withheld the privilege from Western Australia until such time as the Colony should be able to defray all costs of government from its own revenues, and it was not until 1870 that it was felt that Western Australia was able to satisfy this condition. The new Legislative Council, elections for which took place in October of that year, consisted of twelve elected members, three nominees and three officials. The number of members of the Council was increased in 1874 to 21, of whom 14 were elected, in 1882 to 24, of whom 16 were elected and in 1886 to 26, comprising 17 elected members, 5 nominees and 4 officials.

Following the passage by the Legislative Council of a Constitution Act in 1889 and subsequent representations made in London by delegates sent from the Colony, responsible government was granted to Western Australia by an Imperial Act assented to on 15 August 1890. Provision was made for the establishment of a Parliament of two Houses, to be known as the 'Legislative Council' and the 'Legislative Assembly', to replace the old Council. Proclamation of responsible government was made in Perth on 21 October 1890 and election of the thirty members of the Legislative Assembly took place in November and December. The fifteen members of the Legislative Council were nominated by the Governor, as provided in the Constitution Act, and the Parliament was officially opened on 30 December 1890. The Constitution Act of 1889, while prescribing a Council which was originally nominative, contained a provision that, after the expiration of six years or on the population of the Colony reaching 60,000, the Council should become fully elective. The required population was attained in 1893 and an amendment to the Act in that year enabled the election of twenty-one members to the Legislative Council, and at the same time increased the Legislative Assembly to thirty-three members. By an amendment of 1899, membership of the Legislative Council was raised to thirty and of the Legislative Assembly to fifty. Provision was made for the Legislative Assembly to be increased to fifty-one members by the *Constitution Acts Amendment Act (No. 2), 1965*. The increase in numbers, however, did not become effective until the State general election in 1968.

On 1 January 1901, Western Australia and the five other Australian Colonies were federated under the name of the 'Commonwealth of Australia', authority for the union having been given by the Commonwealth of Australia Constitution Act which was passed by the British Parliament in 1900. By a provision of the Constitution Act the constituent parts of the Commonwealth previously designated 'Colonies' became known as

'States'. Under the Constitution, powers are divided between the Parliaments of the Commonwealth and of the States by conferring power in respect of specific subjects on the Commonwealth either exclusively or jointly with the States, leaving the remaining powers to the States.

Procedure in both Commonwealth and State Parliaments is based on British practice. The legislatures consist of the Sovereign, represented by the Governor-General of Australia or the Governor of the State, and the elected members. In the field of executive government the British 'Cabinet' system has also been adopted. The members of the Cabinets must hold seats in the legislature as elected members. The Cabinet is responsible to the Parliament and continues in office only while holding the confidence of the Parliament. All Cabinet Ministers are members of the Executive Council, the supreme group of advisers to the Crown, and the Cabinet thus provides the executive government of the Commonwealth or the State. The Executive Council is presided over by the Governor-General of Australia or the Governor of the State and at its meetings, which are formal and official in character, the decisions of the Cabinet are given legal form, appointments are made, resignations accepted, proclamations issued and regulations approved.

## VICE-REGAL REPRESENTATION

### The Governor-General of Australia

Under the Commonwealth Constitution, ultimate executive power is vested in the Crown and is exercised by the Governor-General as the direct representative of the Sovereign. Appointment to the office is made by the Crown after consultation with the Prime Minister of the Commonwealth. The present Governor-General is His Excellency the Right Honourable Sir Paul Hasluck, P.C., G.C.M.G., who was sworn in on 30 April 1969. During the absence from Australia of the Governor-General it is usual for the senior among the State Governors to be appointed Administrator.

### The Governor of Western Australia

The Governor of Western Australia is the personal representative of the Sovereign in the State and exercises the powers of the Crown in State matters. He is the titular head of the Government and performs the official and ceremonial functions attaching to the Crown. The present Governor of Western Australia is His Excellency Major-General Sir Douglas Kendrew, K.C.M.G., C.B., C.B.E., D.S.O. In the event of the Governor's absence from Western Australia the Lieutenant-Governor of the State is appointed Administrator. If there is no Lieutenant-Governor it is customary for the Chief Justice of Western Australia to be appointed Administrator.

The last Governor of Western Australia as a Colony was Lieutenant-Colonel Sir Gerard Smith, K.C.M.G., whose term of office expired on 29 June 1900 and the first Governor of the State was Captain Sir Arthur Lawley, K.C.M.G., who was sworn in on 1 May 1901. The names and dates of assumption of office of Governors, Lieutenant-Governors and Administrators from the foundation of the Colony to 1951 are shown in the *Official Year Book of Western Australia*, No. 1—1957. Subsequent appointments appear in Year Book No. 4 of 1964 and later issues. The Honourable Sir Albert Wolff, K.C.M.G., was commissioned as Lieutenant-Governor on 26 May 1968 and since that date has performed the functions of Administrator of the State during absences of the Governor.

## THE FEDERAL PARLIAMENT

The legislative power of the Commonwealth is vested in a Federal Parliament which consists of Her Majesty the Queen (represented by the Governor-General), a Senate and a House of Representatives. Subject to the Constitution, the Commonwealth Parliament is empowered to make laws concerning, among other things, defence, external affairs, customs and excise, trade and commerce with other countries and among the States, taxation, borrowing of money on public credit, currency and coinage, banking, insurance,

navigation, fisheries, quarantine, posts and telegraphs, census and statistics, immigration, naturalisation and aliens, copyrights and trade marks, bankruptcy, marriage, divorce and matrimonial causes, social services, and conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State. The Constitution provides that, when a law of a State is inconsistent with a law of the Commonwealth, the Commonwealth law shall prevail and the State law shall, to the extent of the inconsistency, be invalid.

The qualifications necessary for membership of the Commonwealth Parliament and for voting at federal elections are described in the *Official Year Book of the Commonwealth of Australia*.

The payment of allowances to Senators and Members of the House of Representatives is provided for in the Constitution and a superannuation scheme is established under the provisions of the *Parliamentary Retiring Allowances Act 1948-1966*.

### The Senate

The Senate consisted originally of thirty-six members, six Senators being returned from each State. The Parliament is authorised by the Constitution to increase or decrease the number of members. The growth of the population since Federation having been such as to warrant a considerable enlargement of the Parliament, a Representation Act was passed in 1948 to provide for increased membership by raising from six to ten the number of Senators from each State. At the same time the alternative system of counting of votes in elections for the Senate was altered by the Commonwealth Electoral Act to one of proportional representation, a summarised description of which is given in the *Official Year Book of the Commonwealth of Australia*, No. 38, pages 82-3.

Members are elected on the basis of adult suffrage by the people of the State which they represent. As provided by the *Commonwealth Electoral Act 1918-1966*, enrolment as an elector is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aborigines, although entitled to enrol, are not required to do so. Voting is compulsory for all enrolled persons in terms of an amendment of 1924 which operated for the first time at elections held on 14 November 1925. The term of office of a Senator is normally six years. One-half of the members retire at the end of every third year and are eligible for re-election.

Elections for the Senate were held on 21 November 1970. The following table shows the Western Australian membership of the Senate as from 1 July 1971 as a result of the election.

WESTERN AUSTRALIAN MEMBERS OF THE SENATE

| Due to retire on 30 June 1974 |      |                 |  | Due to retire on 30 June 1977 |      |                 |  |
|-------------------------------|------|-----------------|--|-------------------------------|------|-----------------|--|
| Name                          |      | Political party |  | Name                          |      | Political party |  |
| Prowse, E. W.                 | .... | C.P.            |  | Cant, H. G. J.                | .... | A.L.P.          |  |
| Sim, J. P.                    | .... | Lib.            |  | Drake-Brockman, T. C.         | .... | C.P.            |  |
| Wilkinson, L. D.              | .... | A.L.P.          |  | Durack, P. D.                 | .... | Lib.            |  |
| Willesee, D. R.               | .... | A.L.P.          |  | Negus, S. A.                  | .... | Ind.            |  |
| Withers, R. G.                | .... | Lib.            |  | Wheeldon, J. M.               | .... | A.L.P.          |  |

A.L.P. = Australian Labor Party. C.P. = Australian Country Party. Ind. = Independent.  
Lib. = Liberal Party of Australia.

### The House of Representatives

State membership of the House of Representatives is on a population basis with the proviso that each State shall have at least five members. The Constitution provides further that the number of members of the House of Representatives shall be, as nearly

as practicable, double the number of Senators. With the enlargement of the Senate from thirty-six to sixty members, the membership of the House of Representatives was increased, from the date of the 1949 elections, from seventy-four to 121, not including a member for the Australian Capital Territory, which achieved representation for the first time at this election, and a member for the Northern Territory, which had been represented since 1922. Western Australia's population growth had been such as to necessitate an increase in representation from five to eight, and this number was raised to nine in 1955 as a result of a redistribution following the Census of 30 June 1954. At the same time, the total number of members of the House of Representatives was increased to 122, excluding the two members for the Territories.

Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years, by the people of the electorate which they represent. As provided by the *Commonwealth Electoral Act* 1918-1966, enrolment as an elector is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aborigines, although entitled to enrol, are not required to do so. Voting is on the preferential system and is compulsory for all enrolled persons in terms of an amendment of 1924 which operated for the first time at elections held on 14 November 1925.

Elections for the House of Representatives were held on 25 October 1969 and all Western Australian electorates were contested. The following table shows the Western Australian membership of the House before the election and at 31 December 1971.

WESTERN AUSTRALIAN MEMBERS OF THE HOUSE OF REPRESENTATIVES

| Electoral division | Before election of 25 October 1969 |                 | At 31 December 1971  |                 |
|--------------------|------------------------------------|-----------------|----------------------|-----------------|
|                    | Name                               | Political party | Name                 | Political party |
| Canning            | Hallett, J. M. ....                | C.P.            | Hallett, J. M. ....  | C.P.            |
| Curtin             | Garland, R. V. ....                | Lib.            | Garland, R. V. ....  | Lib.            |
| Forrest            | Freeth, Hon. Gordon ....           | Lib.            | Kirwan, F. McL. .... | A.L.P.          |
| Fremantle          | Beazley, K. E. ....                | A.L.P.          | Beazley, K. E. ....  | A.L.P.          |
| Kalgoorlie         | Collard, F. W. ....                | A.L.P.          | Collard, F. W. ....  | A.L.P.          |
| Moore              | Maisey, D. W. ....                 | C.P.            | Maisey, D. W. ....   | C.P.            |
| Perth              | Chaney, Hon. F. C., A.F.C. ....    | Lib.            | Berinson, J. M. .... | A.L.P.          |
| Stirling           | Webb, C. H. ....                   | A.L.P.          | Webb, C. H. ....     | A.L.P.          |
| Swan               | Cleaver, Richard ....              | Lib.            | Bennett, A. F. ....  | A.L.P.          |

A.L.P. = Australian Labor Party. C.P. = Australian Country Party.

Lib. = Liberal Party of Australia.

Each of these Commonwealth electoral divisions comprises several subdivisions. The names of each subdivision and the number of electors therein at 25 October 1969 were given in the previous issue of the Year Book, together with the area of each division and maps showing the boundaries of the nine electoral divisions.

## THE STATE PARLIAMENT

The Crown, represented by the Governor, and the Parliament, comprising a Legislative Council and a Legislative Assembly, constitute the legislature of Western Australia.

Executive government is based, as in the case of the Commonwealth and in other States, on the system which evolved in Great Britain in the eighteenth century and which is generally known as the 'Cabinet' system. The Cabinet consists of Ministers of the Crown chosen for the Ministry from members of Parliament belonging to the political party, or coalition of parties, which is in the majority in the Legislative Assembly. The Constitution requires that at least one of the Ministers be selected from members of the Legislative Council. In Western Australia, as in the other Australian States, the office of principal Minister is designated 'Premier'.



Since 1890, when responsible government was granted to Western Australia, there have been twenty-four separate Ministries as shown in the following table. No organised political party existed in the Colony until the formation of a Labour party in the 1890s. A Labour Ministry assumed office in 1904. As no previous Ministry had a specific party designation, the table has been annotated accordingly.

## MINISTRIES FROM 1890

| Name of Premier | Political party             | Date of assumption of office | Duration            |        |      |
|-----------------|-----------------------------|------------------------------|---------------------|--------|------|
|                 |                             |                              | Years               | Months | Days |
| Forrest ....    | (a)                         | 1890—29 December ....        | 10                  | 1      | 17   |
| Throssell ....  |                             | 1901—15 February ....        | —                   | 3      | 12   |
| Leake ....      |                             | 27 May ....                  | —                   | 5      | 25   |
| Morgans ....    |                             | 21 November ....             | —                   | 1      | 2    |
| Leake ....      |                             | 23 December ....             | —                   | 6      | 8    |
| James ....      | Labour                      | 1902—1 July ....             | 2                   | 1      | 9    |
| Daglish ....    |                             | 1904—10 August ....          | 1                   | —      | 15   |
| Rason ....      |                             | 1905—25 August ....          | —                   | 8      | 12   |
| Moore ....      |                             | 1906—7 May ....              | 4                   | 4      | 9    |
| Wilson ....     |                             | 1910—16 September ....       | 1                   | —      | 21   |
| Scaddan ....    |                             | 1911—7 October ....          | 4                   | 9      | 20   |
| Wilson ....     |                             | 1916—27 July ....            | —                   | 11     | 1    |
| Lefroy ....     |                             | 1917—28 June ....            | 1                   | 9      | 20   |
| Colebatch ....  |                             | 1919—17 April ....           | —                   | 1      | —    |
| Mitchell ....   |                             | 17 May ....                  | 4                   | 10     | 30   |
| Collier ....    | Labour                      | 1924—16 April ....           | 6                   | —      | 8    |
| Mitchell ....   |                             | 1930—24 April ....           | 3                   | —      | —    |
| Collier ....    | Nat. and C.P. (coalition)   | 1933—24 April ....           | 3                   | 3      | 27   |
| Willcock ....   |                             | 1936—20 August ....          | 8                   | 11     | 11   |
| Wise ....       | Labour                      | 1945—31 July ....            | 1                   | 8      | 1    |
| McLarty ....    |                             | 1947—1 April ....            | 5                   | 10     | 22   |
| Hawke ....      | L.C.L. and C.P. (coalition) | 1953—23 February ....        | 6                   | 1      | 10   |
| Brand ....      |                             | 1959—2 April ....            | 11                  | 11     | 1    |
| Tonkin ....     | Labour                      | 1971—3 March ....            | Still in office (b) |        |      |

C.P. = Country Party. L.C.L. = Liberal and Country League (c). Nat. = Nationalist.

(a) No specific party designation. (b) At 31 December 1971. (c) The name of the Party was changed to *The Liberal Party of Australia (Western Australian Division) Incorporated* on 15 July 1969.

## THE MINISTRY AT 31 DECEMBER 1971 (a)

| Name of Minister                                | Title of office                                                                                     |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Hon. John Trezise Tonkin, M.L.A. ....           | Premier, Treasurer, and Minister for Cultural Affairs                                               |
| Hon. Herbert Ernst Graham, M.L.A. ....          | Deputy Premier and Minister for Development and Decentralisation, Town Planning, and the North-West |
| Hon. Thomas Daniel Evans, M.L.A. ....           | Minister for Education, Attorney General, and Assistant to the Treasurer                            |
| Hon. William Francis Willesee, M.L.C. ....      | Minister for Community Welfare and Leader of the Government in the Legislative Council              |
| Hon. John Dolan, M.L.C. ....                    | Minister for Police, Transport, and Railways                                                        |
| Hon. Donald George May, M.L.A. ....             | Minister for Mines, and Electricity                                                                 |
| Hon. Colin John Jamieson, M.L.A. ....           | Minister for Works, and Water Supplies                                                              |
| Hon. Hywel David Evans, B.A., M.L.A. ....       | Minister for Lands, Agriculture, Immigration, and Forests                                           |
| Hon. Ronald Davies, M.L.A. ....                 | Minister for Environmental Protection, Health, and Fisheries and Fauna                              |
| Hon. Alexander Donald Taylor, B.A., M.L.A. .... | Minister for Labour, Prices Control, Consumer Protection, and Tourism                               |
| Hon. Robert Henry Claude Stubbs, M.L.C. ....    | Minister for Local Government and Chief Secretary                                                   |
| Hon. Arthur William Bickerton, M.L.A. ....      | Minister for Housing, and Fuel                                                                      |

(a) The Ministry from 12 October 1971 following a redesignation and reallocation of portfolios subsequent to the resignation of the Hon. R. E. Bertram from the Cabinet, with effect from 1 October 1971, owing to ill health.

The Constitution Act of 1889 provided for a Ministry of five members. This number was increased to six by an amendment to the Act in 1896, to eight by another amendment in 1927, and to ten by the *Acts Amendment (Increase in Number of Ministers of the Crown) Act, 1950*. The present Ministry consists of twelve members, as authorised by the *Constitution Acts Amendment Act, 1965*. The names of the Ministers and the portfolios held by them at 31 December 1971 are shown in the previous table.

Details of the original Labour Ministry following the elections of 20 February 1971 appear in the *Appendix* to the previous issue of the Year Book.

The right to vote at parliamentary elections was extended to women by the *Constitution Acts Amendment Act, 1899* and membership of either House was provided for by the *Parliament (Qualification of Women) Act, 1920*. The first woman member of any Australian Parliament was Mrs Edith Dircksey Cowan, O.B.E., who was elected to the Legislative Assembly in March 1921 as member for West Perth. Mrs A. F. G. (later Dame Florence) Cardell-Oliver, M.L.A. for Subiaco, became the first woman Cabinet Minister in Australia when she joined the McLarty Ministry in 1947.

Payment of members was introduced in 1900 by a Payment of Members Act and a superannuation fund is established under the *Parliamentary Superannuation Act, 1970*. The latter Act replaces the *Parliamentary Superannuation Act, 1948-1968* which came into operation on 1 January 1949.

### The Legislative Council

The Legislative Council consists of thirty members, each of the fifteen electoral provinces into which the State is divided being represented by two members. Election is for a term of six years and one-half of the members retire every three years.

The qualifications of a candidate for election to the Legislative Council are that he or she shall be at least twenty-one years of age, shall have resided in Western Australia for a minimum of one year, be a natural-born or naturalised British subject, and be enrolled, or qualified for enrolment, as an elector. No person may hold office as a Member of the Legislative Council and a Member of the Legislative Assembly at the same time. A Judge of the Supreme Court, the Sheriff of Western Australia, a minister of religion, an undischarged bankrupt, a debtor against whose estate there is a subsisting order in bankruptcy, or a person who has been attainted or convicted of treason or felony may not be elected to the Legislative Council. The qualifications for election as a Member of the Legislative Council are thus identical with those necessary for election as a Member of the Legislative Assembly.

The *Electoral Act, 1907-1970* requires that to qualify for enrolment as an elector a person shall be at least eighteen years of age, be a natural-born or naturalised British subject, shall have lived in the Commonwealth of Australia for six months continuously, and shall have lived in Western Australia for three months continuously and in the district for which he claims enrolment for a continuous period of one month immediately preceding the date of his claim. The qualifying age for enrolment as an elector for both the Legislative Council and the Legislative Assembly was reduced from twenty-one years of age to eighteen years of age under the provisions of the *Electoral Act Amendment Act (No. 2), 1970*. The Act operated for the first time at the conjoint election for the Legislative Council and the Legislative Assembly held on 20 February 1971. A person is disqualified from enrolment if he is of unsound mind, has been attainted of treason, has been convicted and is serving sentence for any offence punishable by imprisonment for one year or longer, is the holder of a temporary entry permit for the purposes of the *Migration Act 1958-1966* (Commonwealth) or is a prohibited immigrant under that Act. Enrolment is compulsory under the *Electoral Act Amendment Act, 1964* for all qualified persons except those who are aboriginal natives of Australia. Aborigines, although entitled to enrol, are not required to do so. Voting at elections is on the preferential system and, as provided by the foregoing Act, is compulsory for all enrolled persons.

Under the *Electoral Districts Act, 1947-1965*, the State is divided into a Metropolitan Area, consisting of five electoral provinces, an Agricultural, Mining and Pastoral Area with eight provinces, and a North-West-Murchison-Eyre Area with two provinces. The

names and boundaries of these fifteen electoral provinces, together with those of the fifty-one component electoral districts, were given in the 1969 issue of the Year Book. Changes in these boundaries were found necessary following an examination of the rolls prepared for the election of 20 February 1971 and, by proclamation dated 1 September 1971, Electoral Commissioners appointed under the Act were directed to wholly or partially redivide the State into electoral districts and electoral provinces in the manner provided by the Act.

The composition of the Legislative Council as a result of the election of 20 February 1971 is shown below. On the same date, a by-election was held for the North Province seat formerly held by the Hon. H. C. Strickland who was due to retire in 1974 but resigned as from 31 December 1970 owing to ill health. Vacancies caused by the deaths of the Hon. E. C. House, D.F.C., D.F.M. (1 January 1971) and the Hon. F. R. H. Lavery (12 January 1971) were filled by the general election, the due date for retirement in both cases being 21 May 1971.

The elections resulted in an increase of one in the number of seats in the Legislative Council held by The Liberal Party of Australia (Western Australian Division) Incorporated and a decrease of one in those held by the Country Party. The strength of the Australian Labor Party in the Council remained unchanged.

#### MEMBERS OF THE LEGISLATIVE COUNCIL AT 21 MAY 1971

| Name                                                                                                                                     | Political party | Electoral province      |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------|
| DUE TO RETIRE IN 1974 (a)                                                                                                                |                 |                         |
| Berry, Hon. G. W. ....                                                                                                                   | Lib.            | Lower North             |
| Claughton, Hon. R. F., B.A. ....                                                                                                         | A.L.P.          | North Metropolitan      |
| Diver, Hon. L. C. ....                                                                                                                   | C.P.            | Central                 |
| Dolan, Hon. John ....                                                                                                                    | A.L.P.          | South-East Metropolitan |
| Hunt, Hon. J. L. (b) ....                                                                                                                | A.L.P.          | North                   |
| Logan, Hon. L. A. ....                                                                                                                   | C.P.            | Upper West              |
| MacKinnon, Hon. G. C. ....                                                                                                               | Lib.            | Lower West              |
| Medcalf, Hon. I. G., E.D., LL.B. ....                                                                                                    | Lib.            | Metropolitan            |
| Stubbs, Hon. R. H. C. ....                                                                                                               | A.L.P.          | South-East              |
| Thompson, Hon. Ronald ....                                                                                                               | A.L.P.          | South Metropolitan      |
| Thompson, Hon. S. T. J. ....                                                                                                             | C.P.            | Lower Central           |
| Thomson, Hon. J. M. ....                                                                                                                 | C.P.            | South                   |
| White, Hon. F. R. ....                                                                                                                   | C.P.            | West                    |
| Willesee, Hon. W. F. ....                                                                                                                | A.L.P.          | North-East Metropolitan |
| Willmott, Hon. F. D. ....                                                                                                                | Lib.            | South-West              |
| DUE TO RETIRE IN 1977 (a)                                                                                                                |                 |                         |
| Abbey, Hon. C. R. ....                                                                                                                   | Lib.            | West                    |
| Baxter, Hon. N. E. ....                                                                                                                  | C.P.            | Central                 |
| Dans, Hon. D. K. ....                                                                                                                    | A.L.P.          | South Metropolitan      |
| Dellar, Hon. S. J. ....                                                                                                                  | A.L.P.          | Lower North             |
| Elliott, Hon. Lyla D. ....                                                                                                               | A.L.P.          | North-East Metropolitan |
| Ferry, Hon. V. J., D.F.C. ....                                                                                                           | Lib.            | South-West              |
| Griffith, Hon. A. F. ....                                                                                                                | Lib.            | North Metropolitan      |
| Griffiths, Hon. C. E. ....                                                                                                               | Lib.            | South-East Metropolitan |
| Heitman, Hon. Jack ....                                                                                                                  | Lib.            | Upper West              |
| Leeson, Hon. R. T. ....                                                                                                                  | A.L.P.          | South-East              |
| McNeill, Hon. Neil, B.Sc. (Agric.) ....                                                                                                  | Lib.            | Lower West              |
| Perry, Hon. T. O. ....                                                                                                                   | C.P.            | Lower Central           |
| Williams, Hon. R. J. L., B.A. ....                                                                                                       | Lib.            | Metropolitan            |
| Withers, Hon. W. R. ....                                                                                                                 | Lib.            | North                   |
| Wordsworth, Hon. D. J. ....                                                                                                              | Lib.            | South                   |
| A.L.P. = Australian Labor Party. C.P. = Country Party. Lib. = The Liberal Party of Australia (Western Australian Division) Incorporated. |                 |                         |

(a) Section 8 of the *Constitution Acts Amendment Act, 1899-1969* provides that a retiring member shall vacate his seat on 21 May in the year of retirement. (b) Elected at a by-election held on 20 February 1971 to fill the vacancy caused by the resignation of the Hon. H. C. Strickland as from 31 December 1970.

### The Legislative Assembly

The following table shows the composition of the Legislative Assembly as a result of the election of 20 February 1971.

#### MEMBERS OF THE LEGISLATIVE ASSEMBLY AFTER GENERAL ELECTIONS OF 20 FEBRUARY 1971

| Name                                       | Political party | Electoral district |
|--------------------------------------------|-----------------|--------------------|
| Bateman, Thomas Henry                      | A.L.P.          | Canning            |
| Bertram, Hon. Ronald Edward, A.A.S.A.      | A.L.P.          | Mount Hawthorn     |
| Bickerton, Arthur William                  | A.L.P.          | Pilbara            |
| Blaikie, Barry Roy (a)                     | Lib.            | Vasse              |
| Brady, John Joseph                         | A.L.P.          | Swan               |
| Brand, Hon. Sir David, K.C.M.G.            | Lib.            | Greenough          |
| Brown, James McMillan (a)                  | A.L.P.          | Merredin-Yilgarn   |
| Burke, Terence Joseph                      | A.L.P.          | Perth              |
| Cook, Wyndham Truran                       | A.L.P.          | Albany             |
| Court, Hon. Charles Walter Michael, O.B.E. | Lib.            | Nedlands           |
| Coyne, Peter Joseph Aloysius (a)           | Lib.            | Murchison-Eyre     |
| Dadour, Dr Gabriel Thomas, M.B., B.S. (a)  | Lib.            | Subiaco            |
| Davies, Hon. Ronald                        | A.L.P.          | Victoria Park      |
| Evans, Hon. Hywel David, B.A.              | A.L.P.          | Warren             |
| Evans, Hon. Thomas Daniel                  | A.L.P.          | Kalgoorlie         |
| Fletcher, Harry Arthur                     | A.L.P.          | Fremantle          |
| Gayfer, Harry Walter                       | C.P.            | Avon               |
| Graham, Hon. Herbert Ernst                 | A.L.P.          | Balcatta           |
| Grayden, William Leonard                   | Lib.            | South Perth        |
| Harman, John Joseph                        | A.L.P.          | Maylands           |
| Hartrey, Thomas Augustine, B.A., LL.B. (a) | A.L.P.          | Boulder-Dundas     |
| Hutchinson, Hon. Ross, D.F.C.              | Lib.            | Cottesloe          |
| Jamieson, Hon. Colin John                  | A.L.P.          | Belmont            |
| Jones, Thomas Henry                        | A.L.P.          | Collie             |
| Lapham, Stanley Edward, A.A.S.A.           | A.L.P.          | Karrinyup          |
| Lewis, Hon. Edgar Henry Mead               | C.P.            | Moore              |
| Manning, Iven Wemyss                       | Lib.            | Wellington         |
| Manning, William Allan, A.A.S.A., A.C.I.S. | C.P.            | Narrogin           |
| May, Hon. Donald George                    | A.L.P.          | Clontarf           |
| McIver, Kenneth Finlay                     | A.L.P.          | Northam            |
| McPharlin, Walter Raymond                  | C.P.            | Mount Marshall     |
| Mensaros, Andrew                           | Lib.            | Floreat            |
| Moiler, James (a)                          | A.L.P.          | Toodyay            |
| Nalder, Hon. Crawford David                | C.P.            | Katanning          |
| Norton, Daniel                             | A.L.P.          | Gascoyne           |
| O'Connor, Hon. Raymond James               | Lib.            | Mount Lawley       |
| O'Neil, Hon. Desmond Henry                 | Lib.            | East Melville      |
| Reid, David Donald (a)                     | C.P.            | Blackwood          |
| Ridge, Keith Alan                          | Lib.            | Kimberley          |
| Runciman, Ewart                            | Lib.            | Murray             |
| Rushton, Edgar Cyril                       | Lib.            | Dale               |
| Sewell, William Hawkins                    | A.L.P.          | Geraldton          |
| Stephens, Matthew Ernest (a)               | C.P.            | Stirling           |
| Taylor, Hon. Alexander Donald, B.A.        | A.L.P.          | Cockburn           |
| Thompson, Ian David (a)                    | Lib.            | Darling Range      |
| Toms, John Mervin (b)                      | A.L.P.          | Ascot              |
| Tonkin, Arthur Raymond, B.A., Dip. Ed. (a) | A.L.P.          | Mirrabeeka         |
| Tonkin, Hon. John Trezise                  | A.L.P.          | Melville           |
| Williams, Maurice Clifford                 | Lib.            | Bunbury            |
| Young, Raymond Laurence, F.C.A. (a)        | Lib.            | Wembley            |
| Young, William Gordon                      | C.P.            | Roe                |

#### SUMMARY

|                                                                                  |    |
|----------------------------------------------------------------------------------|----|
| Australian Labor Party (A.L.P.)                                                  | 26 |
| Country Party (C.P.)                                                             | 8  |
| The Liberal Party of Australia (Western Australian Division) Incorporated (Lib.) | 17 |

(a) New member. (b) Deceased 8 October 1971. By-election held 13 November 1971, resulting in the election of Malcolm John Bryce, B.A. (A.L.P.).

There are fifty-one members of the Legislative Assembly, each member representing one of the fifty-one electoral districts into which the State is divided for the purpose. Members are elected for the duration of the Parliament, which is limited to three years.

A candidate for election must have resided in Western Australia for twelve months, be at least twenty-one years of age, be a natural-born or naturalised British subject, and be enrolled or qualified for enrolment, as an elector at Legislative Assembly elections. No person is qualified to be a Member of the Legislative Assembly if he is a member of the Legislative Council, a Judge of the Supreme Court, the Sheriff of Western Australia, a minister of religion, an undischarged bankrupt, a debtor against whose estate there is a subsisting order in bankruptcy, or has been attainted or convicted of treason or felony.

The qualifications and disqualifications applying to enrolment as an elector of the Legislative Assembly are the same as those prescribed for electors of the Legislative Council and enumerated in the preceding section *The Legislative Council*. As provided by the *Electoral Amendment Act, 1919* enrolment is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aborigines, although entitled to enrol, are not required to do so. Voting at elections is on the preferential system and is compulsory for all enrolled persons as provided by the *Electoral Act Amendment Act, 1936*.

## ELECTIONS, ELECTORS ON ROLL AND VOTES RECORDED

### The Federal Parliament

General elections for the House of Representatives were held on 25 October 1969. The Liberal-Country Party Government was returned to office with a majority of seven seats, instead of forty seats as in the previous Parliament.

Elections for the Senate took place on 21 November 1970. As a result, Government representation in the Senate from 1 July 1971 was reduced from twenty-seven to twenty-six.

### FEDERAL PARLIAMENT—ELECTORS ON ROLL AND VOTES RECORDED

| Electoral division                                           | Electors enrolled | Primary votes recorded     |                          |                        |                                   |                 |             |          | Number of voters |                               |
|--------------------------------------------------------------|-------------------|----------------------------|--------------------------|------------------------|-----------------------------------|-----------------|-------------|----------|------------------|-------------------------------|
|                                                              |                   | Liberal Party of Australia | Australian Country Party | Australian Labor Party | Australian Democratic Labor Party | Australia Party | Independent | Informal | Total            | Per cent of enrolled electors |
| HOUSE OF REPRESENTATIVES—GENERAL ELECTION OF 25 OCTOBER 1969 |                   |                            |                          |                        |                                   |                 |             |          |                  |                               |
| Canning .....                                                | 51,861            | 10,722                     | 14,445                   | 20,245                 | 2,617                             | (a)             | (a)         | 1,506    | 49,535           | 95.51                         |
| Curtin .....                                                 | 53,561            | 24,855                     | (a)                      | 17,275                 | 3,533                             | 1,151           | 3,047       | 1,177    | 51,038           | 95.29                         |
| Forrest .....                                                | 49,571            | 19,955                     | (a)                      | 22,149                 | 3,332                             | 1,106           | (a)         | 1,132    | 47,674           | 96.17                         |
| Fremantle .....                                              | 58,316            | 17,520                     | (a)                      | 34,336                 | 2,417                             | (a)             | (a)         | 1,206    | 55,479           | 95.14                         |
| Kalgoorlie .....                                             | 44,579            | 14,064                     | (a)                      | 23,138                 | 1,983                             | (a)             | (a)         | 744      | 39,929           | 89.57                         |
| Moore .....                                                  | 48,829            | 9,856                      | 13,968                   | 18,829                 | 2,390                             | (a)             | (a)         | 1,162    | 46,205           | 94.63                         |
| Perth .....                                                  | 58,727            | 20,373                     | (a)                      | 29,309                 | 2,159                             | (a)             | 1,308       | 1,866    | 55,015           | 93.68                         |
| Stirling .....                                               | 58,163            | 20,146                     | (a)                      | 28,468                 | 3,422                             | 1,540           | (a)         | 1,562    | 55,138           | 94.80                         |
| Swan .....                                                   | 60,521            | 22,982                     | (a)                      | 28,960                 | 2,608                             | 879             | (a)         | 1,344    | 56,773           | 93.81                         |
| Total, Western Australia                                     | 484,128           | 160,473                    | 28,413                   | 222,709                | 24,461                            | 4,676           | 4,355       | 11,699   | 456,786          | 94.35                         |

### SENATE—ELECTION OF 21 NOVEMBER 1970

|                          |         |         |        |         |        |       |        |        |         |       |
|--------------------------|---------|---------|--------|---------|--------|-------|--------|--------|---------|-------|
| Canning .....            | 56,597  | 9,090   | 12,044 | 19,216  | 2,425  |       | 6,348  | 4,056  | 53,179  | 93.96 |
| Curtin .....             | 52,970  | 17,744  | 4,620  | 14,102  | 2,567  |       | 7,662  | 3,047  | 49,742  | 93.91 |
| Forrest .....            | 50,292  | 12,232  | 7,030  | 19,153  | 2,685  |       | 3,814  | 3,205  | 48,119  | 95.68 |
| Fremanle .....           | 60,135  | 12,165  | 5,434  | 26,286  | 2,202  |       | 6,164  | 3,920  | 56,171  | 93.41 |
| Kalgoorlie .....         | 46,459  | 10,399  | 4,011  | 17,648  | 2,405  | (a)   | 2,611  | 3,533  | 40,607  | 87.40 |
| Moore .....              | 50,568  | 7,758   | 11,608 | 16,820  | 2,194  |       | 5,658  | 3,355  | 47,393  | 93.72 |
| Perth .....              | 58,016  | 13,325  | 4,540  | 22,264  | 3,114  |       | 5,340  | 5,299  | 53,882  | 92.87 |
| Stirling .....           | 61,704  | 14,658  | 4,915  | 24,126  | 3,032  |       | 6,757  | 4,152  | 57,640  | 93.41 |
| Swan .....               | 60,325  | 12,519  | 5,214  | 25,033  | 3,314  |       | 5,590  | 4,595  | 56,265  | 93.26 |
| Total, Western Australia | 497,066 | 109,890 | 59,416 | 184,648 | 23,938 | ..... | 49,944 | 35,162 | 462,998 | 93.15 |

(a) No candidate.

LEGISLATIVE COUNCIL AND LEGISLATIVE ASSEMBLY  
CONJOINT ELECTION OF 20 FEBRUARY 1971

LEGISLATIVE COUNCIL

| Electoral area (a)<br>and province        | Electors on roll |         |         | Electoral area (a)<br>and province | Electors on roll |         |         |
|-------------------------------------------|------------------|---------|---------|------------------------------------|------------------|---------|---------|
|                                           | Males            | Females | Persons |                                    | Males            | Females | Persons |
| Metropolitan Area—                        |                  |         |         | Agricultural, Mining and           |                  |         |         |
| Metropolitan ....                         | 30,365           | 35,579  | 65,944  | Pastoral Area ( <i>con-</i>        |                  |         |         |
| North Metropolitan ....                   | 38,529           | 41,354  | 79,883  | <i>tinued</i> )—                   |                  |         |         |
| North-East Metropolitan                   |                  |         |         | South-East ....                    | 10,922           | 9,572   | 20,494  |
| tan ....                                  | 37,610           | 39,209  | 76,819  | South-West ....                    | 9,989            | 9,426   | 19,415  |
| South Metropolitan ....                   | 30,897           | 31,664  | 62,561  | Upper West ....                    | 11,912           | 10,725  | 22,637  |
| South-East Metropolitan                   | 29,929           | 33,170  | 63,099  | West ....                          | 15,184           | 15,074  | 30,258  |
| Total ....                                | 167,330          | 180,976 | 348,306 | Total ....                         | 90,545           | 84,720  | 175,265 |
| Agricultural, Mining and                  |                  |         |         | North-West-Murchison-              |                  |         |         |
| Pastoral Area—                            |                  |         |         | Eyre Area—                         |                  |         |         |
| Central ....                              | 9,951            | 8,960   | 18,911  | Lower North ....                   | 2,857            | 2,268   | 5,125   |
| Lower Central ....                        | 9,580            | 8,972   | 18,552  | North ....                         | 4,717            | 3,709   | 8,426   |
| Lower West ....                           | 11,336           | 11,192  | 22,528  | Total ....                         | 7,574            | 5,977   | 13,551  |
| South ....                                | 11,671           | 10,799  | 22,470  | WHOLE STATE                        | 265,449          | 271,673 | 537,122 |
| Votes recorded—                           |                  |         |         |                                    |                  |         |         |
| Formal ....                               |                  |         |         |                                    |                  |         | 464,827 |
| Informal ....                             |                  |         |         |                                    |                  |         | 25,084  |
| Total ....                                |                  |         |         |                                    | (b)              | (b)     | 489,911 |
| Percentage of electors who voted (c) .... |                  |         |         |                                    |                  |         | 91.21   |
| Percentage of informal votes (d) ....     |                  |         |         |                                    |                  |         | 5.12    |

LEGISLATIVE ASSEMBLY

| Electoral area (a)<br>and district        | Electors on roll |         |         | Electoral area (a)<br>and district | Electors on roll |         |         |
|-------------------------------------------|------------------|---------|---------|------------------------------------|------------------|---------|---------|
|                                           | Males            | Females | Persons |                                    | Males            | Females | Persons |
| Metropolitan Area—                        |                  |         |         | Agricultural, Mining and           |                  |         |         |
| Ascot ....                                | 7,053            | 7,219   | 14,272  | Pastoral Area ( <i>con-</i>        |                  |         |         |
| Balcatta ....                             | 9,993            | 10,276  | 20,269  | <i>tinued</i> )—                   |                  |         |         |
| Belmont ....                              | 7,259            | 7,483   | 14,742  | Collie ....                        | 2,992            | 2,811   | 5,803   |
| Canning ....                              | 10,526           | 10,820  | 21,346  | Dale ....                          | 6,224            | 6,196   | 12,420  |
| Clontarf ....                             | 7,054            | 8,087   | 15,141  | Darling Range ....                 | 5,049            | 5,236   | 10,285  |
| Cockburn ....                             | 9,949            | 9,817   | 19,766  | Geraldton ....                     | 3,890            | 3,814   | 7,704   |
| Cottesloe ....                            | 6,438            | 7,590   | 14,028  | Greenough ....                     | 3,904            | 3,302   | 7,206   |
| East Melville ....                        | 7,929            | 8,543   | 16,472  | Kalgoorlie ....                    | 3,417            | 3,064   | 6,481   |
| Floreat ....                              | 6,569            | 7,115   | 13,684  | Katanning ....                     | 3,225            | 3,005   | 6,230   |
| Fremantle ....                            | 6,270            | 6,328   | 12,598  | Merredin-Yilgarn ....              | 4,036            | 3,407   | 7,443   |
| Karrinyup ....                            | 7,634            | 8,227   | 15,861  | Moore ....                         | 4,118            | 3,609   | 7,727   |
| Maylands ....                             | 6,196            | 6,920   | 13,116  | Mount Marshall ....                | 3,441            | 2,975   | 6,416   |
| Melville ....                             | 6,749            | 6,976   | 13,725  | Murray ....                        | 4,162            | 4,108   | 8,270   |
| Mirrabooka ....                           | 9,560            | 9,919   | 19,479  | Narrogin ....                      | 3,363            | 3,156   | 6,519   |
| Mount Hawthorn ....                       | 6,656            | 7,141   | 13,797  | Northam ....                       | 3,277            | 3,108   | 6,385   |
| Mount Lawley ....                         | 6,485            | 7,511   | 13,996  | Roe ....                           | 4,624            | 3,960   | 8,584   |
| Nedlands ....                             | 6,037            | 7,242   | 13,279  | Stirling ....                      | 3,823            | 3,467   | 7,290   |
| Perth ....                                | 5,599            | 5,974   | 11,573  | Toodyay ....                       | 3,911            | 3,642   | 7,553   |
| South Perth ....                          | 6,058            | 7,282   | 13,340  | Vasse ....                         | 3,304            | 3,357   | 6,661   |
| Subiaco ....                              | 5,722            | 7,658   | 13,380  | Warren ....                        | 3,529            | 3,144   | 6,673   |
| Swan ....                                 | 7,542            | 7,668   | 15,210  | Wellington ....                    | 3,504            | 3,331   | 6,835   |
| Victoria Park ....                        | 6,291            | 6,981   | 13,272  | Total ....                         | 90,545           | 84,720  | 175,265 |
| Wembley ....                              | 7,761            | 8,199   | 15,960  | North-West-Murchison-              |                  |         |         |
| Total ....                                | 167,330          | 180,976 | 348,306 | Eyre Area—                         |                  |         |         |
| Agricultural, Mining and                  |                  |         |         | Gascoyne ....                      | 1,775            | 1,510   | 3,285   |
| Pastoral Area—                            |                  |         |         | Kimberley ....                     | 1,774            | 1,374   | 3,148   |
| Albany ....                               | 3,224            | 3,372   | 6,596   | Murchison-Eyre ....                | 1,082            | 758     | 1,840   |
| Avon ....                                 | 3,233            | 2,877   | 6,110   | Pilbara ....                       | 2,943            | 2,335   | 5,278   |
| Blackwood ....                            | 3,156            | 2,925   | 6,081   | Total ....                         | 7,574            | 5,977   | 13,551  |
| Boulder-Dundas ....                       | 3,469            | 3,101   | 6,570   | WHOLE STATE                        | 265,449          | 271,673 | 537,122 |
| Bunbury ....                              | 3,670            | 3,753   | 7,423   |                                    |                  |         |         |
| Votes recorded—                           |                  |         |         |                                    |                  |         |         |
| Formal ....                               |                  |         |         |                                    |                  |         | 471,570 |
| Informal ....                             |                  |         |         |                                    |                  |         | 18,897  |
| Total ....                                |                  |         |         |                                    | (b)              | (b)     | 490,467 |
| Percentage of electors who voted (c) .... |                  |         |         |                                    |                  |         | 91.31   |
| Percentage of informal votes (d) ....     |                  |         |         |                                    |                  |         | 3.85    |

(a) As defined in the *Electoral Districts Act, 1947-1965*.

(b) Not available.

(c) Proportion of votes recorded to

electors on roll.

(d) Proportion of informal votes to total votes recorded.

### The State Parliament

At the conjoint election for the Legislative Council and the Legislative Assembly which was held on 20 February 1971, the Australian Labor Party, led by the Honourable J. T. Tonkin, was elected to office with a majority in the Legislative Assembly of one seat. The strength of the Australian Labor Party in the Legislative Council, where it was in a minority, remained unchanged with ten seats.

The table on page 103 shows the number of electors enrolled in each Province and in each District. The numbers of formal and informal votes recorded throughout the State at the election are also shown.

It will be seen from the table that the number of electors enrolled in each District in the Metropolitan Area was approximately twice the number in each District in the Agricultural, Mining and Pastoral Area. This is accounted for by a requirement of the *Electoral Districts Act, 1947-1965* that the Electoral Commissioners, in determining the quota of electors for each District, should reckon every two electors in the Metropolitan Area as one elector, at the same time giving full representation to each elector in the Agricultural, Mining and Pastoral Area. The number of Districts in the North-West-Murchison-Eyre Area was fixed by the Act at four.

## LEGISLATION DURING 1970

### The Federal Parliament

The legislative enactments of the Commonwealth Parliament in 1970 are listed in summarised form on pages 77-82 of the *Official Year Book of the Commonwealth of Australia*, No. 57-1971.

### The State Parliament

During the second period of the second session of the twenty-sixth Parliament, which lasted from 17 March to 14 May 1970, and the third session, which lasted from 6 August to 26 November 1970, the Western Australian legislature enacted 122 Public Statutes.

The titles and a brief summary of the Acts passed by the State Parliament during 1970 (*i.e.* those enacted during the periods specified in the previous paragraph) are given below. The full text of the legislation enacted is contained in the volumes of *The Acts of the Parliament of Western Australia*, to which reference should be made if further details are required.

### ACTS PASSED DURING 1970

| No. of Act | Short title and summary                                                                                                                                                                              |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 104        | Abattoirs Act Amendment Act. Amends the <i>Abattoirs Act, 1909-1964</i> .                                                                                                                            |
| 21         | Acts Amendment (Commissioner of State Taxation) Act. Amends a number of State Acts to make provision for the Commissioner of State Taxation to exercise certain powers under the Statutes specified. |
| 108        | Acts Amendment (Superannuation and Pensions) Act. Amends the <i>Superannuation and Family Benefits Act, 1938-1970</i> and the <i>Superannuation Act, 1871-1969</i> .                                 |
| 107        | Administration Act Amendment Act. Amends the <i>Administration Act, 1903-1970</i> .                                                                                                                  |
| 45         | Aerial Spraying Control Act Amendment Act. Amends the <i>Aerial Spraying Control Act, 1966-1968</i> .                                                                                                |
| 97         | Agriculture Protection Board Act Amendment Act. Amends the <i>Agriculture Protection Board Act, 1950-1964</i> .                                                                                      |
| 109        | Alumina Refinery (Bunbury) Agreement Act. Ratifies an agreement between the State and Alwest Pty. Limited for the establishment of a refinery at or near Bunbury to produce alumina.                 |
| 2          | Anzac Day Act Amendment Act. Amends the <i>Anzac Day Act, 1960-1964</i> .                                                                                                                            |
| 122        | Appropriation Act (Consolidated Revenue Fund).                                                                                                                                                       |
| 89         | Appropriation Act (General Loan Fund).                                                                                                                                                               |
| 62         | Auctioneers Act Amendment Act. Amends the <i>Auctioneers Act, 1921-1948</i> .                                                                                                                        |



## ACTS PASSED DURING 1970—continued

| No. of Act | Short title and summary                                                                                                                                                                                                                                                                                                                                    |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 44         | Australia and New Zealand Banking Group Act. Provides for the transfer to Australia and New Zealand Banking Group Limited of the undertakings of Australia and New Zealand Bank Limited and The English, Scottish and Australian Bank, Limited. Vests the undertaking of E.S. & A. Savings Bank Limited in Australia and New Zealand Savings Bank Limited. |
| 13         | Bank Holidays Act. Consolidates the law relating to bank holidays in Western Australia.                                                                                                                                                                                                                                                                    |
| 66         | Betting Control Act Amendment Act. Amends the <i>Betting Control Act, 1954-1970</i> .                                                                                                                                                                                                                                                                      |
| 75         | Betting Control Act Amendment Act (No. 2). Amends the <i>Betting Control Act, 1954-1970</i> . Repeals section 16A of the principal Act.                                                                                                                                                                                                                    |
| 72         | Betting Investment Tax Act Repeal Act. Repeals the <i>Betting Investment Tax Act, 1959-1966</i> .                                                                                                                                                                                                                                                          |
| 74         | Bookmakers Betting Tax Act Amendment Act. Amends the <i>Bookmakers Betting Tax Act, 1954-1959</i> .                                                                                                                                                                                                                                                        |
| 58         | Builders' Registration Act Amendment Act. Amends the <i>Builders' Registration Act, 1939-1968</i> .                                                                                                                                                                                                                                                        |
| 15         | Building Societies Act Amendment Act. Amends the <i>Building Societies Act, 1920-1962</i> .                                                                                                                                                                                                                                                                |
| 25         | Bunbury Harbour (East Perth-Bunbury) Railway Act. Authorises the construction of a spur railway from the East Perth-Bunbury Railway to the foreshore of the Bunbury Harbour and the construction of a further railway connecting that spur to the Bunbury station yard.                                                                                    |
| 67         | Bush Fires Act Amendment Act. Amends the <i>Bush Fires Act, 1954-1969</i> .                                                                                                                                                                                                                                                                                |
| 39         | Child Welfare Act Amendment Act. Amends the <i>Child Welfare Act, 1947-1969</i> .                                                                                                                                                                                                                                                                          |
| 103        | City of Perth Endowment Lands Act Amendment Act (No. 2). Amends section 39 of the <i>City of Perth Endowment Lands Act, 1920-1936</i> .                                                                                                                                                                                                                    |
| 73         | City of Perth Parking Facilities Act Amendment Act. Amends the <i>City of Perth Parking Facilities Act, 1956-1969</i> .                                                                                                                                                                                                                                    |
| 52         | Civil Aviation (Carriers' Liability) Act Amendment Act. Amends the <i>Civil Aviation (Carriers' Liability) Act, 1961</i> .                                                                                                                                                                                                                                 |
| 5          | Coal Mine Workers (Pensions) Act Amendment Act. Amends section 10A of the <i>Coal Mine Workers (Pensions) Act, 1943-1969</i> .                                                                                                                                                                                                                             |
| 38         | Coal Mine Workers (Pensions) Act Amendment Act (No. 2). Amends the <i>Coal Mine Workers (Pensions) Act, 1943-1970</i> .                                                                                                                                                                                                                                    |
| 88         | Commonwealth Places (Administration of Laws) Act. Empowers the Governor of Western Australia to make an arrangement with the Governor-General of the Commonwealth relating to the administration of laws of the Commonwealth and of the State of Western Australia in Commonwealth places.                                                                 |
| 29         | Companies Act Amendment Act. Amends section 5 of the <i>Companies Act, 1961-1969</i> .                                                                                                                                                                                                                                                                     |
| 69         | Criminal Injuries (Compensation) Act. Provides for the payment in certain circumstances of compensation to persons who suffer injury by reason of the commission of offences.                                                                                                                                                                              |
| 115        | Death Duties (Taxing) Act Amendment Act. Amends the <i>Death Duties (Taxing) Act, 1934-1966</i> .                                                                                                                                                                                                                                                          |
| 98         | Dentists Act Amendment Act. Amends section 50 of the <i>Dentists Act, 1939-1967</i> .                                                                                                                                                                                                                                                                      |
| 121        | Disposal of Uncollected Goods Act. Authorises the disposal in specified circumstances of certain uncollected goods.                                                                                                                                                                                                                                        |
| 14         | District Court of Western Australia Act Amendment Act. Amends the <i>District Court of Western Australia Act, 1969</i> .                                                                                                                                                                                                                                   |
| 100        | District Court of Western Australia Act Amendment Act (No. 2). Amends the <i>District Court of Western Australia Act, 1969-1970</i> .                                                                                                                                                                                                                      |
| 32         | Eastern Goldfields Transport Board Act Amendment Act. Amends section 22 of the <i>Eastern Goldfields Transport Board Act, 1946-1966</i> .                                                                                                                                                                                                                  |
| 55         | Eastern Goldfields Transport Board Act Amendment Act (No. 2). Amends the <i>Eastern Goldfields Transport Board Act, 1946-1970</i> .                                                                                                                                                                                                                        |
| 4          | Education Act Amendment Act. Repeals section 7A and amends section 37AE of the <i>Education Act, 1928-1969</i> .                                                                                                                                                                                                                                           |
| 77         | Education Act Amendment Act (No. 2). Amends the <i>Education Act, 1928-1970</i> .                                                                                                                                                                                                                                                                          |
| 28         | Electoral Act Amendment Act. Amends the <i>Electoral Act, 1907-1967</i> .                                                                                                                                                                                                                                                                                  |
| 94         | Electoral Act Amendment Act (No. 2). Amends the <i>Electoral Act, 1907-1970</i> .                                                                                                                                                                                                                                                                          |
| 50         | Factories and Shops Act Amendment Act (No. 2). Amends the <i>Factories and Shops Act, 1963-1965</i> .                                                                                                                                                                                                                                                      |
| 53         | Fauna Conservation Act Amendment Act. Amends the <i>Fauna Conservation Act, 1950-1969</i> .                                                                                                                                                                                                                                                                |
| 61         | Government Railways Act Amendment Act. Amends the <i>Government Railways Act, 1904-1967</i> .                                                                                                                                                                                                                                                              |
| 24         | Health Act Amendment Act. Amends the <i>Health Act, 1911-1968</i> .                                                                                                                                                                                                                                                                                        |
| 47         | Honey Pool Act Amendment Act. Amends the <i>Honey Pool Act, 1955-1957</i> .                                                                                                                                                                                                                                                                                |
| 6          | Interpretation Act Amendment Act. Adds section 22A to the <i>Interpretation Act, 1918-1962</i> .                                                                                                                                                                                                                                                           |
| 79         | Interpretation Act Amendment Act (No. 2). Adds section 4A to the <i>Interpretation Act, 1918-1970</i> .                                                                                                                                                                                                                                                    |

## ACTS PASSED DURING 1970—continued

| No. of Act | Short title and summary                                                                                                                                                                                                                                                                                                                                        |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 35         | Iron Ore (Cleveland-Cliffs) Agreement Act Amendment Act. Amends the <i>Iron Ore (Cleveland-Cliffs) Agreement Act, 1964</i> and repeals the <i>Iron Ore (Cleveland-Cliffs) Agreement Act Amendment Act, 1969</i> .                                                                                                                                              |
| 99         | Judges' Salaries and Pensions Act Amendment Act. Amends the <i>Judges' Salaries and Pensions Act, 1950-1969</i> .                                                                                                                                                                                                                                              |
| 17         | Kewdale Lands Development Act Amendment Act. Amends the <i>Kewdale Lands Development Act, 1966-1968</i> and changes the title of the principal Act to the <i>Industrial Lands Development Authority Act, 1966-1970</i> .                                                                                                                                       |
| 101        | Land Tax Assessment Act Amendment Act. Amends the <i>Land Tax Assessment Act, 1907-1970</i> .                                                                                                                                                                                                                                                                  |
| 92         | Legal Practitioners Act Amendment Act. Amends the <i>Legal Practitioners Act, 1893-1969</i> .                                                                                                                                                                                                                                                                  |
| 34         | Liquor Act. Revises, consolidates and amends the law relating to the sale, supply and consumption of liquor and the services to be rendered in conjunction with the sale and supply of liquor.                                                                                                                                                                 |
| 112        | Liquor Act Amendment Act. Amends the <i>Liquor Act, 1970</i> .                                                                                                                                                                                                                                                                                                 |
| 90         | Loan Act. Authorises the raising of a sum of \$56,200,000 by loan for the construction of certain public works and for other purposes.                                                                                                                                                                                                                         |
| 8          | Local Courts Act Amendment Act. Amends sections 47B and 107 of the <i>Local Courts Act, 1904-1964</i> .                                                                                                                                                                                                                                                        |
| 16         | Local Government Act Amendment Act. Amends the <i>Local Government Act, 1960-1969</i> .                                                                                                                                                                                                                                                                        |
| 49         | Local Government Act Amendment Act (No. 2). Amends section 512 of the <i>Local Government Act, 1960-1970</i> .                                                                                                                                                                                                                                                 |
| 80         | Local Government Act Amendment Act (No. 5). Amends various sections of the <i>Local Government Act, 1960-1970</i> .                                                                                                                                                                                                                                            |
| 120        | Local Government Act Amendment Act (No. 6). Amends sections 231, 531A and 533 of the <i>Local Government Act, 1960-1970</i> .                                                                                                                                                                                                                                  |
| 46         | Lotteries (Control) Act Amendment Act. Amends sections 9 and 10 of the <i>Lotteries (Control) Act, 1954-1967</i> .                                                                                                                                                                                                                                             |
| 86         | Marketable Securities Transfer Act. Repeals the <i>Marketable Securities Transfer Act, 1966-1967</i> . Makes provision with respect to instruments of transfer of certain marketable securities.                                                                                                                                                               |
| 114        | Marketing of Eggs Act Amendment Act. Amends the <i>Marketing of Eggs Act, 1945-1969</i> .                                                                                                                                                                                                                                                                      |
| 7          | Metropolitan Region Town Planning Scheme Act Amendment Act. Amends section 37A of the <i>Metropolitan Region Town Planning Scheme Act, 1959-1969</i> .                                                                                                                                                                                                         |
| 11         | Metropolitan Water Supply, Sewerage, and Drainage Act Amendment Act. Amends the <i>Metropolitan Water Supply, Sewerage, and Drainage Act, 1909-1969</i> .                                                                                                                                                                                                      |
| 48         | Metropolitan Water Supply, Sewerage, and Drainage Act Amendment Act (No. 2). Amends sections 69A and 146 of the <i>Metropolitan Water Supply, Sewerage, and Drainage Act, 1909-1970</i> .                                                                                                                                                                      |
| 27         | Milk Act Amendment Act. Amends sections 26 and 30 of the <i>Milk Act, 1946-1965</i> .                                                                                                                                                                                                                                                                          |
| 33         | Mining Act Amendment Act. Amends the <i>Mining Act, 1904-1969</i> .                                                                                                                                                                                                                                                                                            |
| 111        | Money Lenders Act Amendment Act. Amends section 2 of the <i>Money Lenders Act, 1912-1962</i> .                                                                                                                                                                                                                                                                 |
| 19         | Motor Vehicle (Third Party Insurance) Act Amendment Act. Amends sections 3 and 16 of the <i>Motor Vehicle (Third Party Insurance) Act, 1943-1969</i> .                                                                                                                                                                                                         |
| 71         | Murdoch University Planning Board Act. Establishes the Murdoch University Planning Board.                                                                                                                                                                                                                                                                      |
| 70         | National Trust of Australia (W.A.) Act Amendment Act. Amends the <i>National Trust of Australia (W.A.) Act, 1964</i> .                                                                                                                                                                                                                                         |
| 76         | Nickel Refinery (Western Mining Corporation Limited) Agreement Act Amendment Act. Amends the <i>Nickel Refinery (Western Mining Corporation Limited) Agreement Act, 1968</i> by approving a supplemental agreement between the State and Western Mining Corporation Limited.                                                                                   |
| 96         | Noxious Weeds Act Amendment Act. Amends section 48A of the <i>Noxious Weeds Act, 1950-1970</i> .                                                                                                                                                                                                                                                               |
| 9          | Nurses Act Amendment Act. Amends sections 15 and 17 of the <i>Nurses Act, 1968</i> .                                                                                                                                                                                                                                                                           |
| 40         | Offenders Probation and Parole Act Amendment Act. Amends section 5 of the <i>Offenders Probation and Parole Act, 1963-1969</i> .                                                                                                                                                                                                                               |
| 59         | Painters' Registration Act Amendment Act. Amends the <i>Painters' Registration Act, 1961-1966</i> .                                                                                                                                                                                                                                                            |
| 36         | Parliamentary Superannuation Act. Repeals the <i>Parliamentary Superannuation Act, 1948-1968</i> . Provides for the payment of superannuation pensions and other benefits to persons who have served as members of Parliament and to their dependants, and for the making of contributions by members of Parliament in respect of these pensions and benefits. |
| 23         | Perth Mint Act. Repeals the <i>Perth Mint Act, 1895-1919</i> . Constitutes a body corporate to control, maintain, and carry on the Perth Branch of the Royal Mint for and on behalf of the State.                                                                                                                                                              |

## ACTS PASSED DURING 1970—continued

| No. of Act | Short title and summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 42         | Petroleum Pipelines Act Amendment Act. Amends section 12 of the <i>Petroleum Pipelines Act, 1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 54         | Petroleum (Submerged Lands) Act Amendment Act. Amends the <i>Petroleum (Submerged Lands) Act, 1967</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 93         | Physical Environment Protection Act. Provides for the establishment of a Department of Environmental Protection and a Physical Environment Council for the prevention and reduction of environmental pollution and the protection of the physical environment.                                                                                                                                                                                                                                                                                                  |
| 87         | Poisons Act Amendment Act. Amends sections 43A and 44 of the <i>Poisons Act, 1964–1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1          | Police Act Amendment Act. Amends the <i>Police Act, 1892–1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 85         | Police Act Amendment Act (No. 2). Amends the <i>Police Act, 1892–1970</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 30         | Port Hedland Port Authority Act. Establishes the Port Hedland Port Authority and provides for the control and management of the port of Port Hedland.                                                                                                                                                                                                                                                                                                                                                                                                           |
| 91         | Presbyterian Church of Australia Act. Enables arrangements entered into by and on behalf of the Presbyterian Churches of New South Wales, Queensland, South Australia, Tasmania, Victoria and Western Australia for better defining the Constitution of the Presbyterian Church of Australia and enables changes thereto to be carried into effect. Varies the existing provisions with regard to the property held by, or on behalf of, or in connection with, the Presbyterian Church in Western Australia. Amends the <i>Presbyterian Church Act, 1908</i> . |
| 51         | Prevention of Cruelty to Animals Act Amendment Act. Amends the <i>Prevention of Cruelty to Animals Act, 1920–1958</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3          | Public Education Endowment Act Amendment Act. Amends the <i>Public Education Endowment Act, 1909</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 81         | Public Service Act Amendment Act. Amends the <i>Public Service Act, 1904–1967</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 82         | Public Service Arbitration Act Amendment Act. Amends the <i>Public Service Arbitration Act, 1966</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 56         | Railways Discontinuance and Land Revestment Act. Authorises the discontinuance of certain railways and reverts in Her Majesty the railway land specified.                                                                                                                                                                                                                                                                                                                                                                                                       |
| 105        | Reserves Act. Varies the provisions relating to certain reserves and other land.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 64         | Road and Air Transport Commission Act Amendment Act. Amends the <i>Road and Air Transport Commission Act, 1966–1968</i> and changes the title of the principal Act to the <i>Transport Commission Act, 1966–1970</i> .                                                                                                                                                                                                                                                                                                                                          |
| 106        | Road Maintenance (Contribution) Act Amendment Act. Amends section 6 of the <i>Road Maintenance (Contribution) Act, 1965</i> to exempt from the provisions of that Act any commercial goods vehicle while being used for or in relation to the carriage of livestock.                                                                                                                                                                                                                                                                                            |
| 41         | Roman Catholic Vicariate of the Kimberleys Property Act Amendment Act. Amends the <i>Roman Catholic Vicariate of the Kimberleys Property Act, 1957</i> and amends the title of the principal Act to the <i>Roman Catholic Bishop of Broome Property Act, 1957–1970</i> .                                                                                                                                                                                                                                                                                        |
| 119        | Sale of Land Act. Consolidates and amends the law relating to the sale of land. Repeals specified Acts.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 118        | Securities Industry Act. Provides for the regulation and control of stock exchanges, stock brokers and other persons dealing in securities.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 102        | Stamp Act Amendment Act. Amends the <i>Stamp Act, 1921–1970</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 10         | Statute Law Revision Act. Repeals spent, unnecessary or superseded enactments, gives short titles to certain Acts of Parliament and amends the short titles of other Acts.                                                                                                                                                                                                                                                                                                                                                                                      |
| 116        | Stock (Brands and Movement) Act. Repeals the <i>Brands Act, 1904–1969</i> and the <i>Droving Act, 1902–1954</i> . Provides for the registration and use of brands and earmarks for stock and regulates the movement of stock.                                                                                                                                                                                                                                                                                                                                   |
| 31         | Strata Titles Act Amendment Act. Amends section 5 of the <i>Strata Titles Act, 1966–1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 22         | Superannuation and Family Benefits Act Amendment Act. Amends section 46C of the <i>Superannuation and Family Benefits Act, 1938–1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 37         | Supply Act. Grants supply of \$180 million for the year 1970–71.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 20         | Taxation (Staff Arrangements) Act Amendment Act. Amends the <i>Taxation (Staff Arrangements) Act, 1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 26         | Taxi-cars (Co-ordination and Control) Act Amendment Act. Amends the <i>Taxi-cars (Co-ordination and Control) Act, 1963–1968</i> .                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 65         | Totalisator Agency Board Betting Act Amendment Act. Amends the <i>Totalisator Agency Board Betting Act, 1960–1970</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 78         | Totalisator Agency Board Betting Tax Act Amendment Act. Amends section 2 of the <i>Totalisator Agency Board Betting Tax Act, 1960–1966</i> .                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 68         | Tourist Act Amendment Act. Amends section 10A of the <i>Tourist Act, 1959–1965</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 117        | Town Planning and Development Act Amendment Act. Amends the <i>Town Planning and Development Act, 1928–1969</i> to provide, in specified cases, for alternative appeals to the Minister or to a Town Planning Court.                                                                                                                                                                                                                                                                                                                                            |
| 60         | Traffic Act Amendment Act. Amends the <i>Traffic Act, 1919–1969</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## ACTS PASSED DURING 1970—continued

| No. of Act | Short title and summary                                                                                                                                    |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 83         | Traffic Act Amendment Act (No. 2). Amends sections 32C and 32D of the <i>Traffic Act, 1919-1970</i> .                                                      |
| 113        | University of Western Australia Act Amendment Act. Amends the <i>University of Western Australia Act, 1911-1969</i> .                                      |
| 95         | Vermin Act Amendment Act. Amends section 103 of the <i>Vermin Act, 1918-1970</i> .                                                                         |
| 110        | West Kalgoorlie-Lake Lefroy Railway Act. Authorises the construction of a railway between West Kalgoorlie and Lake Lefroy.                                 |
| 57         | Western Australian Institute of Technology Act Amendment Act. Amends the <i>Western Australian Institute of Technology Act, 1966-1969</i> .                |
| 63         | Western Australian Marine Act Amendment Act. Amends division 6 of Part V of the <i>Western Australian Marine Act, 1948-1968</i> .                          |
| 84         | Western Australian Tertiary Education Commission Act. Establishes the Western Australian Tertiary Education Commission.                                    |
| 12         | Wills Act. Consolidates and amends the law relating to wills. Repeals specified Acts and terminates the application in the State of certain Imperial Acts. |
| 18         | Workers' Compensation Act Amendment Act. Amends the <i>Workers' Compensation Act, 1912-1967</i> .                                                          |
| 43         | Workers' Compensation Act Amendment Act (No. 2). Amends the <i>Workers' Compensation Act, 1912-1970</i> .                                                  |

## GOVERNMENT ADMINISTRATION

The Public Service of Western Australia operates under the *Public Service Act, 1904-1970* and consists of a number of branches of the Service established as Departments in accordance with regulations made under the Act. The departments are Agriculture, Audit, Chief Secretary's, Child Welfare, Crown Law, Development and Decentralisation, Education, Electoral, Environmental Protection, Fisheries and Fauna, Forests, Labour, Lands and Surveys, Local Government, Medical and Health Services, Mental Health Services, Metropolitan Water Supply, Sewerage, and Drainage Board, Mines, Native Welfare, Police, Premier's, Public Health, Public Service Board, Public Works, State Government Insurance Office, State Housing Commission, State Taxation, Town Planning, Treasury and the Workers' Compensation Board.

A number of other State Departments and Statutory Authorities, referred to as Instrumentalities, function under separate Acts although they very largely follow the conditions prescribed in the Public Service Act.

Establishment, abolition or re-organisation of departments are subject to the approval of the Governor.

## Departments

A brief summary of the functions of each of the departments established at 31 December 1971 is given below.

## DEPARTMENT OF AGRICULTURE

Minister: Minister for Agriculture

Permanent Head: Director of Agriculture

This Department is the branch of the State Government Service responsible for bringing scientific advice to farmers and pastoralists, for carrying out research and investigations into a wide range of technical problems, providing certain services, often at less than cost, and for administering certain Acts of Parliament dealing with agriculture.

The various divisions are:

Administrative; Animal; Biological Services; Dairy; Horticulture; North-West; Plant Research; Soils; and Wheat and Sheep.

## AUDIT DEPARTMENT

Minister: The Premier

Permanent Head: Auditor General

The Audit Department provides the machinery to assist the Auditor General in performing his statutory obligations to Parliament.

Basically, the Auditor General's obligations are to report directly and indirectly to Parliament according to its specific instructions, as he is responsible only to Parliament. To enable the Auditor General to report to Parliament, the staff of the Audit Department assist by examining the financial transactions and affairs of Departments and Authorities and reports to the Auditor General.

## CHIEF SECRETARY'S DEPARTMENT

Minister: Chief Secretary

Permanent Head: Secretary

The Chief Secretary's Department performs many diverse activities connected with the government of the State. Originally it performed almost all the functions of government, but over the years other departments have been created to undertake specific functions and the Chief Secretary's Department has been left with the remainder.

The various branches are:

Registrar General's Office; Corrections; and Astronomical Services.

## CHILD WELFARE DEPARTMENT

Minister: Minister for Community Welfare

Permanent Head: Director of Child Welfare

The Child Welfare Department is responsible for the care of State wards and children placed under supervision or released on probation by Children's Courts. It supervises institutions caring for children, arranges legal adoptions and the licensing of children employed in street trading and in public entertainment. It also decides which institution or what form of treatment is appropriate to the needs of a child committed by a Children's Court to the care of the Department for treatment, discipline and training.

The Department has a Welfare Division and a Field Division.

## CROWN LAW DEPARTMENT

Minister: Attorney General

Permanent Head: Under Secretary

The Crown Law Department conducts the legal business of the Crown and in this capacity acts for, and advises, all other Departments and State Government Instrumentalities whenever called upon.

Other functions of the Crown Law Department are carried out by the following bodies:

Supreme Court of Western Australia; Companies Registration Office; Court Offices; Public Trust Office; and Office of Titles.

## DEPARTMENT OF DEVELOPMENT AND DECENTRALISATION

Minister: Minister for Development and Decentralisation

Permanent Head: Co-ordinator of Development and Decentralisation

The functions of this Department are to assist the expansion of existing industry, foster the establishment of new industries, encourage exports, organise exhibitions and publicise Western Australian trade and industry. The Department is continuously

engaged in feasibility studies relating to import replacement. It also undertakes market research and conducts investigations into the commercial possibilities of using indigenous raw materials for industrial purposes.

In carrying out these functions the Department establishes and maintains a close liaison with industry and with Government Departments responsible for the provision of services, information and finance.

The Department, in certain circumstances, may recommend that financial assistance, by way of direct loan or guarantee of a loan, be granted under the *Industry (Advances) Act, 1947-1961* to industries which are unable to obtain sufficient capital from normal sources to commence or expand operations.

#### EDUCATION DEPARTMENT

Minister: Minister for Education

Permanent Head: Director-General of Education

The Education Department is responsible for the organisation and management of the State Government's education programme. It ensures that all children between the ages of six and fifteen years receive efficient and regular instruction in general educational subjects, and provides higher education for children over fifteen years of age.

In addition to providing the teachers for all State schools, the Education Department is responsible for the general administration, including the provision and maintenance of school buildings, furniture and equipment, the payment of teachers' salaries, housing of teachers, transport of children to schools in country areas, awarding scholarships and teaching bursaries, and other general administrative functions.

The divisions of the Department are:

Primary Education; Secondary Education; Technical Education; Teacher Education; and Special Services.

A short history of this Department appears on pages 117-21.

#### ELECTORAL DEPARTMENT

Minister: Attorney General

Permanent Head: Chief Electoral Officer

In general, the functions of the Electoral Department are to prepare, compile and print Legislative Council and Legislative Assembly rolls, and to conduct all State Parliamentary elections and other elections as required. It ballots for and compiles draft jury rolls and carries out all the requirements of the *Electoral Act, 1907-1970* and other legislation applicable to elections.

#### DEPARTMENT OF ENVIRONMENTAL PROTECTION

Minister: Minister for Environmental Protection

Permanent Head: Director of Environmental Protection

The function of this Department is primarily to provide a centre where the conflicting views of various interests can be aired and researched, in order to obtain the most suitable solution for the welfare of the community, bearing in mind that effective use of all the State's resources is necessary for a real increase in the quality of life. The Department is involved in setting standards on the various matters concerned with environmental protection but the actual implementation is left to appropriate existing departments which are equipped to carry out the particular function.

## DEPARTMENT OF FISHERIES AND FAUNA

Minister: Minister for Fisheries and Fauna

Permanent Head: Director of Fisheries and Fauna

The Department of Fisheries and Fauna is responsible for the administration of five State Acts, comprising the Fisheries Act, Fauna Conservation Act, Pearling Act, Oyster Fisheries Act and the Whaling Act.

In addition it administers, by delegation, three Federal Acts relating to Australian waters adjacent to Western Australia, and advises the State Government on the development, regulation, conservation and management of fisheries and wildlife resources.

## FORESTS DEPARTMENT

Minister: Minister for Forests

Permanent Head: Conservator of Forests

The Forests Department maintains a staff to systematically control the timber industry in such varying activities as clearing, grazing, and firewood cutting. It advises on tree planting, encourages natural regeneration, and manipulates cutting to implement the sustained yield objective. Intensive precautions are taken by the Department to minimise the danger of damage by fire due to the hot, dry summers experienced in most of the areas covered by State Forests.

## DEPARTMENT OF LABOUR

Minister: Minister for Labour

Permanent Head: Secretary for Labour

The Department of Labour advises the Government on all matters affecting the employment of wages employees, including industrial safety, health and welfare, the control and regulation of the industrial aspects of various trades, industrial relations, including the prevention and settlement of industrial disputes, and training within industry. It administers a number of Statutes such as the Factories and Shops Act, Government Employees (P.A.B.) Act, Industrial Arbitration Act, Inspection of Scaffolding Act, Long Service Leave Act, and the Weights and Measures Act.

The various branches of the Department are:

Weights and Measures; Factories and Shops; Inspection of Scaffolding; The Western Australian Industrial Commission; and Apprenticeship Advisory Council.

## DEPARTMENT OF LANDS AND SURVEYS

Minister: Minister for Lands

Permanent Head: Under Secretary

The Department of Lands and Surveys is responsible for the leasing and alienation of Crown land, except where mining and forestry tenures are involved. In certain instances, advisory or partly executive boards have been created to assist in administration. Large-scale as well as detailed soil survey measures have been developed. Soil and pastoral mapping of Crown lands in Western Australia has always been carried out under the direction of the Surveyor General as a function of the Department. It is responsible for the provision of reserves of Crown land for recreational and other purposes and also for the control and maintenance of the Bush Fires Board and National Parks Board.

The various branches of the Department are:

Surveyor General's Division; Mapping Branch; Bush Fires Board; National Parks Board; and the State Immigration Department.



## LOCAL GOVERNMENT DEPARTMENT

Minister: Minister for Local Government

Permanent Head: Secretary for Local Government

The Local Government Department supervises the administration of some 140 municipalities which, at 31 December 1971, comprised 7 Cities, 12 Towns and 121 Shires. The principal legislation is the *Local Government Act, 1960-1971* and there are a number of minor Acts also administered by the Department.

The main functions are to advise municipalities on all matters under the various Acts, to audit the accounts of 126 municipal councils, to review legislation and initiate amendments, and to process various appeals under the Local Government Act.

## MEDICAL AND HEALTH SERVICES

Minister: Minister for Health

Permanent Head: Director of Administration

The Medical and Health Services' responsibility is to provide an efficient public hospital service throughout the State. This includes direct administration of all departmental hospitals, and supervision of Board hospitals controlled by boards of management appointed under the provisions of the *Hospitals Act, 1927-1969*.

## MENTAL HEALTH SERVICES

Minister: Minister for Health

Permanent Head: Director of Mental Health Services

The Mental Health Services administer and control hospitals for the treatment of mental illness, reception homes, out-patient and child guidance clinics, day hospitals, training centres, geriatric centres, hostels and sheltered workshop units.

The principal institution of the Mental Health Services is the Claremont Hospital.

## METROPOLITAN WATER SUPPLY, SEWERAGE, AND DRAINAGE BOARD

Minister: Minister for Works, and Water Supplies

Permanent Head: General Manager

The principal water supply and sewerage systems of Western Australia are under the control of two State authorities—the Metropolitan Water Supply, Sewerage, and Drainage Board and the Public Works Department.

The functions of the Board are the construction, operation, maintenance and control of water, sewerage and main drainage facilities in the Metropolitan Water, Sewerage, and Drainage Area.

## DEPARTMENT OF MINES

Minister: Minister for Mines

Permanent Head: Under Secretary

The Department of Mines administers one of the most important and perhaps more colourful of the State's industries. It is responsible for the administration of legislation relating to petroleum exploration and production, mining, quarrying, groundwater resources, explosives, liquefied gases and inflammable liquids. It geologically surveys, maps and assesses the State's mineral resources, and undertakes chemical work for Government Departments and the general public.

The various branches are:

Outstations; Explosives; State Mining Engineers, Inspection of Mines and Machinery; Chief Coal Mining Engineer; State Batteries; Government Chemical Laboratories; Geological Survey; and Surveys and Mapping.

## DEPARTMENT OF NATIVE WELFARE

Minister: Minister for Community Welfare

Permanent Head: Commissioner of Native Welfare

The Department of Native Welfare is basically a social welfare agency on behalf of Aboriginal people. In discharging its responsibilities in this respect it must, of necessity, attend to a wide range of activities such as promoting social and economic advancement of Aborigines in Western Australia including assistance with housing, health services, employment and education.

## POLICE DEPARTMENT

Minister: Minister for Police

Permanent Head: Commissioner of Police

The Police Department is responsible for the maintenance of law and order, the protection of life and property, and prevention and detection of crime throughout the State. It exercises its jurisdiction over such important Acts as the Police Act, Traffic Act, Criminal Code, Licensing Act, Illicit Sale of Liquor Act, Firearms and Guns Act and Cruelty to Animals Act.

The various branches are:

Criminal Investigation; Traffic; District Offices; Liquor Inspection and Plainclothes; Firearms; Motor Transport; and Lecturing.

## PREMIER'S DEPARTMENT

Minister: The Premier

Permanent Head: Under Secretary

The Department is responsible for the co-ordination of State Government activities and for the direction and control of Civil Defence and Emergency Services. It embraces within its organisation the office of the Governor and the Executive Council, and acts as a channel of communication with other governments and the office of the Agent General in London. The functions performed by the Department extend over the whole area of the State and are administrative, regulatory, planning, developmental, and educational in character.

The various branches are:

London Agency; North-West; and Tourist Development Authority.

## PUBLIC HEALTH DEPARTMENT

Minister: Minister for Health

Permanent Head: Commissioner of Public Health

The Public Health Department co-operates with Commonwealth and local authorities in maintaining health services and in the prevention and control of infectious diseases. It is responsible for the enforcement of sanitation, building and pure foods standards; the control of nuisances and offensive trades; the regulation of the sale of pesticides; the manufacture of therapeutic substances; the registration of private hospitals; and the licensing of maternity homes in Western Australia.

The Department is responsible for the administration of the Health Act, the Anatomy Act, the Clean Air Act, the Cremation Act, the Poisons Act and the Radio-active Substances Act.

To maintain the general health of children in Western Australia there are Child Health Services and School Medical and Dental Services.

The Department has a Tuberculosis Branch and operates the Public Health Laboratories.

## PUBLIC SERVICE BOARD

Minister: The Premier

Permanent Head: Chairman

The basic responsibilities of the Public Service Board are determined either by Statute or by Government policy.

Statutory functions include ensuring that the Service operates as efficiently and economically as possible; developing and controlling overall policy relating to personnel management and administration in the Service; and providing the Premier and the Government with advice, as required.

With regard to Government policy, the Board acts as a co-ordinating agency between the Government and Instrumentalities, Authorities, Boards and Trusts concerning uniformity of salaries and conditions of service generally.

## PUBLIC WORKS DEPARTMENT

Minister: Minister for Works

Permanent Head: Under Secretary

The Department's function could well be described as that of an architect, engineer, estate agent and builder, for it is responsible for the construction, maintenance, supply and furnishing of premises for Departments, Agencies and Government Institutions including schools. It also constructs, operates and maintains harbours, water supplies, sewerage schemes, land drainage and irrigation works.

The various divisions are:

Engineering; Architectural; and the Harbour and Light Department.

## STATE GOVERNMENT INSURANCE OFFICE

Minister: Minister for Labour

Permanent Head: General Manager

The State Government Insurance Office, which is governed by the *State Government Insurance Office Act, 1938-1965*, carries on insurance business with the public relating to compensation under the Workers' Compensation Act, compensation and damage at Common Law, all classes of insurable risks in connection with ownership and use of motor vehicles, all classes of insurable risks in respect of which local authorities and friendly societies ordinarily require and obtain insurance, and personal accident insurance in respect of any person who is a student or trainee of any educational or training institution.

## THE STATE HOUSING COMMISSION

Minister: Minister for Housing

Permanent Head: General Manager

The State Housing Commission's functions may be divided into the following main areas of activity:

- (i) The State-wide provision of low-cost housing for purchase or rental by families of low and moderate income.
- (ii) The administration of the Building Societies Act, the Housing Loan Guarantee Act, and the War Service Homes Act (Commonwealth) as it applies to Western Australia, and the construction and maintenance of dwellings on behalf of the Government Employees' Housing Authority.

The various branches are:

Architectural; Lands and Securities; Estate Planning and Design; Sales and Tenancy; and Administration—War Service Homes.

**STATE TAXATION DEPARTMENT**

Minister: The Treasurer

Permanent Head: Commissioner of State Taxation

The State Taxation Department is responsible for the assessing and collection of Land, and Metropolitan Region Improvement Taxes; Vermin, and Noxious Weeds Rates; Stamp Duties; State Death Duties; and the collection of Betting Taxes.

In addition to the normal valuation functions associated with taxation, the Valuations Division provides valuation services for other State Departments and local authorities.

The Divisions of the Department are:

Administrative; Valuations; Land Tax; Stamp Duties; and Probate Duties.

**TOWN PLANNING DEPARTMENT**

Minister: Minister for Town Planning

Permanent Head: Town Planning Commissioner

The Town Planning Department provides the technical and administrative services for the Town Planning Board and The Metropolitan Region Planning Authority and is represented on committees and other activities related to the co-ordination of State development.

The Town Planning Board is responsible for the overall control of subdivisional and town planning activities in the State and advises the Minister on all matters in this field. The Metropolitan Region Planning Authority is a statutory body responsible for the formulation, implementation and revision of the master plan for the development of metropolitan Perth which is known as the Metropolitan Region Scheme.

**TREASURY DEPARTMENT**

Minister: The Treasurer

Permanent Head: The Under Treasurer

The Treasury co-ordinates the accounts of all Governmental activities and provides the Government with financial information and advice. Its functions may be described as financial and accounting.

The former function deals with problems of overall Government finance. Within its orbit falls budgetary control, financial arrangements, Loan Council submissions and Treasury representation on various Boards. The Accounts Section keeps the Control Accounts of all Government Departments and Instrumentalities and draws cheques for payments. In addition, it keeps detailed accounts for several Departments. The Treasury has as sub-departments the Superannuation Board, Government Stores Department and Government Printing Office.

**WORKERS' COMPENSATION BOARD**

Minister: Minister for Labour

Permanent Head: Registrar and Secretary

The Board is responsible for administering the *Workers' Compensation Act, 1912-1970* generally, the compulsory insurance provisions of the Act and the determination of maximum premium rates, and also the compensation funds of minors, widows and persons under legal disabilities. It adjudicates on all disputed claims and awards compensation in proper cases. The Board is also charged with duties of accident prevention and rehabilitation of injured workers.

**Major State Instrumentalities**

A brief summary of the functions of each of the principal State Instrumentalities at 31 December 1971 is given below.

## MAIN ROADS DEPARTMENT

Minister: Minister for Works

Permanent Head: Commissioner of Main Roads

The Department is responsible for the provision of roads throughout the State in three categories—Controlled Access Roads; Main Roads; and Developmental Roads. The erection of traffic lights and signs in the metropolitan area and on Controlled Access Roads and Main Roads outside the metropolitan area is also carried out by the Department.

Statutory responsibilities in regard to special committees comprise the Metropolitan Region Town Planning Scheme Act; Tourist Act; Local Government Act; Swan River Conservation Act; and State Transport Co-ordination Act.

## METROPOLITAN (PERTH) PASSENGER TRANSPORT TRUST

Minister: Minister for Transport

Permanent Head: Chairman

The Trust is a body corporate with the functions of providing, maintaining, protecting and managing efficient passenger transport facilities by vehicular services, and by ferry services in the metropolitan area of Perth.

## THE STATE ELECTRICITY COMMISSION OF WESTERN AUSTRALIA

Minister: Minister for Electricity

Permanent Head: General Manager

The Commission is a body corporate with perpetual succession and a common seal constituted under the *State Electricity Commission Act, 1945-1971*. Under this Act the Commission is required to undertake the establishment, maintenance, management and acquisition of works for the manufacture, generation, transmission, distribution, supply and sale of electricity and other heating, lighting and motive power throughout or in any portion of the State.

In addition to administering the State Electricity Commission Act the Commission is responsible for the administration of the Electricity Act, the South-West State Power Scheme Act, the Gas Undertakings Act, the Gas (Standards) Act, the City of Perth Electricity and Gas Purchase Act, the Fremantle Electricity Undertaking Agreement Act and the Liquid Petroleum Gas Act.

Under the Electricity Act the Commission also administers the Electrical Workers' Board, the Electrical Contractors' Licensing Board, the Cinematograph Operators' Board and the Appliance Approvals Regulations.

## WESTERN AUSTRALIAN GOVERNMENT RAILWAYS

Minister: Minister for Railways

Permanent Head: Commissioner of Railways

The Western Australian Government Railways are specialists in the field of transport and operate the State's major transport freight handling facilities over a network of integrated rail and road routes throughout the southern portion of Western Australia.

The operation of a fleet of passenger buses and road freight vehicles has increased the flexibility and speed of passenger travel and freight transport.

With more than 10,000 employees on its pay-rolls the Railways Department employs a large number of professional men, technicians, tradesmen, clerical and specialised personnel, and semi-skilled labour.

## HISTORY OF STATE GOVERNMENT DEPARTMENTS

A short but reasonably comprehensive history of State Government Departments was commenced in the previous issue of the Year Book. The following article, the second in the series, presents the historical development of the Education Department, one of the largest of the State Departments with an origin dating back prior to Federation.

### EDUCATION DEPARTMENT

#### Early History and Development

At the time of Federation, education in Western Australia was settling down after a period of very rapid expansion, and the system was beginning to feel the benefits of a new educational outlook, resulting from an infusion of new blood to the teaching profession during the preceding five or six years. Following the gold rush, there was rapid expansion in the number of schools and teaching staff in the infant Colony. A large number of teachers from the other States and overseas, some possessing outstanding qualifications, were employed and quickly rose to positions of responsibility, where they used the best features of their old systems to improve the teaching methods then in use.

In 1871 District Education Boards were established under the Elementary Education Act. These Boards were under the general supervision of a Central Board which was charged with apportioning and distributing such funds as were provided for educational purposes by the legislation.

By amendment to the Act in 1893, the Central Board of Education was abolished and a Minister of Education was established, with all the powers and duties previously vested in the Central Board. With the creation of this Minister, the Education Department came into being. This Act continued, subject to numerous amendments and deletions, until repealed by the Education Act of 1928.

Between the years 1890 and 1900, the number of schools increased from eighty-two to 223 and the teaching staff from 119 to 555. Prior to Federation, teachers were paid according to results achieved. This was discontinued in order to attract a better class of teacher and salaries were increased. The rates for male assistants varied between \$200 and \$320 and for Headmasters of large schools an annual rate of \$560 was introduced.

In 1899 by the Public Education Act, school fees were no longer chargeable except that the Minister was empowered to charge for children over fourteen years of age. Co-educational schools were introduced and compulsory attendance between the ages of six and fourteen years was enforced. A new syllabus was prescribed which included manual training, household management and needlework.

In 1897 only sixteen of the 208 teachers employed were graduates of a recognised teachers college. In 1902 a teachers training college was opened at Claremont and the first course comprised thirty-seven students. The first Principal was Cecil Andrews, a graduate of the Battersea Training College, England.

#### The Administrative Structure of the Education Department

The authority of the Education Department of Western Australia is now based upon the provisions of the *Education Act, 1928-1970*. This Act defines the Minister's powers and duties in regard to administration, the establishment of schools, the training of teachers, the attendance of children, the establishment of Parents and Citizens' Associations, regulations, and a number of miscellaneous matters.

Under the Education Act, the Minister has the power to make regulations which must be approved by the Governor in Council, but which may be disallowed by a vote in Parliament under section 36 of the *Interpretation Act, 1918-1970*.

The Director-General is empowered by Regulation to promulgate Administrative Instructions which further amplify the meaning of the Regulations. These Instructions can be readily changed in the Education Circular and do not require consent from either the Governor or Parliament. They are none the less binding upon teachers.

Although the Deputy Director-General and Deputy Directors are regarded as being in direct line of command from the Director-General, this is not strictly accurate. Divisional Directors are directly responsible to the Director-General, while the Deputy Director-General has control over certain specialist Superintendents (music, physical education, publications, visual education and arts and crafts).

Although the clerical staff is administratively responsible to the Chief Administrative Officer, and the Administrative Officer, they are separately attached to different divisions of the Education Department, or work in a number of different sections.

There are five Divisions in the Education Department each controlled by a Director as follows:

Primary Education, Secondary Education, Technical Education, Teacher Education and Special Services.

### **Primary Education**

As previously mentioned, school attendance became compulsory in 1899 at the age of six years, except for children aged six to nine years living more than two miles from school or one mile from a suitable conveyance. At the age of nine years, the distance was three miles from a school and two miles from a conveyance. In 1918 the Correspondence School was established to cater for children in the isolated areas. Children had to enrol in correspondence classes if they did not attend school. These provisions still apply, but much has been done in recent years by the provision of school buses to reduce the number of primary school children undertaking correspondence lessons. The Correspondence School conducts classes in primary and secondary education up to Achievement Certificate standard. Though the work of these classes has been curtailed to some extent, as mentioned above, they are still a distinctive feature of the State's education system.

An interesting development is the payment of an allowance to families where a supervisor is employed.

The post-war years have seen an enormous development in the transport of children. The annual cost to the Treasury has increased from \$19,600 in 1938-39 to \$2,946,999 in 1970-71.

The tasks of the primary schools may be considered as:

- (i) to give the child facility in the basic skills of reading, writing and number work to the limit of its capacity;
- (ii) to give the child some understanding of science and society (that is, of its physical and social environment);
- (iii) to help the child to appreciate music, art and craftsmanship, and to enable it to express its feelings and creative drives through these media.

A new attitude towards primary education became evident in the late 1960s and early 1970s with the building of open area primary schools. These schools feature internal modifications in which the walls are reduced and children have access to different learning areas for a variety of learning activities. All such schools have an acoustic withdrawal span where films, television, etc. may be viewed and singing conducted without disturbing the rest of the school.

### **Secondary Education**

At the age of twelve years, the majority of children transfer from primary to secondary school.

In 1909 central schools were established in the more populated areas to enable children of post-primary standard to secure greater economy and more effective teaching in specialised courses. It is well to remember that compulsory primary education was only introduced into Western Australia in the 1890s and in many ways the first half of this century may be considered as the era of primary education. Opportunities within the State system for secondary education were limited and were generally intended for the deserving prospective entrant to the University. Until 1952 the only State five-year High School in the metropolitan area was the Perth Modern School. Entry to this school was selective and



based on the result of scholarship examinations conducted for sixth standard pupils, and the number of places was, of course, limited. In earlier years, those not successful in entering Perth Modern School went on to post-primary schools such as Perth Boys, Perth Girls, Junior Technical School, Fremantle Boys, Princess May Girls School, etc. which gave a three-year course. Those successful at the Junior Examination, which is taken after three years of secondary education, might go to the Perth Modern School if their Junior Certificate included certain essential subjects. The remainder who wanted to do the Leaving Examination transferred to the Perth Technical College which conducted full-time classes for the Leaving Certificate until 1949, when all full-time Leaving classes were transferred to the Leederville Technical School.

Subsequent to the Second World War, five-year High Schools were established in all major suburbs and the larger country towns after the style of Perth Modern School and are giving the opportunity to matriculate to thousands of students, enabling them to continue in their chosen field or profession at the University or Institute of Technology. In 1971 there were a total of fifty-six High Schools operating in Western Australia.

The growth of secondary schools has been accompanied by a great increase in the number of children whose education is being extended beyond the current statutory school leaving age of fifteen years. The process is a circular one. Demand makes increases necessary in the number of schools and new schools increase the demand.

### Technical Education

The Perth Technical School, which became in 1929 the Perth Technical College, was opened on 16 May 1900 with an enrolment of sixty-nine students in chemistry, assaying, mineralogy, carpentry, metalwork and art. There were four instructors on the initial staff under Mr Alex Purdie, M.A., who occupied the dual position of Director of Technical Education and Lecturer in Chemistry. For accommodation, the Director acquired the building which was erected in 1853 for the Perth Boys School together with several galvanised iron structures on the St George's Terrace alignment. These continued to function with further additions of the same character until 1912 when the present brick building facing the Terrace was erected. Buildings for the Chemistry, Mathematics and Physics Departments were erected in 1940-41.

In 1901 the late Mr J. B. Allen was appointed Lecturer in Mathematics and Physics, and this gave the school, in 1902, the necessary standing to become affiliated with the University of Adelaide, thus enabling students to study at the Perth Technical School towards Bachelor of Arts and Bachelor of Science degrees. Similar affiliation was arranged with the University of Western Australia in 1935 when affiliation with Adelaide University ceased. Affiliation with the University of Western Australia continued until 1967 when it was transferred to the Institute of Technology.

On the death of Mr Purdie in 1905, Mr J. B. Allen became Director of Technical Education and Director of the School of Mines, which was originally developed as a branch of the Perth Technical School.

Throughout the following years, the Trade section of the school was developed with the introduction of fitting and turning, plumbing, sheetmetal work and blacksmithing. Before the passing of an amendment to the Industrial Arbitration Act in 1925, attendance at these classes was on a voluntary basis and mainly in the evening. With the provision for day training of apprentices introduced in this Act, the Trade Department developed until it contained twenty-seven sections. Classes in carpentry, joinery, bricklaying, plastering and stonemasonry, painting and signwriting were transferred to the Leederville Technical School.

The College, and in particular the Trades Department, did a splendid war-time job of training 9,000 men for the armed services and 500 to 600 for munition works. With the implementation of the Commonwealth Reconstruction Training Scheme, the Technical Branch achieved a splendid record by giving full-time training to 700 and part-time training to some 18,000 ex-service personnel, enabling them to enter into the industrial and professional life of the community.

Great expansion in service to the community has taken place in Technical Education over the past seventy-one years. Fremantle Technical School (now Fremantle Technical College) was established in 1901, and Midland Technical School in 1913. With the rapid expansion of the State following the Second World War, further schools and colleges have been established to meet the growing demands with which the facilities at Perth Technical College were unable to cope.

At the end of 1971 over 70,000 people attended Technical Education Division classes in five colleges, six schools (including Bunbury and Eastern Goldfields) and over 100 centres throughout the State. The Technical Extension Service, which grew out of correspondence tuition conducted in 1944 for reconstruction training, offers a wide variety of courses for people isolated from normal classes.

The Division provides nearly 200 diploma and certificate courses designed to meet the training needs of technicians and other support personnel. These courses, which require three years of secondary education for entry, are offered on both part-time and full-time basis according to the needs of the individual. They cover all the major areas of employment including commerce and management, engineering and applied science, building and architecture, art and the food and fashion industries.

Over 10,000 apprentices in all trades receive their theoretical training, as well as much of the practical development, in apprenticeship classes conducted on either day or block release in the colleges and schools.

Because the Division is so closely involved with industrial and commercial needs, constant liaison is maintained with representatives of both employers and employees through advisory committees appointed by the Minister for Education. As a result of this liaison new courses are continually being developed and modified to meet the changing needs of this technological age.

The Western Australian Institute of Technology (see Chapter V, Part 1) is responsible for tertiary educational courses which were developed within the Perth Technical College. In general, these are professional courses recognised by the appropriate professional bodies. The development of the Institute was necessary on account of the increased demand for these courses and the need for more modern facilities and equipment to cope with the educational demands of the professional bodies concerned.

### **Special Services**

Through the primary and secondary years there are a number of special services which minister to the needs of the students in one way or another. These are represented by such branches of the Education Department as the Music Branch, Arts and Crafts Branch, Manual Training Branch, Home Science Branch, Physical Education Branch, Publications Branch, Visual Education Branch and the Research and Guidance Branch.

### **Schools of Agriculture**

Agricultural education is provided at certain high schools. Residential accommodation is available at the Narrogin Agricultural Senior High School, the Harvey Agricultural High School and the Agricultural Junior High Schools at Cunderdin and Denmark. Day instruction is provided by high schools at Esperance, Kojonup, Manjimup, Margaret River, Morawa, Mount Barker and Wyalkatchem. Each school providing agricultural instruction has agricultural land attached to it.

### **Teacher Training**

Claremont Teachers College was built in 1901 under the authority of the then Permanent Head of the Education Department, Mr Cyril Jackson, M.A. Inspector-General of Schools.

In 1955 a second teachers college was opened at Graylands with Mr Neil Traylen, M.A., as Principal.

During the early years of teacher college training there were no Government High Schools and consequently students were admitted at the age of 15½ years for a three-year course, a good deal of which had to be spent in general education. Later, the Normal School, which developed out of a series of experiments with Monitors Classes, provided two years of secondary education for prospective teachers who had qualified for admission by special examination. Teachers College entrance was subsequently deferred for two years. In 1911, Perth Modern School was opened, and the Normal School consequently closed. About the same time the opening of a Western Australian University created a new entrance qualification—the Leaving Certificate.

Between 1930 and 1945 the Claremont Teachers College suffered a series of disruptions. The impact of the economic depression of the 1930s was responsible for its total closure between the years 1931 and 1933 and, when it did reopen, it lost its valuable quality of corporate living and became a day college. With the outbreak of the Second World War, numbers naturally fell, and in 1942 the premises were taken over by the Army for use in training certain Women's Services until 1944, when it was returned to the Education Department.

In 1951 Dr T. L. Robertson assumed the post of Director (General) of Education, and gave close attention to training organisation in relation to the grave shortage of teachers at that time. The Minister agreed to three most important decisions:

- (i) the abolition of the Monitorial system and the opening of a new training course in September 1951;
- (ii) the initiation of a bursary system to secondary school students with the Junior Certificate, which made available an allowance of \$160 per annum for two years for those students willing to enter college for training after completing the Leaving Certificate;
- (iii) the extension of the two years' course to allow University undergraduates and specialist students to complete their graduate qualifications.

An interesting innovation in 1952 was the entrance of Sisters of the Roman Catholic Church into training and the Claremont Teachers College now trains teachers, not only for the State Teaching Service, but also for the substantial section of Roman Catholic Denominational education. The College also undertakes portion of the training of non-departmental undergraduates in the Bachelor of Education Course.

In 1967 a Secondary Teachers College was formed with the appointment of Mr C. Cook as Principal. The College was housed in old buildings at the University until building was completed on a new site in Stirling Highway, Nedlands.

In 1970 the Mount Lawley Teachers College opened in the In-Service Centre, Subiaco, while the new college was built. Courses commenced in the new buildings in 1971. This college specifically trains students for the new open area primary schools. A limited intake of 191 primary students started at the new Churchlands Training College in February 1972.

Through the establishment of the Bachelor of Education course and the University postgraduate Diploma of Education, the bond with the University has greatly strengthened. All teacher colleges are accepted affiliated institutions for the purpose of conducting and examining certain unit courses.

### **Departmental Growth**

From a total teaching staff of around 500 at the beginning of the century, the number has increased steadily, particularly in the post-war years, and now stands at over 7,000. With the current growth of the State, it is likely that the Department will continue to expand.

The Education Department's activities extend throughout the whole length and breadth of the State, which poses severe problems from an administrative point of view.

The headquarters of the Education Department is located at Parliament Place, West Perth.

## THE JUDICATURE

The two major factors in the development of the Australian legal system have been its British origin and the Commonwealth Constitution of 1900. This statute, an Act of the Imperial Parliament in London, limited the legislative power of State Parliaments in some respects and created a federal legislature. Since 1942, however, the Imperial Parliament can legislate for Australia only at Australia's request. The sources of Australian law of today are, therefore, found in Commonwealth and State legislation, in some Imperial legislation, and in the common law. Independence of the judiciary is an essential part of the Australian legal system.

The following list shows members of the Western Australian judiciary at 31 December 1971.

*Supreme Court of Western Australia*

|                          |      |      |                                               |
|--------------------------|------|------|-----------------------------------------------|
| Chief Justice ....       | .... | .... | The Honourable Sir Lawrence Jackson, K.C.M.G. |
| Senior Puisne Judge .... | .... | .... | The Honourable J. E. Virtue                   |
| Puisne Judges ....       | .... | .... | The Honourable John Hale                      |
|                          |      |      | The Honourable F. T. P. Burt                  |
|                          |      |      | The Honourable J. M. Lavan                    |
|                          |      |      | The Honourable J. L. C. Wickham               |

*The District Court of Western Australia*

|                         |      |      |                                |
|-------------------------|------|------|--------------------------------|
| Chairman of Judges .... | .... | .... | His Honour Judge S. H. Good    |
| Judges ....             | .... | .... | His Honour Judge D. C. Heenan  |
|                         |      |      | His Honour Judge R. E. Jones   |
|                         |      |      | His Honour Judge W. P. Pidgeon |

Particulars of these and other Western Australian courts, and Commonwealth courts appear in Chapter V, Part 6 and Chapter X, Part 1.

## OVERSEAS REPRESENTATION IN WESTERN AUSTRALIA

At 1 January 1972 there were nineteen countries represented in Western Australia by a consular agent, vice-consul, consul, consul-general, or deputy high commissioner, as follows.

- Austria—R. Holmes, Honorary Consul, 21 Howard Street, Perth 6000.
- Belgium—E. Blanckensee, Honorary Consul, Law Chambers, Cathedral Square, Perth 6000.
- China (Taiwan)—R. C. J. Shih, Consul, 'Casablanca', 196 Adelaide Terrace, Perth 6000.
- Denmark—J. C. Garnsworthy, Honorary Consul, 25 Henry Street, Fremantle 6160.
- France—R. Martin, Honorary Consular Agent, 180 St George's Terrace, Perth 6000.
- Germany, Federal Republic of—T. A. James, Honorary Consul, Sherwood House, 7 Sherwood Court, Perth 6000.
- Greece—C. P. Belegris, Consul, 132 Mounts Bay Road, Perth 6000.
- Guatemala—P. Smetana, Honorary Consul, 28 Warralong Crescent, Mount Lawley 6050.
- Italy—Dr S. Terenzio, Consul, 18 Walker Avenue, West Perth 6005.
- Japan—T. Kawabata, Consul-General, 36 King's Park Road, West Perth 6005.
- Netherlands—M. van Oordt, Consul, Council House, 27-9 St George's Terrace, Perth 6000.
- Norway—E. A. M. Wright, Honorary Consul, 88 Thomas Street, West Perth 6005.

Philippines—G. V. Mummery, Honorary Consul, 1095 Hay Street, Perth 6000.

Portugal—C. G. Dudley, Honorary Vice-Consul, 66 St George's Terrace, Perth 6000.

Sweden—H. Morgan, Honorary Consul, Market House, 849-51 Wellington Street, Perth 6000.

Switzerland—R. H. Abplanalp, Honorary Vice-Consul, 6 London Street, Mount Hawthorn 6016.

United Kingdom—A. H. Birch, C.M.G., O.B.E., Deputy High Commissioner, A.N.Z. House, 84 St George's Terrace, Perth 6000.

United States of America—J. A. Lacey, Consul, M.L.C. Building, 171 St George's Terrace, Perth 6000.

Yugoslavia—P. Mihailovski, Consul, 24 Colin Street, West Perth 6005.

In addition, the Grand Duchy of Luxembourg is represented in Western Australia by the Consul for Belgium.

The New Zealand Trade Commissioner in Western Australia is A. F. Jacobsen, A.F.C., St George's Court, 16 St George's Terrace, Perth 6000.

### STATE REPRESENTATION OVERSEAS AND IN OTHER STATES

Western Australia has been represented in the United Kingdom by an Agent General since 1892, the first appointment to the post being that of Sir Malcolm Fraser. An Office is maintained at Western Australia House, 115 Strand, London, W.C.2. Its functions include the representation of all government departments which have business in Britain and Europe, the purchase of government stores and equipment, the attraction of migrants, the encouragement of overseas private investment in Western Australia, and the provision of various types of assistance to visitors from Western Australia. In addition, the Office acts as agent for the State Treasury and as a receiving agency for The Rural and Industries Bank of Western Australia. Western Australia's European Public Relations Office also operates from Western Australia House. The Agent General for Western Australia, the Honourable W. S. Bovell, is the personal representative in Britain of the State Premier.

Branches of the Tourist Bureau have been established in New South Wales at 128 King Street, Sydney, in Victoria at 2 Royal Arcade, Melbourne, in South Australia at 34 King William Street, Adelaide, and in the Northern Territory at Western Australia House, Cavenagh Street, Darwin.

### THE LOCAL GOVERNMENT SYSTEM

The function of local government in Western Australia is performed by a number of Councils (or, in special circumstances, by Commissioners appointed by the Governor) exercising powers conferred by the Parliament of the State. Each of the Councils consists of members elected by a local community and is responsible for the provision of many of the services necessary for the organisation and welfare of the community which it represents.

As early as 1838 an Act providing a measure of local government was passed and under its provisions the management and control of the town of Perth was vested in a body of trustees. The first elected Town Trust was constituted at Perth in 1842 under an Act of 1841 for the 'Improvement of Towns in Western Australia'. The Trust was dissolved in 1858 and replaced by a City Council, the town of Perth having been constituted a city when it became the seat of a Bishop in 1856.

Legislation was enacted in 1871 establishing Municipalities and Road Boards throughout the Colony. The existing Statute regulating the operations of the local authorities is the *Local Government Act, 1960-1971*, which is administered through a Department of Local Government by the Minister for Local Government. This Act consolidates the law relating to local government in Western Australia, and by its provisions the Municipal Corporations Act, the Road Districts Act and a number of other, less important, Acts were repealed. The legislation came into operation on 1 July 1961 and from that date new designations were applied to many local government districts, bodies and offices.

Former Municipalities, other than cities, became known as 'Towns' and Road Districts were renamed 'Shires'. Municipalities which already had city status remained 'Cities'. The executive body in each local government district became a 'Council', City Councils and Town Councils being presided over by a Mayor, and Shire Councils by a President. The chief non-elective executive office of a City or a Town is that of 'Town Clerk' and of a Shire, that of 'Shire Clerk'.

At 31 December 1971 there were 7 Cities, 12 Towns and 121 Shires in Western Australia.

### **Local Government Districts**

The only unincorporated area in mainland Western Australia is King's Park, a public reserve of almost one thousand acres in Perth, all other land being incorporated within the district of a City, Town or Shire.

On presentation of a petition signed by a prescribed minimum number of ratepayers, the number varying with the subject matter, the Governor may by Order constitute any part of the State as a Town; constitute any unincorporated area as a Shire; constitute as a new Shire any part of an existing Shire; divide a Shire into two or more Shires; sever portion of a district and annex the portion to an adjoining district, or constitute the portion as a new Town or Shire; annex to a district any adjacent unincorporated areas; divide a district into wards; or abolish a district and dissolve the local governing authority.

The Act establishes a Local Government Boundaries Commission of three members, one being an officer of the Department of Local Government, who is Chairman of the Commission. The other members must be persons having experience in local government and nominated by associations of local government authorities. The Minister may refer to the Commission any question concerning the constitution or alteration of the constitution of local government districts. Every case where authorities are unable to agree on a matter of amalgamation or severance of territory must be referred to the Commission.

On the petition of the local authority concerned, the Governor may by Order declare to be a City any district which satisfies certain specified requirements. These requirements are that, during the three years immediately preceding the declaration, it shall have maintained a population of not less than 30,000 persons if situated in the metropolitan area as declared for the purposes of the Act, or not less than 20,000 persons if situated outside that area; and have maintained a gross revenue of \$200,000 for each of the three years. In addition the district must be clearly distinguishable as a centre of population having a distinct civic centre with adequate halls and cultural facilities, and must have sufficient residential, commercial and industrial centres to justify its declaration as a separate city. The seven Cities in Western Australia are all situated in the Perth Statistical Division and five of them had been granted city status before the requirements imposed by the present legislation became operative. These five Cities are Perth (proclaimed in 1856), Fremantle (1929), Subiaco (1952), Nedlands (1959), and South Perth (1959). The Town of Melville was declared a city on 3 May 1968 and the Shire of Perth was redesignated the City of Stirling with effect from 24 January 1971, having satisfied the requirements for city status provided by the Local Government Act.

The boundaries of local government districts as they existed at 31 December 1969 are delineated on the map of the State at the back of the Year Book and the names and designations as at that date are listed on the pages immediately preceding the Index.

### **Constitution and Electoral Provisions**

The provisions of the Local Government Act relating to the composition of a City Council or a Town Council require that, in addition to the Mayor, there shall be, where the population is less than 1,000, six councillors; where the population is between 1,000 and 5,000, nine councillors; and if the population exceeds 5,000, twelve councillors if the district is not divided into wards but, where the district is divided into wards, three councillors for each ward. It is provided that a Shire Council shall consist of not less than five nor more than thirteen members, including the President.

Two methods of election to the office of Mayor or of President are prescribed. In the case of a City or Town, election is usually by a poll of the electors enrolled for the district. The President of a Shire is usually elected by the councillors from among their own number. It is provided, however, that a City or Town may adopt the system of election of the Mayor by the councillors, and that a Shire may conduct a poll of its electors for election to the office of President. The question of the adoption of the alternative system must, in all cases, be determined by submission to a poll of the electors, after delivery to the Mayor or the President of a resolution of a majority of the councillors or a petition signed by one-tenth of the electors, or by fifty electors, whichever is the greater. If not less than 15 per cent of eligible electors vote at the poll and a majority of the valid votes cast are in favour of the proposed alteration, the Governor may order its adoption.

The Act constitutes the office of Deputy Mayor, in the case of a City or a Town, and of Deputy President in the case of a Shire, and requires that the Council shall elect one of the councillors to the office.

Provision is made for local government elections to be held on the fourth Saturday in May of each year but in specified circumstances the Governor may, by proclamation, appoint a Saturday in May, earlier than the fourth Saturday, to be the election date. Membership of a Council is elective in all cases, the qualified electors being adult natural-born or naturalised British subjects who own or occupy rateable land in the district. The preferential system of voting is used and representation is generally on the basis of wards into which the district may be divided. Plural voting applies, an elector being entitled, in accordance with the rateable value of the property owned or occupied by him, to a number of votes which may not, however, exceed four in elections for Mayor or President, or two in elections for councillor. The Act contains provisions enabling nominees of corporations owning land in a district to vote at local government elections and to be elected to membership of the Council. Subject to disqualification on certain specified grounds, all adult persons who are natural-born or naturalised British subjects owning or occupying rateable land within the district are eligible for election to the Council of the district whether as Mayor, President or councillor.

The term of office of a Mayor or a President is two years if elected by the electors of the district, or one year if elected by the Council. Councillors are elected for a term of three years, some of their number, varying with the total membership of the Council, retiring each year. On the expiration of their term of office, all members, including the Mayor and the President, are eligible for re-election if not subject to any of the disqualifications contained in the Act.

It is provided that, if in a particular district there should at any time be no Council or insufficient councillors to form a quorum, a Commissioner may be appointed to exercise all the powers of the local authority.

### **Functions of Local Authorities**

The functions and powers of local authorities are extremely diverse in character. They are prescribed in detail in the Local Government Act and some of the more important of them are referred to in later Chapters of the Year Book. For example, reference to local government activity in the fields of road construction and maintenance will be found in Chapter VI Part 1 and Chapter IX Part 3, the provision of parks, gardens and recreation grounds in Chapter V Part 2, libraries in Chapter V Part 2, public transport facilities in Chapter IX Part 3, water supplies in Chapter VII Part 2, town planning and building control in Chapter V Part 4, and the licensing of vehicles and road traffic control in Chapter IX Part 3. Among the many other powers of local authorities are those relating to hospitals and nursing services, kindergartens, hostels for school children, community centres, dental clinics, infant and maternal health centres, day nurseries, jetties, swimming baths, swimming pools, sanitation and disposal of refuse, fire prevention, eradication of noxious weeds and vermin, electricity generation, aerodromes, abattoirs, quarries, pounds and cemeteries. Under the provisions of the Health Act local authorities are responsible for certain aspects of health administration.



The operations of any local government authority may be subject to investigation by a person appointed by the Governor or the Minister and having, for the purposes of the inquiry, the powers of a Royal Commission.

### Financial Provisions

Financial powers of local authorities, although derived mainly from the Local Government Act, are also provided by other statutes, including the Health Act, the Water Boards Act, the Vermin Act, the Fire Brigades Act, the Cemeteries Act, the Library Board of Western Australia Act, the Argentine Ant Act and the Noxious Weeds Act. Revenue from vehicle licence fees payable under the provisions of the Traffic Act is another important item in local government finance.

Before the commencement of the Local Government Act on 1 July 1961, a number of rates, in addition to those authorised by local government legislation, were imposed as separate levies. These included health, sanitary and sewerage rates, water rates and vermin rates, as well as rates relating to fire brigades, cemeteries, libraries and the control of Argentine ants and noxious weeds. Under the provisions of the Local Government Act, the local authorities may include these separate levies in the general rate provided for in the Act.

The general rate for any year is determined, subject to certain statutory limits, by dividing the sum required to make up the difference between anticipated expenditure and estimated revenue from sources other than rates for that year by the total value of rateable property in the district. In assessing this value, every local authority must adopt valuations made by the State Taxation Department, by the water supply authority for the district, or by a qualified valuer (or valuers) appointed by the Council. The Act provides for the constitution of Valuation Appeal Courts, to which appeals may be made on matters concerning valuations of property and liability for rates as assessed by the Council.

Valuations may be on the basis of either 'unimproved value' or 'annual value'. The unimproved value generally represents the price which the rated land might be expected to realise if sold on the open market and, as the term implies, excludes any improvements. The annual value is an estimate of the annual rental value of the property including improvements, but with a prescribed deduction to cover rates, repairs, insurance and other related expenditure. Generally, City Councils and Town Councils are required to assess the general rate on the basis of annual value, and Shire Councils on unimproved value. It is provided, however, that any Council may, under certain specified conditions, adopt the alternative basis. Although in general a Council is required to levy a rate which is uniform throughout its district, it may differentiate in rating by charging a higher rate in a specified area where expenditure, including loan interest and repayments, is incurred in providing special services for the benefit of that area.

Local authorities are authorised to raise loans for works and undertakings and for the liquidation of existing loan debts. Borrowing by means of a special bank overdraft is permissible, with the consent of the Minister, for the installation of sewerage connections or septic tanks and, with the approval of the Governor, for other works or undertakings. Money may also be borrowed by the sale of debentures, repayment being either by the system of reducible principal or by means of a sinking fund. Payments to debenture holders are made at prescribed intervals. Under the system of reducible principal, the local authority undertakes to pay both principal and interest by fixed instalments. Where redemption is by means of a sinking fund, the local authority is required to establish and maintain the necessary fund at the State Treasury. Interest on the loan is normally paid half-yearly and the full amount of the loan is repaid at maturity.

The extent of loan raisings for works and undertakings is controlled by a provision which, except with the specific approval of the Governor, imposes a limit on the borrowings of an authority. This limit is determined by deducting the net total debt on existing loans from a sum equal to ten times the amount obtained by subtracting from the average of the ordinary revenue of the authority during the preceding two years the average, for the same period, of its annual expenditure on the servicing of loans. The legislation allows

that balances standing to the credit of sinking funds for loan repayment, as well as amounts actually repaid, may be deemed to be repayments for the purposes of calculating net total debt. In the case of borrowings to liquidate existing loans, it is provided that the money raised shall not exceed the outstanding balance of the loan.

Before a loan may be raised by the issue of debentures, approval of the borrowing must be obtained from the State Treasury and the local authority must then publish in a newspaper and in the *Government Gazette* a notification of its intention to borrow money, including a statement of the amount of the proposed loan, its purpose and other relevant matters. Except in the case of a loan to liquidate an existing loan debt, the ratepayers of the district may demand that the proposition be submitted to a poll. If less than 15 per cent of the ratepayers vote at the poll, the raising of the loan is approved. Where not less than 15 per cent of ratepayers vote and the majority are against the loan, or the number of votes against the loan is equal to the number of those in favour, the raising of the loan is forbidden.

Certain of the works and undertakings for which loan moneys may be used are specified in the Local Government Act. They include the construction of streets, roads and bridges, sewers, drains and water works; the erection or purchase of electric lighting plant, gas works and stone quarries; the provision of hostels for school children, libraries and other recreational facilities; the construction of civic and other buildings; and the purchase of land, materials and equipment. Where a particular work or undertaking is not specified in the Act the Governor may approve of it as a project for which money may be borrowed.

The financial transactions of local government authorities are subject to annual audit either by an auditor (or auditors) appointed by the Council or by a government inspector appointed by the Minister. To qualify for the office of auditor, a person must be a member of a specified institute or society of accountants and be registered as an auditor under the Companies Act. Appointment is for a term not exceeding two years, at the end of which time the holder of the office is eligible for reappointment.

The financial year for all Councils ends on 30 June.

Details of the revenue and expenditure of local authorities during the five-year period ending with the financial year 1969-70 are given in the section *Local Government Finance* in Chapter VI, Part 1.

## CHAPTER IV—POPULATION AND VITAL STATISTICS

### Part 1—Population

*NOTE.* Population censuses prior to the Commonwealth Census of 1911 were undertaken by the Governments of the several Australian Colonies. In the Western Australian Census it was the practice to exclude full-blood Aborigines from the tabulations. Aborigines have been enumerated as completely as possible at all censuses since the establishment of the Commonwealth. However, those having more than one-half Aboriginal blood (see reference 'Aborigines' on page 129) were excluded from published census results in accordance with the requirements of section 127 of the Australian Constitution. This section was repealed with effect from 10 August 1967, and official population statistics for dates and periods subsequent to the 1966 Census include Aborigines. It has been possible to compile some data from the 1966 Census on the basis of total population (i.e. including Aborigines), and where particulars were available at the time of going to press they have been incorporated in the following pages. Some further information will be found in the Appendix.

*Figures relating to the 1971 Census are subject to revision. Population estimates for dates and periods up to 30 June 1966 are final; later estimates are subject to revision in accordance with the results of the 1971 Census.*

The State of Western Australia, although comprising almost one-third of the total area of Australia, contains little more than 8 per cent of the population.

At the end of 1829, the year of establishment of the Colony, there were 1,000 persons in Western Australia. Progress in the early years was slow, and in 1849 the population was still less than 5,000. Transportation of convicts, begun in the following year, resulted in some acceleration, but it was not until the discovery of gold in the Kimberley in 1885 and the rich finds at Coolgardie in 1892 and at Kalgoorlie in 1893 that any marked increase took place. This development was so rapid that, in the last decade of the century, the population was almost quadrupled, from 48,500 at the end of 1890 to 180,000 in 1900, representing an average annual rate of increase of 14·01 per cent. The rate of growth in those years has never been approached in the present century, as will be seen from the table on page 146, but the average annual rate of increase of Western Australia's population from the beginning of the century to the end of 1971, 2·51 per cent, has been higher than that of any other State and of the Commonwealth as a whole, 1·75 per cent.

### THE CENSUS

The first systematic census of the Colony of Western Australia was taken in 1848, since when there have been fourteen enumerations, at the dates shown in the table on page 129. The Census of 1881 was the first taken simultaneously in all the Australian Colonies and formed part of the first simultaneous census of the British Empire.

The first census of the Commonwealth of Australia conducted under the authority of the *Census and Statistics Act* 1905 was taken in 1911. The Act provided that a census should be taken in that year 'and in every tenth year thereafter'. In 1930 this provision was amended by the addition of the words 'or at such other time as is prescribed'. The depressed economic conditions of 1931 caused the postponement of the third Australian census to 1933, and because of war conditions the fourth Australian census was not taken until 1947. Consideration was then given to holding future censuses in the series of years originally provided for by the Act. However, it was thought that the interval from 1947 to 1951 was too short, and it was therefore decided to take the fifth census in 1954, at the mid-point of the period from 1947 to 1961. The sixth census was held in 1961. Owing to the administrative demand for more frequent counts of the population, censuses were taken in 1966 and 1971.

## Scope of the Census

The Australian Census is conducted on a *de facto* basis, i.e. it records the population actually in Australia, persons being enumerated at the place where they spent the night of the census, and the population so recorded being credited to that place whether or not it is the usual place of residence.

The Census covers the population of the Commonwealth and the dwellings in which it lives. The only persons excluded from the census tabulations are diplomatic representatives of overseas countries and their families and staffs having diplomatic immunity in accordance with international practice. Prior to the Census of 30 June 1971 full-blood Australian Aborigines were also excluded (see the following section *Aborigines*).

The term 'dwelling', as defined in the Census and Statistics Act, means 'a building, erection, or tenement, whether permanent or temporary, which is wholly or partly used for the purpose of human habitation and includes any ship or other vessel in any port of the Commonwealth or in any inland waters thereof, or any ship or vessel on a passage between any two Commonwealth ports'.

Tables dealing with dwellings recorded at the census will be found in Chapter V, Part 4.

**Aborigines.** Before an amendment to the Australian Constitution in 1967, it was provided by section 127 that 'in reckoning the numbers of the people of the Commonwealth, or of a State or other part of the Commonwealth, aboriginal natives shall not be counted'. This provision was deleted following a referendum held on 27 May 1967 which resulted in a large majority of votes in favour of its repeal. The enabling Act, the *Constitution Alteration (Aboriginals) 1967*, came into operation on 10 August 1967.

With regard to the original provision, Commonwealth legal authorities were of the opinion that persons of the half-blood were not 'aboriginal natives' within the meaning of the Constitution, and *a fortiori* that persons of less than half Aboriginal blood were not Aboriginal natives. Accordingly, only persons having Aboriginal blood to a degree greater than one-half were excluded from the census tabulations. Dwellings occupied solely by full-blood Aborigines so defined were similarly excluded.

Tables relating to the Aboriginal population appear on pages 143-4.

## Recorded Population

The population recorded in Western Australia at each census from 1848, its relation to the Australian population, and the masculinity are shown in the following table.

POPULATION AT EACH CENSUS DATE—1848-1971 (a)  
WESTERN AUSTRALIA AND AUSTRALIA

| Date of Census     | Western Australia |         |           | Australia   | Western Australia                  |                 |
|--------------------|-------------------|---------|-----------|-------------|------------------------------------|-----------------|
|                    | Males             | Females | Persons   | Persons (b) | Proportion of Australia (per cent) | Masculinity (c) |
| 1848—10 October    | 2,818             | 1,804   | 4,622     | 326,445     | 1.42                               | 156.21          |
| 1854—30 September  | 7,779             | 3,964   | 11,743    | 671,436     | 1.75                               | 196.24          |
| 1859—31 December   | 9,522             | 5,315   | 14,837    | 1,097,305   | 1.35                               | 179.15          |
| 1870—31 March .... | 15,375            | 9,410   | 24,785    | 1,606,057   | 1.54                               | 163.39          |
| 1881—3 April ....  | 17,062            | 12,646  | 29,708    | 2,250,194   | 1.32                               | 134.92          |
| 1891—5 April ....  | 29,807            | 19,975  | 49,782    | 3,177,823   | 1.57                               | 149.22          |
| 1901—31 March .... | 112,875           | 71,249  | 184,124   | 3,773,801   | 4.88                               | 158.42          |
| 1911—3 April ....  | 161,565           | 120,549 | 282,114   | 4,455,005   | 6.33                               | 134.02          |
| 1921—4 April ....  | 177,278           | 155,454 | 332,732   | 5,435,734   | 6.12                               | 114.04          |
| 1933—30 June ....  | 233,937           | 204,915 | 438,852   | 6,629,839   | 6.62                               | 114.16          |
| 1947—30 June ....  | 258,076           | 244,404 | 502,480   | 7,579,358   | 6.63                               | 105.59          |
| 1954—30 June ....  | 330,358           | 309,413 | 639,771   | 8,986,530   | 7.12                               | 106.77          |
| 1961—30 June ....  | 375,452           | 361,177 | 736,629   | 10,508,186  | 7.01                               | 103.95          |
| 1966—30 June (d)   | 432,569           | 415,531 | 848,100   | 11,599,498  | 7.31                               | 104.10          |
| 1971—30 June (d)   | 527,217           | 500,155 | 1,027,372 | 12,728,461  | 8.07                               | 105.41          |

(a) Figures for 30 June 1961 and earlier exclude full-blood Aborigines (see NOTE on page 128); those for 1966 and 1971 refer to total population (i.e. including Aborigines).  
(b) Figures for dates prior to 3 April 1881 are estimates. (c) Number of males to each 100 females. (d) See footnote (a).

### Characteristics of the Population

**Masculinity.** The sharp rise in masculinity between the Census of 1848 and the three succeeding enumerations, as shown in the preceding table, was doubtless a result of the transportation of convicts which began in 1850 and continued until 1868. During this period a total of 9,668 convicts, all of whom were males, were brought to the Colony. The high levels of masculinity disclosed by the Censuses of 1891 and 1901 may be attributed to the influx of a predominantly male population following the gold discoveries of 1885 and later years.

The masculinity of Western Australia's population has continued to be high. At 30 June 1971, it stood at 105·41 and was higher than in any other State and significantly higher than the Commonwealth figure of 101·19.

**Age.** The following table shows the numbers and proportions of the population of Western Australia in selected age groups at each census from 1933 to 1966. The age groups have been chosen as representing, in a general sense, such sectors as the pre-school population, children of school age, minors, women of child-bearing age, the economically active population, and those beyond normal working age.

POPULATION IN SELECTED AGE GROUPS (a)—CENSUSES, 1933 TO 1966

| Age last birthday (years) | Number in each age group (b) |      |      |      |      | Per cent of total |      |      |      |      |
|---------------------------|------------------------------|------|------|------|------|-------------------|------|------|------|------|
|                           | Census, 30 June—             |      |      |      |      | Census, 30 June—  |      |      |      |      |
|                           | 1933                         | 1947 | 1954 | 1961 | 1966 | 1933              | 1947 | 1954 | 1961 | 1966 |

#### MALES

|                  |         |         |         |         |         |        |        |        |        |        |
|------------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| Under 6 ....     | 24,743  | 31,749  | 45,350  | 50,559  | 52,840  | 10·58  | 12·30  | 13·73  | 13·47  | 12·38  |
| 6-12 ....        | 29,116  | 29,717  | 44,075  | 56,195  | 63,328  | 12·45  | 11·51  | 13·34  | 14·97  | 14·84  |
| 6-15 ....        | 40,205  | 41,261  | 59,028  | 78,270  | 89,044  | 17·19  | 15·99  | 17·87  | 20·85  | 20·87  |
| Under 18 ....    | 73,091  | 81,352  | 113,847 | 141,371 | 157,932 | 31·24  | 31·52  | 34·46  | 37·65  | 37·01  |
| Under 21 ....    | 85,924  | 92,366  | 126,605 | 157,345 | 180,202 | 36·73  | 35·89  | 38·32  | 41·91  | 42·23  |
| 15-44 ....       | 114,045 | 116,353 | 142,694 | 150,826 | 181,273 | 48·75  | 45·08  | 43·19  | 40·17  | 42·48  |
| 15-64 ....       | 158,713 | 168,675 | 208,670 | 228,248 | 265,023 | 67·84  | 65·36  | 63·16  | 60·79  | 62·11  |
| 65 and over .... | 13,978  | 20,386  | 22,262  | 24,593  | 28,331  | 5·98   | 7·90   | 6·74   | 6·55   | 6·64   |
| All ages ....    | 233,937 | 258,076 | 330,358 | 375,452 | 426,691 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 |

#### FEMALES

|                  |         |         |         |         |         |        |        |        |        |        |
|------------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| Under 6 ....     | 23,833  | 30,518  | 43,871  | 47,888  | 50,180  | 11·63  | 12·49  | 14·18  | 13·26  | 12·24  |
| 6-12 ....        | 28,049  | 28,911  | 41,897  | 54,243  | 60,036  | 13·69  | 11·83  | 13·54  | 15·02  | 14·64  |
| 6-15 ....        | 38,853  | 40,023  | 56,210  | 75,024  | 84,790  | 18·96  | 16·38  | 18·17  | 20·77  | 20·68  |
| Under 18 ....    | 70,369  | 78,667  | 109,142 | 134,811 | 150,276 | 34·34  | 32·19  | 35·27  | 37·33  | 36·65  |
| Under 21 ....    | 82,608  | 90,538  | 121,393 | 150,128 | 171,055 | 40·31  | 37·04  | 39·23  | 41·57  | 41·72  |
| 15-44 ....       | 98,083  | 110,993 | 131,254 | 143,056 | 168,419 | 47·87  | 45·41  | 42·42  | 39·61  | 41·08  |
| 15-64 ....       | 134,980 | 157,458 | 189,062 | 213,573 | 247,244 | 65·87  | 64·43  | 61·10  | 59·13  | 60·31  |
| 65 and over .... | 10,833  | 20,235  | 25,027  | 30,504  | 35,895  | 5·29   | 8·28   | 8·09   | 8·45   | 8·76   |
| All ages ....    | 204,915 | 244,404 | 309,413 | 361,177 | 409,982 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 |

#### PERSONS

|                  |         |         |         |         |         |        |        |        |        |        |
|------------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| Under 6 ....     | 48,576  | 62,267  | 89,221  | 98,447  | 103,020 | 11·07  | 12·39  | 13·95  | 13·36  | 12·31  |
| 6-12 ....        | 57,165  | 58,628  | 85,972  | 110,438 | 123,364 | 13·03  | 11·67  | 13·44  | 14·99  | 14·74  |
| 6-15 ....        | 79,058  | 81,284  | 115,238 | 153,294 | 173,834 | 18·01  | 16·18  | 18·01  | 20·81  | 20·78  |
| Under 18 ....    | 143,460 | 160,019 | 222,989 | 276,182 | 308,208 | 32·69  | 31·85  | 34·85  | 37·49  | 36·84  |
| Under 21 ....    | 168,532 | 183,174 | 247,998 | 307,473 | 351,257 | 38·40  | 36·45  | 38·76  | 41·74  | 41·98  |
| 15-44 ....       | 212,128 | 227,346 | 273,948 | 293,882 | 349,692 | 48·34  | 45·24  | 42·82  | 39·90  | 41·80  |
| 15-64 ....       | 293,693 | 326,133 | 397,732 | 441,821 | 512,267 | 66·92  | 64·90  | 62·17  | 59·98  | 61·23  |
| 65 and over .... | 24,811  | 40,621  | 47,289  | 55,097  | 64,226  | 5·65   | 8·08   | 7·39   | 7·48   | 7·68   |
| All ages ....    | 438,852 | 502,480 | 639,771 | 736,629 | 836,673 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 |

(a) Excludes full-blood Aborigines (see NOTE on page 128).  
not stated'.

(b) Recorded ages adjusted by the distribution of ages

## AGE DISTRIBUTION OF THE POPULATION (a)—CENSUSES, 1933 TO 1966

| Age last birthday (years) | Population in each age group (b) |         |         |         |         | Percentage distribution |        |        |        |        |
|---------------------------|----------------------------------|---------|---------|---------|---------|-------------------------|--------|--------|--------|--------|
|                           | Census, 30 June—                 |         |         |         |         | Census, 30 June—        |        |        |        |        |
|                           | 1933                             | 1947    | 1954    | 1961    | 1966    | 1933                    | 1947   | 1954   | 1961   | 1966   |
| 0-4                       | 40,297                           | 52,452  | 74,978  | 81,916  | 84,810  | 9.18                    | 10.44  | 11.72  | 11.12  | 10.14  |
| 5-9                       | 40,793                           | 44,592  | 67,079  | 80,754  | 89,219  | 9.30                    | 8.87   | 10.48  | 10.96  | 10.66  |
| 10-14                     | 39,258                           | 38,682  | 52,693  | 77,041  | 86,151  | 8.95                    | 7.70   | 8.24   | 10.46  | 10.30  |
| 15-19                     | 40,152                           | 39,939  | 45,251  | 57,738  | 79,294  | 9.15                    | 7.95   | 7.07   | 7.84   | 9.48   |
| 20-24                     | 40,169                           | 38,434  | 43,602  | 47,877  | 59,508  | 9.15                    | 7.65   | 6.82   | 6.50   | 7.11   |
| 25-29                     | 40,010                           | 36,126  | 49,479  | 44,321  | 54,047  | 9.12                    | 7.19   | 7.73   | 6.02   | 6.46   |
| 30-34                     | 35,948                           | 38,585  | 48,520  | 49,647  | 49,418  | 8.19                    | 7.68   | 7.58   | 6.74   | 5.91   |
| 35-39                     | 29,014                           | 38,178  | 42,690  | 50,634  | 54,190  | 6.61                    | 7.60   | 6.67   | 6.87   | 6.48   |
| 40-44                     | 26,835                           | 36,084  | 44,406  | 43,665  | 53,235  | 6.11                    | 7.18   | 6.94   | 5.93   | 6.36   |
| 45-49                     | 24,014                           | 32,471  | 40,636  | 45,275  | 45,049  | 5.47                    | 6.46   | 6.35   | 6.15   | 5.38   |
| 50-54                     | 21,960                           | 25,064  | 35,647  | 40,376  | 44,850  | 5.00                    | 4.99   | 5.57   | 5.48   | 5.36   |
| 55-59                     | 18,940                           | 22,606  | 25,234  | 34,833  | 39,482  | 4.32                    | 4.50   | 3.94   | 4.73   | 4.72   |
| 60-64                     | 16,651                           | 18,646  | 22,267  | 27,455  | 33,194  | 3.79                    | 3.71   | 3.48   | 3.73   | 3.97   |
| 65-69                     | 12,010                           | 15,809  | 17,502  | 20,240  | 24,675  | 2.74                    | 3.15   | 2.74   | 2.75   | 2.95   |
| 70-74                     | 7,281                            | 11,934  | 13,340  | 15,742  | 17,222  | 1.66                    | 2.38   | 2.09   | 2.14   | 2.06   |
| 75 and over               | 5,520                            | 12,878  | 16,447  | 19,115  | 22,329  | 1.26                    | 2.56   | 2.57   | 2.59   | 2.67   |
| Total                     | 438,852                          | 502,480 | 639,771 | 736,629 | 836,673 | 100.00                  | 100.00 | 100.00 | 100.00 | 100.00 |
| Under 21                  | 168,532                          | 183,174 | 247,998 | 307,473 | 351,257 | 38.40                   | 36.45  | 38.76  | 41.74  | 41.98  |
| 21-64                     | 245,509                          | 278,685 | 344,484 | 374,059 | 421,190 | 55.94                   | 55.46  | 53.84  | 50.78  | 50.34  |
| 65 and over               | 24,811                           | 40,621  | 47,289  | 55,097  | 64,226  | 5.65                    | 8.08   | 7.39   | 7.48   | 7.68   |
| Total                     | 438,852                          | 502,480 | 639,771 | 736,629 | 836,673 | 100.00                  | 100.00 | 100.00 | 100.00 | 100.00 |

(a) Excludes full-blood Aborigines (see NOTE on page 128). (b) Recorded ages adjusted by the distribution of ages 'not stated'.

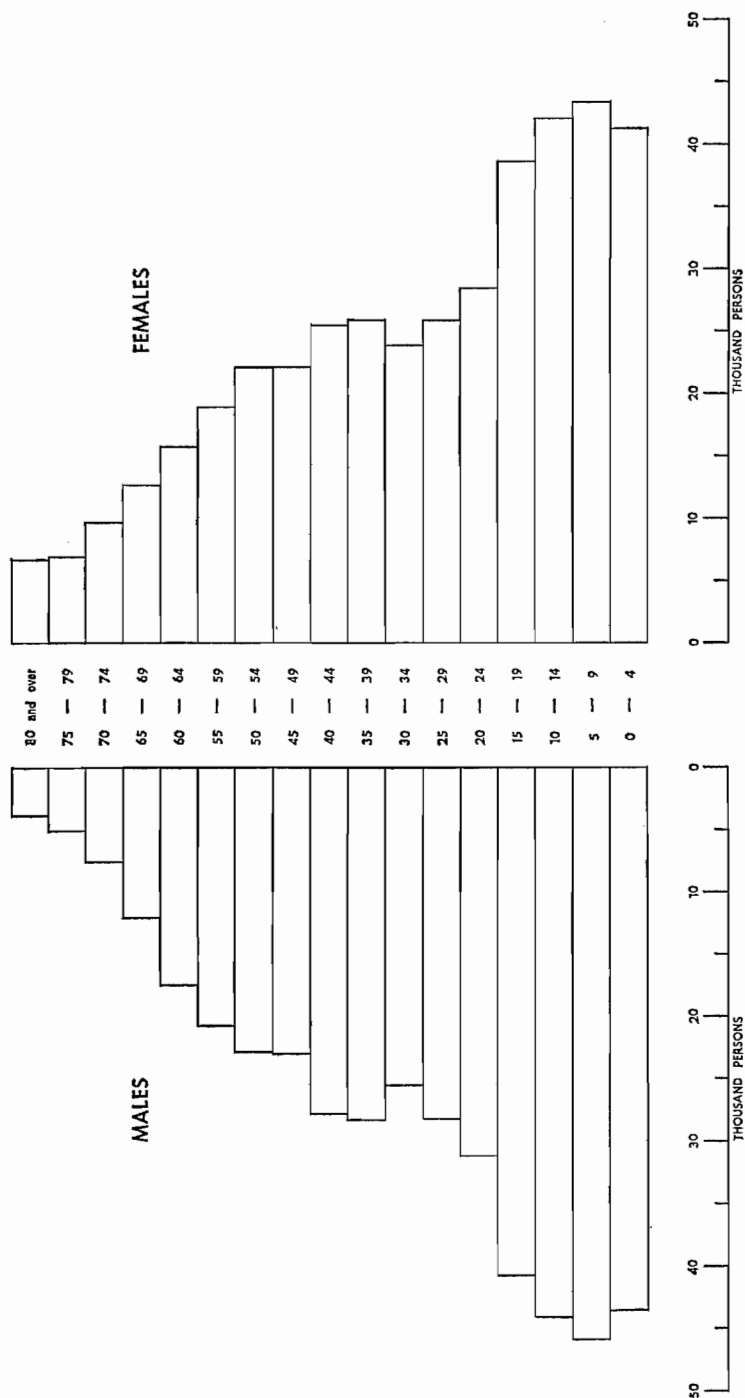
## AGE DISTRIBUTION OF THE POPULATION (a)—CENSUSES, 1961 AND 1966

| Age last birthday (years)<br>(b) | Census, 30 June 1961 |                   | Census, 30 June 1966 |         |         |                   |                          |          |                                        |
|----------------------------------|----------------------|-------------------|----------------------|---------|---------|-------------------|--------------------------|----------|----------------------------------------|
|                                  | Persons              | Per cent of total | Males                | Females | Persons |                   |                          |          | Increase or decrease (c)<br>since 1961 |
|                                  |                      |                   |                      |         | Number  | Per cent of total | Increase or decrease (c) |          |                                        |
|                                  |                      |                   |                      |         |         |                   | Numerical                | Per cent |                                        |
| 0-4                              | 81,916               | 11.12             | 43,524               | 41,286  | 84,810  | 10.14             | 2,894                    | 3.53     |                                        |
| 5-9                              | 80,754               | 10.96             | 45,791               | 43,428  | 89,219  | 10.66             | 8,465                    | 10.48    |                                        |
| 10-14                            | 77,041               | 10.46             | 44,022               | 42,129  | 86,151  | 10.30             | 9,110                    | 11.82    |                                        |
| 15-19                            | 57,738               | 7.84              | 40,714               | 38,580  | 79,294  | 9.48              | 21,556                   | 37.33    |                                        |
| 20-24                            | 47,877               | 6.50              | 31,032               | 28,476  | 59,508  | 7.11              | 11,631                   | 24.29    |                                        |
| 25-29                            | 44,321               | 6.02              | 28,135               | 25,912  | 54,047  | 6.46              | 9,726                    | 21.94    |                                        |
| 30-34                            | 49,647               | 6.74              | 25,488               | 23,930  | 49,418  | 5.91              | —229                     | —0.46    |                                        |
| 35-39                            | 50,634               | 6.87              | 28,204               | 25,986  | 54,190  | 6.48              | 3,556                    | 7.02     |                                        |
| 40-44                            | 43,665               | 5.93              | 27,700               | 25,535  | 53,235  | 6.36              | 9,570                    | 21.92    |                                        |
| 45-49                            | 45,275               | 6.15              | 22,907               | 22,142  | 45,049  | 5.38              | —226                     | —0.50    |                                        |
| 50-54                            | 40,376               | 5.48              | 22,747               | 22,103  | 44,850  | 5.36              | 4,474                    | 11.08    |                                        |
| 55-59                            | 34,833               | 4.73              | 20,634               | 18,848  | 39,482  | 4.72              | 4,649                    | 13.35    |                                        |
| 60-64                            | 27,455               | 3.73              | 17,462               | 15,732  | 33,194  | 3.97              | 5,739                    | 20.90    |                                        |
| 65-69                            | 20,240               | 2.75              | 12,023               | 12,652  | 24,675  | 2.95              | 4,435                    | 21.91    |                                        |
| 70-74                            | 15,742               | 2.14              | 7,513                | 9,709   | 17,222  | 2.06              | 1,480                    | 9.40     |                                        |
| 75-79                            | 10,065               | 1.37              | 5,020                | 6,895   | 11,915  | 1.42              | 1,850                    | 18.38    |                                        |
| 80-84                            | 5,811                | 0.79              | 2,481                | 3,986   | 6,467   | 0.77              | 656                      | 11.29    |                                        |
| 85-89                            | 2,474                | 0.34              | 991                  | 1,928   | 2,919   | 0.35              | 445                      | 17.99    |                                        |
| 90-94                            | 651                  | 0.09              | 252                  | 604     | 856     | 0.10              | 205                      | 31.49    |                                        |
| 95-99                            | 107                  | 0.01              | 49                   | 109     | 158     | 0.02              | 51                       | 47.66    |                                        |
| 100 and over                     | 7                    | 0.00              | 2                    | 12      | 14      | 0.00              | 7                        | 100.00   |                                        |
| Total                            | 736,629              | 100.00            | 426,691              | 409,982 | 836,673 | 100.00            | 100,044                  | 13.58    |                                        |

(a) Excludes full-blood Aborigines (see NOTE on page 128). (b) Recorded ages adjusted by the distribution of ages 'not stated'. (c) Minus sign (—) denotes decrease.

# Population, by Age Group: Census, 30 June 1966

AGE GROUP  
(years)





**Birthplace; Nationality.** The category 'British' nationality, as used in the table below, includes all persons who, by virtue of section 7 of the *Nationality and Citizenship Act* 1948-1967, were deemed to be British subjects. It also includes persons who, under the provisions of the Act, were Australian citizens or citizens of any other country declared by regulation 5A of the Citizenship Regulations to be 'a country within the Commonwealth of Nations'. In addition, for the purpose of this table, Irish nationality is included with 'British'.

**BIRTHPLACE AND NATIONALITY OF THE POPULATION (a)—CENSUSES, 1961 AND 1966**

| Classification                                | Census, 30 June 1961 |                   | Census, 30 June 1966 |         |         |                   |                                     |          |
|-----------------------------------------------|----------------------|-------------------|----------------------|---------|---------|-------------------|-------------------------------------|----------|
|                                               | Persons              | Per cent of total | Males                | Females | Persons |                   |                                     |          |
|                                               |                      |                   |                      |         | Number  | Per cent of total | Increase or decrease (b) since 1961 |          |
|                                               |                      |                   |                      |         |         |                   | Numerical                           | Per cent |
| BIRTHPLACE                                    |                      |                   |                      |         |         |                   |                                     |          |
| Australia—                                    |                      |                   |                      |         |         |                   |                                     |          |
| Western Australia .....                       | 501,770              | 68.12             | 276,471              | 277,156 | 553,627 | 66.17             | 51,857                              | 10.33    |
| Elsewhere in Australia .....                  | 70,412               | 9.56              | 41,727               | 42,528  | 84,255  | 10.07             | 13,843                              | 19.66    |
| Total .....                                   | 572,182              | 77.68             | 318,198              | 319,684 | 637,882 | 76.24             | 65,700                              | 11.48    |
| New Zealand .....                             | 1,913                | 0.26              | 1,431                | 1,237   | 2,668   | 0.32              | 755                                 | 39.47    |
| Europe—                                       |                      |                   |                      |         |         |                   |                                     |          |
| United Kingdom and Republic of Ireland .....  | 83,365               | 11.32             | 54,932               | 49,188  | 104,120 | 12.44             | 20,755                              | 24.90    |
| Austria .....                                 | 1,068                | 0.14              | 621                  | 489     | 1,110   | 0.13              | 42                                  | 3.93     |
| Germany .....                                 | 5,583                | 0.76              | 2,939                | 2,996   | 5,935   | 0.71              | 352                                 | 6.30     |
| Greece .....                                  | 4,088                | 0.55              | 3,113                | 2,330   | 5,443   | 0.65              | 1,355                               | 33.15    |
| Italy .....                                   | 25,249               | 3.43              | 16,005               | 12,136  | 28,141  | 3.36              | 2,892                               | 11.45    |
| Latvia .....                                  | 1,247                | 0.17              | 633                  | 501     | 1,134   | 0.14              | —113                                | —9.06    |
| Netherlands .....                             | 11,163               | 1.52              | 5,755                | 4,614   | 10,369  | 1.24              | —794                                | —7.11    |
| Poland .....                                  | 4,711                | 0.64              | 2,775                | 1,952   | 4,727   | 0.56              | 16                                  | 0.34     |
| Union of Soviet Socialist Republics (c) ..... | 1,672                | 0.23              | 836                  | 792     | 1,628   | 0.19              | —44                                 | —2.63    |
| Yugoslavia .....                              | 5,876                | 0.80              | 4,641                | 2,860   | 7,501   | 0.90              | 1,625                               | 27.65    |
| Other .....                                   | 5,761                | 0.78              | 4,402                | 2,618   | 7,020   | 0.84              | 1,259                               | 21.85    |
| Total .....                                   | 149,783              | 20.33             | 96,652               | 80,476  | 177,128 | 21.17             | 27,345                              | 18.26    |
| Other birthplaces .....                       | 12,751               | 1.73              | 10,410               | 8,585   | 18,995  | 2.27              | 6,244                               | 48.97    |
| GRAND TOTAL .....                             | 736,629              | 100.00            | 426,691              | 409,982 | 836,673 | 100.00            | 100,044                             | 13.58    |
| NATIONALITY                                   |                      |                   |                      |         |         |                   |                                     |          |
| British (d)—                                  |                      |                   |                      |         |         |                   |                                     |          |
| Born in Australia.....                        | 572,182              | 77.68             | 318,198              | 319,684 | 637,882 | 76.24             | 65,700                              | 11.48    |
| Born outside Australia .....                  | 130,708              | 17.74             | 90,412               | 77,089  | 167,501 | 20.02             | 36,793                              | 28.15    |
| Total, British (d) .....                      | 702,890              | 95.42             | 408,610              | 396,773 | 805,383 | 96.26             | 102,493                             | 14.58    |
| Foreign—                                      |                      |                   |                      |         |         |                   |                                     |          |
| Austrian .....                                | 431                  | 0.06              | 224                  | 103     | 327     | 0.04              | — 104                               | — 24.13  |
| Dutch .....                                   | 7,367                | 1.00              | 2,148                | 1,837   | 3,985   | 0.48              | — 3,382                             | — 45.91  |
| German .....                                  | 1,897                | 0.26              | 956                  | 570     | 1,526   | 0.18              | — 371                               | — 19.56  |
| Greek .....                                   | 1,882                | 0.26              | 1,499                | 1,066   | 2,565   | 0.31              | 683                                 | 36.29    |
| Italian .....                                 | 13,905               | 1.89              | 6,723                | 6,099   | 12,822  | 1.53              | — 1,083                             | — 7.79   |
| Polish .....                                  | 1,783                | 0.24              | 560                  | 400     | 960     | 0.11              | — 823                               | — 46.16  |
| Spanish .....                                 | 49                   | 0.01              | 336                  | 150     | 486     | 0.06              | 437                                 | 891.84   |
| U.S. American .....                           | 464                  | 0.06              | 1,214                | 730     | 1,944   | 0.23              | 1,480                               | 318.97   |
| Yugoslav .....                                | 2,177                | 0.30              | 1,957                | 1,080   | 3,037   | 0.36              | 860                                 | 39.50    |
| Stateless .....                               | 914                  | 0.12              | 388                  | 239     | 627     | 0.07              | — 287                               | — 31.40  |
| Other .....                                   | 2,870                | 0.39              | 2,076                | 935     | 3,011   | 0.36              | 141                                 | 4.91     |
| Total, Foreign .....                          | 33,739               | 4.58              | 18,081               | 13,209  | 31,290  | 3.74              | — 2,449                             | — 7.26   |
| GRAND TOTAL .....                             | 736,629              | 100.00            | 426,691              | 409,982 | 836,673 | 100.00            | 100,044                             | 13.58    |

(a) Excludes full-blood Aborigines (see NOTE on page 128).  
Ukraine.

(d) See letterpress immediately preceding table.

(b) Minus sign (—) denotes decrease.

(c) Includes

**Religion; Marital Status.** The Census and Statistics Act provides that there shall be no penalty for failure to answer the question on religion, and a statement to this effect is contained in the census schedule. This doubtless accounts for the high proportion of non-reply, amounting to 10.43 per cent of the population in 1961 and 10.85 per cent in 1966.

**RELIGION AND MARITAL STATUS OF THE POPULATION (a)—CENSUSES, 1961 AND 1966**

| Classification                              | Census, 30 June 1961 |                   | Census, 30 June 1966 |         |         |                   |                                     |          |
|---------------------------------------------|----------------------|-------------------|----------------------|---------|---------|-------------------|-------------------------------------|----------|
|                                             | Persons              | Per cent of total | Males                | Females | Persons |                   |                                     |          |
|                                             |                      |                   |                      |         | Number  | Per cent of total | Increase or decrease (b) since 1961 |          |
|                                             |                      |                   |                      |         |         |                   | Numerical                           | Per cent |
| RELIGION                                    |                      |                   |                      |         |         |                   |                                     |          |
| Christian—                                  |                      |                   |                      |         |         |                   |                                     |          |
| Baptist .....                               | 8,961                | 1.22              | 5,118                | 5,602   | 10,720  | 1.28              | 1,759                               | 19.63    |
| Brethren .....                              | 857                  | 0.12              | 393                  | 406     | 799     | 0.10              | — 58                                | 6.77     |
| Catholic (c) .....                          | 74,121               | 10.06             | 48,389               | 50,729  | 99,118  | 11.85             | 24,997                              | 33.72    |
| Catholic, Roman (c) .....                   | 106,052              | 14.40             | 60,705               | 53,836  | 114,541 | 13.69             | 8,489                               | 8.00     |
| Church of England .....                     | 289,863              | 39.35             | 159,309              | 156,844 | 316,153 | 37.79             | 26,290                              | 9.07     |
| Churches of Christ .....                    | 10,261               | 1.39              | 5,369                | 6,127   | 11,496  | 1.37              | 1,235                               | 12.04    |
| Congregational .....                        | 8,026                | 1.09              | 4,016                | 4,359   | 8,375   | 1.00              | 349                                 | 4.35     |
| Lutheran .....                              | 4,460                | 0.61              | 2,640                | 2,513   | 5,153   | 0.62              | 693                                 | 15.54    |
| Methodist .....                             | 76,465               | 10.38             | 39,423               | 41,417  | 80,840  | 9.66              | 4,375                               | 5.72     |
| Orthodox .....                              | 9,057                | 1.23              | 6,560                | 5,275   | 11,835  | 1.41              | 2,778                               | 30.67    |
| Presbyterian .....                          | 40,583               | 5.51              | 22,080               | 21,975  | 44,055  | 5.27              | 3,472                               | 8.56     |
| Salvation Army .....                        | 4,545                | 0.62              | 2,388                | 2,534   | 4,922   | 0.59              | 377                                 | 8.29     |
| Seventh-day Adventist .....                 | 3,790                | 0.51              | 1,927                | 2,430   | 4,357   | 0.52              | 567                                 | 14.96    |
| Protestant (undefined) .....                | 5,234                | 0.71              | 3,470                | 3,209   | 6,679   | 0.80              | 1,445                               | 27.61    |
| Other (including Christian undefined) ..... | 8,756                | 1.19              | 5,818                | 6,346   | 12,164  | 1.45              | 3,408                               | 38.92    |
| Total, Christian .....                      | 651,031              | 88.38             | 367,605              | 363,602 | 731,207 | 87.39             | 80,176                              | 12.32    |
| Non-Christian—                              |                      |                   |                      |         |         |                   |                                     |          |
| Hebrew .....                                | 2,782                | 0.38              | 1,510                | 1,486   | 2,996   | 0.36              | 214                                 | 7.69     |
| Other .....                                 | 836                  | 0.11              | 768                  | 298     | 1,066   | 0.13              | 230                                 | 27.51    |
| Total, Non-Christian .....                  | 3,618                | 0.49              | 2,278                | 1,784   | 4,062   | 0.49              | 444                                 | 12.27    |
| Indefinite .....                            | 2,028                | 0.28              | 1,558                | 1,216   | 2,774   | 0.33              | 746                                 | 36.79    |
| No religion .....                           | 3,156                | 0.43              | 5,060                | 2,759   | 7,819   | 0.93              | 4,663                               | 147.75   |
| Total replies .....                         | 659,833              | 89.57             | 376,501              | 369,361 | 745,862 | 89.15             | 86,029                              | 13.04    |
| No reply .....                              | 76,796               | 10.43             | 50,190               | 40,621  | 90,811  | 10.85             | 14,015                              | 18.25    |
| GRAND TOTAL .....                           | 736,629              | 100.00            | 426,691              | 409,982 | 836,673 | 100.00            | 100,044                             | 13.58    |
| MARITAL STATUS                              |                      |                   |                      |         |         |                   |                                     |          |
| Never married—                              |                      |                   |                      |         |         |                   |                                     |          |
| Under 15 years of age .....                 | 239,711              | 32.54             | 133,337              | 126,843 | 260,180 | 31.10             | 20,469                              | 8.54     |
| 15 years of age and over .....              | 123,813              | 16.81             | 91,188               | 60,192  | 151,380 | 18.09             | 27,567                              | 22.27    |
| Total .....                                 | 363,524              | 49.35             | 224,525              | 187,035 | 411,560 | 49.19             | 48,036                              | 13.21    |
| Married .....                               | 323,294              | 43.89             | 185,239              | 183,053 | 368,292 | 44.02             | 44,998                              | 13.92    |
| Married but permanently separated (d) ..... | 9,830                | 1.33              | 5,534                | 5,986   | 11,520  | 1.38              | 1,690                               | 17.19    |
| Divorced .....                              | 6,524                | 0.89              | 3,741                | 3,774   | 7,515   | 0.90              | 991                                 | 15.19    |
| Widowed .....                               | 33,457               | 4.54              | 7,652                | 30,134  | 37,786  | 4.52              | 4,329                               | 12.94    |
| GRAND TOTAL .....                           | 736,629              | 100.00            | 426,691              | 409,982 | 836,673 | 100.00            | 100,044                             | 13.58    |

(a) Excludes full-blood Aborigines (see NOTE on page 128).  
individual census schedules.

(d) Legally or otherwise.

(b) Minus sign (—) denotes decrease.

(c) As stated in

**Occupational Status; Industry; Occupation.** Classifications of the population according to occupational status, industry, and occupation, as recorded at the Census of 30 June 1966, will be found in Chapter X.

**Dwellings.** Particulars of dwellings, as revealed by the census, are given in Chapter V.

## INTERCENSAL INCREASES

The following table shows the population of Western Australia at each census from 1891 to 1971, and the intercensal gains or losses by natural increase and by migration. It also shows the average annual gains or losses in each intercensal period.

## POPULATION—ANALYSIS OF INTERCENSAL INCREASES, 1891-1971

| Period (a)                   | Population at beginning of period | Natural increase (b) |                | Net migration (c) |                | Total increase |                | Population at end of period |
|------------------------------|-----------------------------------|----------------------|----------------|-------------------|----------------|----------------|----------------|-----------------------------|
|                              |                                   | Total                | Annual average | Total             | Annual average | Number         | Annual average |                             |
| 1891-1901 (10 years) ....    | 49,782                            | 15,901               | 1,590          | 118,441           | 11,844         | 134,342        | 13,434         | 184,124                     |
| 1901-1911 (10 years) ....    | 184,124                           | 44,246               | 4,425          | 53,744            | 5,374          | 97,990         | 9,799          | 282,114                     |
| 1911-1921 (10 years) ....    | 282,114                           | 51,850               | 5,185          | -1,232            | -123           | 50,618         | 5,062          | 332,732                     |
| 1921-1933 (12½ years) ....   | 332,732                           | 60,127               | 4,908          | 45,993            | 3,755          | 106,120        | 8,663          | 438,852                     |
| 1933-1947 (14 years) ....    | 438,852                           | 69,439               | 4,960          | -5,811            | -415           | 63,628         | 4,545          | 502,480                     |
| 1947-1954 (7 years) ....     | 502,480                           | 65,576               | 9,368          | 71,715            | 10,245         | 137,291        | 19,613         | 639,771                     |
| 1954-1961 (7 years) ....     | 639,771                           | 79,432               | 11,348         | 17,426            | 2,489          | 96,858         | 13,837         | 736,629                     |
| 1961-1966 (5 years) ....     | 736,629                           | 53,122               | 10,624         | 46,922            | 9,384          | 100,044        | 20,009         | 836,673                     |
| 1966-1971 (5 years) (d) .... | 848,100                           | 64,454               | 12,891         | 114,818           | 22,964         | 179,272        | 35,854         | 1,027,372                   |

(a) For Census dates, see table on page 129. (b) Excess of births registered over deaths registered. (c) Interstate and overseas. Minus sign (—) indicates loss by migration. (d) Figures relate to total population (i.e. including Aborigines); those shown for earlier periods exclude full-blood Aborigines (see NOTE on page 128).

The following table shows the increases in the populations of the several States and Territories, and of Australia as a whole, during each of the eight intercensal periods from 1901 to 1971.

## POPULATION—INTERCENSAL INCREASES: STATES AND TERRITORIES, 1901-1971

| State or Territory                | 1901-1911<br>(a)<br>(10 years) | 1911-1921<br>(10 years) | 1921-1933<br>(12½ years) | 1933-1947<br>(14 years) | 1947-1954<br>(7 years) | 1954-1961<br>(7 years) | 1961-1966<br>(5 years) | 1966-1971<br>(b)<br>(5 years) |
|-----------------------------------|--------------------------------|-------------------------|--------------------------|-------------------------|------------------------|------------------------|------------------------|-------------------------------|
| NUMERICAL INCREASE                |                                |                         |                          |                         |                        |                        |                        |                               |
| New South Wales (c) ....          | 293,602                        | 453,637                 | 500,476                  | 383,991                 | 438,691                | 493,484                | 316,809                | 351,655                       |
| Victoria ....                     | 114,481                        | 215,729                 | 288,981                  | 234,440                 | 397,640                | 477,772                | 289,413                | 275,944                       |
| Queensland ....                   | 107,684                        | 150,159                 | 191,562                  | 158,881                 | 211,844                | 200,569                | 144,857                | 149,038                       |
| South Australia ....              | 50,212                         | 86,602                  | 85,789                   | 65,124                  | 151,021                | 172,246                | 122,535                | 77,790                        |
| Western Australia ....            | 97,990                         | 50,618                  | 106,120                  | 63,628                  | 137,291                | 96,858                 | 100,044                | 179,272                       |
| Tasmania ....                     | 18,736                         | 22,569                  | 13,819                   | 29,479                  | 51,674                 | 41,588                 | 21,095                 | 18,438                        |
| Northern Territory ....           | -1,501                         | 557                     | 983                      | 6,018                   | 5,601                  | 10,626                 | 10,338                 | 29,015                        |
| Australian Capital Territory .... | (d)                            | 858                     | 6,375                    | 7,958                   | 13,410                 | 28,513                 | 37,185                 | 47,811                        |
| AUSTRALIA ....                    | 681,204                        | 980,729                 | 1,194,105                | 949,519                 | 1,407,172              | 1,521,656              | 1,042,276              | 1,128,963                     |

## PROPORTIONAL INCREASE (per cent)

|                                   |        |       |        |        |       |       |       |       |
|-----------------------------------|--------|-------|--------|--------|-------|-------|-------|-------|
| New South Wales (c) ....          | 21.67  | 27.55 | 23.83  | 14.76  | 14.70 | 14.41 | 8.09  | 8.30  |
| Victoria ....                     | 9.53   | 16.40 | 18.87  | 12.88  | 19.35 | 19.48 | 9.88  | 8.57  |
| Queensland ....                   | 21.62  | 24.79 | 25.34  | 16.77  | 19.15 | 15.21 | 9.54  | 8.90  |
| South Australia ....              | 14.01  | 21.20 | 17.33  | 11.21  | 23.38 | 21.61 | 12.64 | 7.10  |
| Western Australia ....            | 53.22  | 17.94 | 31.89  | 14.50  | 27.32 | 15.14 | 13.58 | 21.14 |
| Tasmania ....                     | 10.86  | 11.80 | 6.46   | 12.95  | 20.10 | 13.47 | 6.02  | 4.96  |
| Northern Territory ....           | -31.20 | 16.83 | 25.42  | 124.08 | 51.54 | 64.52 | 38.15 | 51.35 |
| Australian Capital Territory .... | (d)    | 50.06 | 247.86 | 88.95  | 79.33 | 94.06 | 63.21 | 49.79 |
| AUSTRALIA ....                    | 18.05  | 22.01 | 21.97  | 14.32  | 18.57 | 16.93 | 9.92  | 9.73  |

## AVERAGE ANNUAL RATE OF INCREASE (per cent)

|                                   |       |      |       |      |      |      |       |      |
|-----------------------------------|-------|------|-------|------|------|------|-------|------|
| New South Wales (c) ....          | 1.97  | 2.46 | 1.76  | 0.99 | 1.98 | 1.94 | 1.57  | 1.61 |
| Victoria ....                     | 0.91  | 1.53 | 1.42  | 0.87 | 2.56 | 2.58 | 1.90  | 1.66 |
| Queensland ....                   | 1.98  | 2.24 | 1.86  | 1.11 | 2.53 | 2.04 | 1.84  | 1.72 |
| South Australia ....              | 1.32  | 1.94 | 1.31  | 0.76 | 3.05 | 2.83 | 2.41  | 1.38 |
| Western Australia ....            | 4.36  | 1.66 | 2.29  | 0.97 | 3.51 | 2.03 | 2.58  | 3.91 |
| Tasmania ....                     | 1.04  | 1.12 | 0.51  | 0.87 | 2.65 | 1.82 | 1.18  | 0.97 |
| Northern Territory ....           | -3.67 | 1.57 | 1.87  | 5.93 | 6.12 | 7.37 | 6.68  | 8.64 |
| Australian Capital Territory .... | (d)   | 4.14 | 10.71 | 4.65 | 8.70 | 9.93 | 10.29 | 8.42 |
| AUSTRALIA ....                    | 1.67  | 2.01 | 1.63  | 0.96 | 2.46 | 2.26 | 1.91  | 1.87 |

(a) Minus sign (—) denotes decrease. (b) See footnote (d) to previous table. (c) Includes Australian Capital Territory prior to 1911. (d) Part of New South Wales prior to 1911.

## GEOGRAPHICAL DISTRIBUTION

**Urban, Rural and Migratory Population**

At the 1971 Census a boundary was defined for each population cluster of 1,000 or more persons. These clusters are named 'urban centres' and the population enumerated in them is classified as urban for statistical purposes.

In determining the boundary of an urban centre with a population of 25,000 or more, all contiguous Census collectors' districts which were found to have a minimum population density of 500 per square mile at the Census were included. Some areas of lower density were classified as urban in accordance with certain other specified criteria. The term *Major urban* is applied to those centres which had a population of 100,000 or more, and supersedes the term *Metropolitan* as used at previous censuses. Urban Perth is the only such centre in Western Australia.

Around each urban centre with a population of at least 100,000 a further boundary was defined to contain the anticipated development of the urban centre and associated smaller urban centres for a period of at least twenty years. This boundary delimits an area which is now, or is expected to be, in close social and economic contact with the urban centre. It is a fixed boundary, as distinct from the boundary of the urban centre which moves from census to census as urbanisation proceeds. In Western Australia, the area within this fixed boundary is described as the Perth Statistical Division (see map at back of Year Book).

Urban Perth at 30 June 1971 comprised the Cities of Fremantle, Nedlands, Perth, South Perth, and Subiaco; the Towns of Claremont, Cottesloe, East Fremantle, and Mosman Park; the Shires of Bassendean and Peppermint Grove; parts of the Cities of Melville and Stirling, parts of the Towns of Canning and Cockburn, and parts of the Shires of Armadale-Kelmscott, Bayswater, Belmont, Gosnells, Kalamunda, Mundaring, Swan, and Wanneroo. It covered an area of 202.17 square miles, compared with 147.51 square miles (designated Perth Metropolitan Area) at 30 June 1966. The area of the Perth Statistical Division was 2,073 square miles.

In delimiting urban centres with a population of less than 25,000 persons all continuous urban growth is included (which, in small urban centres, would not necessarily occur if the density criterion were applied), together with any close but non-contiguous development which could be clearly regarded as part of the centre.

A full description of the criteria adopted in the delimitation of urban centres appears in *Field Count Statement No. 7—Population: Local Government Areas and Towns, Western Australia* published February 1972 by the Commonwealth Statistician, Canberra.

*Rural* population represents persons enumerated in the area not included in urban centres. The term *Migratory* refers to persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left an Australian port before Census night for a next port of call in Western Australia. It includes also those who were enumerated on long-distance trains, motor coaches or aircraft.

The following tables show, for 1966 and 1971, a division of the population of each State and Territory into *Major urban*, *Other urban*, *Rural* and *Migratory*. The classification *Major urban* represents the population of the urban centres of Sydney (2,717,069 at 30 June 1971), Newcastle (249,962) and Wollongong (185,890), as well as part of Canberra (15,368), in New South Wales; Melbourne (2,388,941) and Geelong (115,047) in Victoria; Brisbane (816,987) in Queensland; Adelaide (809,466) in South Australia; Perth (639,622) in Western Australia; Hobart (129,808) in Tasmania; and part of Canberra (140,966) in the Australian Capital Territory.

In the intercensal period each of the States and Territories showed an increase in urban population, and all except the Northern Territory experienced a decline in rural population. In Australia as a whole, urban population increased by 1,271,632 (13.22 per cent) and rural population fell by 139,858 (7.13 per cent).

URBAN AND RURAL POPULATIONS (a)—STATES AND TERRITORIES  
CENSUSES, 1966 AND 1971  
(Persons)

| State or Territory                 | Urban     |           |           | Rural     | Migratory | Total population |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|------------------|
|                                    | Major     | Other     | Total     |           |           |                  |
| CENSUS, 30 JUNE 1966               |           |           |           |           |           |                  |
| New South Wales ....               | 2,843,395 | 816,767   | 3,660,162 | 568,675   | 9,064     | 4,237,901        |
| Victoria .....                     | 2,213,461 | 540,078   | 2,753,539 | 463,690   | 2,988     | 3,220,217        |
| Queensland .....                   | 716,402   | 557,841   | 1,274,243 | 398,018   | 2,063     | 1,674,324        |
| South Australia .....              | 728,279   | 174,964   | 903,243   | 190,167   | 1,574     | 1,094,984        |
| Western Australia .....            | 500,246   | 142,111   | 642,357   | 202,704   | 3,039     | 848,100          |
| Tasmania .....                     | 119,469   | 141,513   | 260,982   | 109,779   | 675       | 371,436          |
| Northern Territory .....           | .....     | 30,166    | 30,166    | 26,043    | 295       | 56,504           |
| Australian Capital Territory ..... | 92,311    | .....     | 92,311    | 3,721     | ....      | 96,032           |
| AUSTRALIA .....                    | 7,213,563 | 2,403,440 | 9,617,003 | 1,962,797 | 19,698    | 11,599,498       |

## CENSUS, 30 JUNE 1971

|                                    |            |           |            |           |        |            |
|------------------------------------|------------|-----------|------------|-----------|--------|------------|
| New South Wales ....               | 3,168,289  | 895,962   | 4,064,251  | 519,602   | 5,703  | 4,589,556  |
| Victoria .....                     | 2,503,988  | 562,812   | 3,066,800  | 427,101   | 2,260  | 3,496,161  |
| Queensland .....                   | 816,987    | 630,112   | 1,447,099  | 372,557   | 3,706  | 1,823,362  |
| South Australia .....              | 809,466    | 182,834   | 992,300    | 178,733   | 1,741  | 1,172,774  |
| Western Australia .....            | 639,622    | 196,331   | 835,953    | 188,688   | 2,731  | 1,027,372  |
| Tasmania .....                     | 129,808    | 156,372   | 286,180    | 103,271   | 423    | 389,874    |
| Northern Territory .....           | .....      | 55,086    | 55,086     | 30,110    | 323    | 85,519     |
| Australian Capital Territory ..... | (b)140,966 | .....     | (b)140,966 | 2,877     | .....  | 143,843    |
| AUSTRALIA .....                    | 8,209,126  | 2,679,509 | 10,888,635 | 1,822,939 | 16,887 | 12,728,461 |

(a) Figures relate to all persons enumerated, i.e. including Aborigines. See page 136 for definitions of *Urban*, *Rural*, etc.  
(b) The total population of urban Canberra was 156,334, including 15,368 persons in Queanbeyan Municipality (New South Wales).

URBAN AND RURAL POPULATIONS (a)—STATES AND TERRITORIES  
PERCENTAGE DISTRIBUTION: CENSUSES, 1966 AND 1971  
(Per cent)

| State or Territory           | Urban |       |       | Rural | Migratory | Total  |
|------------------------------|-------|-------|-------|-------|-----------|--------|
|                              | Major | Other | Total |       |           |        |
| CENSUS, 30 JUNE 1966         |       |       |       |       |           |        |
| New South Wales ....         | 67.09 | 19.27 | 86.37 | 13.42 | 0.21      | 100.00 |
| Victoria ....                | 68.74 | 16.77 | 85.51 | 14.40 | 0.09      | 100.00 |
| Queensland ....              | 42.79 | 33.32 | 76.10 | 23.77 | 0.12      | 100.00 |
| South Australia ....         | 66.51 | 15.97 | 82.48 | 17.36 | 0.14      | 100.00 |
| Western Australia ....       | 58.98 | 16.76 | 75.74 | 23.90 | 0.36      | 100.00 |
| Tasmania ....                | 32.16 | 38.10 | 70.26 | 29.56 | 0.18      | 100.00 |
| Northern Territory ....      | ....  | 53.39 | 53.39 | 46.09 | 0.52      | 100.00 |
| Australian Capital Territory | 96.13 | ....  | 96.13 | 3.87  | ....      | 100.00 |
| AUSTRALIA ....               | 62.18 | 20.72 | 82.90 | 16.92 | 0.16      | 100.00 |

## CENSUS, 30 JUNE 1971

|                                    |       |       |       |       |       |        |
|------------------------------------|-------|-------|-------|-------|-------|--------|
| New South Wales ....               | 69.03 | 19.52 | 88.55 | 11.32 | 0.12  | 100.00 |
| Victoria .....                     | 71.62 | 16.10 | 87.72 | 12.22 | 0.06  | 100.00 |
| Queensland .....                   | 44.81 | 34.56 | 79.36 | 20.43 | 0.20  | 100.00 |
| South Australia .....              | 69.02 | 15.59 | 84.61 | 15.24 | 0.15  | 100.00 |
| Western Australia .....            | 62.26 | 19.11 | 81.37 | 18.37 | 0.27  | 100.00 |
| Tasmania .....                     | 33.29 | 40.11 | 73.40 | 26.49 | 0.11  | 100.00 |
| Northern Territory .....           | ..... | 64.41 | 64.41 | 35.21 | 0.38  | 100.00 |
| Australian Capital Territory ..... | 98.00 | ..... | 98.00 | 2.00  | ..... | 100.00 |
| AUSTRALIA .....                    | 64.49 | 21.05 | 85.54 | 14.32 | 0.13  | 100.00 |

(a) See footnotes to previous table.

The following table gives the population of each urban centre in Western Australia at the Censuses of 1966 and 1971. The rural and migratory populations enumerated at each Census are also shown.

POPULATION—URBAN CENTRES, RURAL AND MIGRATORY (a)  
CENSUSES, 1966 AND 1971

| Area                                         | Population       |          |         |           | Intercensal increase or decrease (b) |          |                                |
|----------------------------------------------|------------------|----------|---------|-----------|--------------------------------------|----------|--------------------------------|
|                                              | Census, 30 June— |          |         |           | Number                               | Per cent | Average annual rate (per cent) |
|                                              | 1966 (c)         | 1971 (b) |         |           |                                      |          |                                |
|                                              |                  | Persons  | Males   | Females   |                                      |          |                                |
| Major urban (a)—<br>Perth .....              | 500,246          | 316,705  | 322,917 | 639,622   | 139,376                              | 27.86    | 5.04                           |
| Other urban (a)—<br>Kalgoorlie-Boulder ..... | 19,980           | 10,952   | 9,832   | 20,784    | 804                                  | 4.02     | 0.79                           |
| Bunbury .....                                | 15,467           | 8,908    | 8,854   | 17,762    | 2,295                                | 14.84    | 2.81                           |
| Geraldton .....                              | 12,196           | 7,785    | 7,545   | 15,330    | 3,134                                | 25.70    | 4.68                           |
| Albany .....                                 | 11,440           | 6,385    | 6,670   | 13,055    | 1,615                                | 14.12    | 2.68                           |
| Rockingham .....                             | (d) 5,039        | 6,176    | 5,814   | 11,990    | 6,951                                | 137.94   | 18.93                          |
| Kwinana New Town (e) .....                   | 4,144            | 5,073    | 5,023   | 10,096    | 5,952                                | 143.63   | 19.49                          |
| Port Hedland .....                           | 1,920            | 4,272    | 2,900   | 7,172     | 5,252                                | 273.54   | 30.16                          |
| Northam .....                                | 7,413            | 3,640    | 3,469   | 7,109     | —304                                 | —4.10    | —0.83                          |
| Collie .....                                 | 7,669            | 3,361    | 3,441   | 6,802     | —867                                 | —11.31   | —2.37                          |
| Mandurah .....                               | 2,730            | 2,488    | 2,551   | 5,039     | 2,309                                | 84.58    | 13.04                          |
| Busselton .....                              | 4,278            | 2,435    | 2,585   | 5,020     | 742                                  | 17.34    | 3.25                           |
| Esperance .....                              | 2,698            | 2,506    | 2,354   | 4,860     | 2,162                                | 80.13    | 12.49                          |
| Narrogin .....                               | 4,878            | 2,393    | 2,450   | 4,843     | —35                                  | —0.72    | —0.14                          |
| Carnarvon .....                              | 3,086            | 2,142    | 2,080   | 4,222     | 1,136                                | 36.81    | 6.47                           |
| Kambalda .....                               | n.a.             | 2,406    | 1,803   | 4,209     | n.a.                                 | n.a.     | n.a.                           |
| Newman .....                                 | n.a.             | 2,916    | 973     | 3,889     | n.a.                                 | n.a.     | n.a.                           |
| Katanning .....                              | 3,596            | 1,745    | 1,858   | 3,603     | 7                                    | 0.19     | 0.04                           |
| Merredin .....                               | 3,601            | 1,892    | 1,704   | 3,596     | —5                                   | —0.14    | —0.03                          |
| Dampier .....                                | 1,080            | 2,574    | 984     | 3,558     | 2,478                                | 229.44   | 26.93                          |
| Manjimup .....                               | 3,186            | 1,710    | 1,813   | 3,523     | 337                                  | 10.58    | 2.03                           |
| Tom Price .....                              | (f) 2,020        | 1,350    | 3,370   | 2,821     | 513.84                               | 43.75    | 43.75                          |
| Exmouth .....                                | (g) 1,546        | 1,092    | 2,638   | 1,757     | 199.43                               | 24.53    | 24.53                          |
| Derby .....                                  | 1,843            | 1,267    | 1,254   | 2,521     | 678                                  | 36.79    | 6.47                           |
| Harvey .....                                 | 2,066            | 1,163    | 1,166   | 2,329     | 263                                  | 12.73    | 2.43                           |
| Broome .....                                 | 1,874            | 1,007    | 877     | 1,884     | 10                                   | 0.53     | 0.11                           |
| Karratha .....                               | n.a.             | 1,027    | 796     | 1,823     | n.a.                                 | n.a.     | n.a.                           |
| Paraburdoo .....                             | n.a.             | 1,340    | 438     | 1,778     | n.a.                                 | n.a.     | n.a.                           |
| Norseman .....                               | 1,911            | 987      | 770     | 1,757     | —154                                 | —8.06    | —1.67                          |
| Mount Barker .....                           | 1,595            | 818      | 777     | 1,595     | —                                    | —        | —                              |
| Bridgetown .....                             | 1,569            | 769      | 762     | 1,531     | —38                                  | —2.42    | —0.49                          |
| Wagin .....                                  | 1,753            | 788      | 739     | 1,527     | —226                                 | —12.89   | —2.72                          |
| Wanneroo .....                               | n.a.             | 767      | 758     | 1,525     | n.a.                                 | n.a.     | n.a.                           |
| Wyndham .....                                | 1,421            | 836      | 660     | 1,496     | 75                                   | 5.28     | 1.03                           |
| Moora .....                                  | 1,263            | 748      | 684     | 1,432     | 169                                  | 13.38    | 2.54                           |
| Roeboorne .....                              | n.a.             | 746      | 649     | 1,395     | n.a.                                 | n.a.     | n.a.                           |
| Kellerberrin .....                           | 1,370            | 659      | 645     | 1,304     | —66                                  | —4.82    | —0.98                          |
| Roleystone .....                             | n.a.             | 593      | 600     | 1,193     | n.a.                                 | n.a.     | n.a.                           |
| Kununurra .....                              | (h) 661          | 521      | 1,182   | 207       | 21.23                                | 3.93     | 3.93                           |
| Pinjarra .....                               | (i) 552          | 624      | 1,176   | 287       | 32.28                                | 5.76     | 5.76                           |
| York .....                                   | 1,432            | 607      | 569     | 1,176     | —256                                 | —17.88   | —3.86                          |
| Waroona .....                                | 1,013            | 579      | 583     | 1,162     | 149                                  | 14.71    | 2.78                           |
| Wundowie .....                               | 1,040            | 556      | 486     | 1,042     | 2                                    | 0.19     | 0.04                           |
| Goldsworthy .....                            | n.a.             | 655      | 365     | 1,020     | n.a.                                 | n.a.     | n.a.                           |
| Gnowangerup .....                            | 1,014            | 507      | 504     | 1,011     | —3                                   | —0.30    | —0.06                          |
| Donnybrook .....                             | (j) 498          | 504      | 504     | 1,002     | 21                                   | 2.14     | 0.42                           |
| Armadale .....                               | 3,463            | (k)      | (k)     | (k)       | n.a.                                 | n.a.     | n.a.                           |
| Kalamunda-Gooseberry Hill .....              | 3,083            | (k)      | (k)     | (k)       | n.a.                                 | n.a.     | n.a.                           |
| Total, Other urban .....                     | 142,111          | 103,455  | 92,876  | 196,331   | 54,220                               | 38.15    | 6.68                           |
| Total urban .....                            | 642,357          | 420,160  | 415,793 | 835,953   | 193,596                              | 30.14    | 5.41                           |
| Rural .....                                  | 202,704          | 104,592  | 84,096  | 188,688   | —14,016                              | —6.91    | —1.42                          |
| Migratory (a) .....                          | 3,039            | 2,465    | 266     | 2,731     | —308                                 | —10.13   | n.a.                           |
| WESTERN AUSTRALIA .....                      | 848,100          | 527,217  | 500,155 | 1,027,372 | 179,272                              | 21.14    | 3.91                           |

n.a. denotes 'not available' or 'not applicable'.

(a) See letterpress on page 136. (b) Preliminary figures based on 1971 Census field count. (c) Figures have been amended to include Aborigines and therefore differ from those shown in previous issue. (d) Comprises population of urban centres of Rockingham-Safety Bay and Kwinana Industrial as delimited at the 1966 Census; incorporated into urban Rockingham at the 1971 Census. (e) Described as Medina-Calista at the 1966 Census. (f) Non-urban in 1966; population 549. (g) Non-urban in 1966; population 881. (h) Non-urban in 1966; population 975. (i) Non-urban in 1966; population 889. (j) Non-urban in 1966; population 981. (k) Absorbed by urban Perth at the 1971 Census.

### Population in Statistical Divisions

Western Australia is divided into a number of municipal districts for the purposes of local government administration. These districts, of which there were 140 at 30 June 1971, are used as the basis of presentation of data derived not only from the Census of Population and Housing but also from many of the regular statistical collections. Information presented in this way is valuable when considering activities in particular local government areas but is often more detailed than is required for a broader geographical assessment. For this reason, the municipal districts are combined into Statistical Divisions which provide significant areas for the publication of statistics in a convenient and readily appreciable summary form. The Statistical Divisions and their component local government areas are shown on the map of the State appearing at the back of the Year Book.

In 1929, when statistics were first presented according to Statistical Divisions, Western Australia was divided into seven such areas. There are currently ten Statistical Divisions, and these have been used as the basis of compilation of the particulars in the following tables. The figures shown refer to the areas contained within the several Divisions as they existed at the Census of 30 June 1971.

STATISTICAL DIVISIONS—POPULATION AT EACH CENSUS FROM 1911  
(Figures compiled on the basis of the 1971 boundaries)

| Statistical Division       | Census date     |                 |                 |                 |                 |                 |                        |                        |
|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------|------------------------|
|                            | 1911<br>3 April | 1921<br>4 April | 1933<br>30 June | 1947<br>30 June | 1954<br>30 June | 1961<br>30 June | 1966<br>30 June<br>(a) | 1971<br>30 June<br>(a) |
| POPULATION ('000)          |                 |                 |                 |                 |                 |                 |                        |                        |
| Perth Statistical Division | 116.2           | 170.2           | 230.3           | 303.0           | 395.0           | 475.4           | 559.3                  | 701.4                  |
| Other Divisions—           |                 |                 |                 |                 |                 |                 |                        |                        |
| South-West                 | 27.0            | 34.4            | 50.4            | 52.0            | 68.6            | 71.6            | 73.0                   | 77.5                   |
| Southern Agricultural      | 15.9            | 20.5            | 27.0            | 24.9            | 36.1            | 41.6            | 44.8                   | 45.3                   |
| Central Agricultural       | 31.5            | 40.5            | 53.6            | 43.8            | 55.9            | 57.6            | 58.8                   | 54.0                   |
| Northern Agricultural      | 13.4            | 17.7            | 26.6            | 24.7            | 32.1            | 35.8            | 38.8                   | 42.7                   |
| Eastern Goldfields         | 55.0            | 33.7            | 33.2            | 37.7            | 34.6            | 34.1            | 35.1                   | 42.5                   |
| Central                    | 9.6             | 5.0             | 7.9             | 6.4             | 4.8             | 4.0             | 4.6                    | 6.1                    |
| North-West                 | 2.1             | 2.1             | 2.6             | 2.6             | 4.2             | 4.6             | 9.0                    | 11.6                   |
| Pilbara                    | 2.5             | 1.4             | 1.8             | 1.7             | 2.7             | 3.2             | 8.9                    | 29.5                   |
| Kimberley (b)              | 2.0             | 2.2             | 2.1             | 2.8             | 3.5             | 5.7             | 12.7                   | 14.1                   |
| Total (b)                  | 158.9           | 157.3           | 205.3           | 196.5           | 242.5           | 258.2           | 285.8                  | 323.2                  |
| Total, all Divisions (b)   | 275.1           | 327.5           | 435.7           | 499.5           | 637.5           | 733.6           | 845.1                  | 1,024.6                |
| Migratory (b)              | 7.0             | 5.2             | 3.2             | 3.0             | 2.3             | 3.0             | 3.0                    | 2.7                    |
| WESTERN AUSTRALIA          | 282.1           | 332.7           | 438.9           | 502.5           | 639.8           | 736.6           | 848.1                  | 1,027.4                |

PROPORTION OF STATE TOTAL (per cent)

|                            |        |        |        |        |        |        |        |        |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Perth Statistical Division | 41.18  | 51.16  | 52.49  | 60.29  | 61.75  | 64.54  | 65.95  | 68.27  |
| Other Divisions—           |        |        |        |        |        |        |        |        |
| South-West                 | 9.57   | 10.33  | 11.49  | 10.34  | 10.72  | 9.72   | 8.61   | 7.54   |
| Southern Agricultural      | 5.63   | 6.16   | 6.15   | 4.96   | 5.65   | 5.65   | 5.28   | 4.41   |
| Central Agricultural       | 11.16  | 12.16  | 12.22  | 8.71   | 8.74   | 7.82   | 6.94   | 5.26   |
| Northern Agricultural      | 4.75   | 5.32   | 6.06   | 4.91   | 5.01   | 4.86   | 4.58   | 4.15   |
| Eastern Goldfields         | 19.51  | 10.13  | 7.57   | 7.51   | 5.40   | 4.63   | 4.13   | 4.14   |
| Central                    | 3.39   | 1.49   | 1.79   | 1.27   | 0.75   | 0.54   | 0.54   | 0.60   |
| North-West                 | 0.75   | 0.62   | 0.60   | 0.52   | 0.66   | 0.62   | 1.07   | 1.12   |
| Pilbara                    | 0.87   | 0.42   | 0.42   | 0.33   | 0.41   | 0.44   | 1.05   | 2.87   |
| Kimberley (b)              | 0.70   | 0.65   | 0.48   | 0.55   | 0.55   | 0.77   | 1.50   | 1.38   |
| Total (b)                  | 56.33  | 47.28  | 46.78  | 39.11  | 37.90  | 35.05  | 33.69  | 31.46  |
| Total, all Divisions (b)   | 97.51  | 98.44  | 99.27  | 99.41  | 99.65  | 99.59  | 99.64  | 99.73  |
| Migratory (b)              | 2.49   | 1.56   | 0.73   | 0.59   | 0.35   | 0.41   | 0.36   | 0.27   |
| WESTERN AUSTRALIA          | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

(a) Figures relate to total population (i.e. including Aborigines); those shown for 30 June 1961 and earlier exclude full-blood Aborigines (see NOTE on page 128). (b) At censuses prior to 1954, the pearling fleet based on Broome was classified as *Migratory* (see letterpress on page 136). The estimated population involved was 2,500 in 1911; 1,500 in 1921; 800 in 1933; and 200 in 1947. From 1954, pearling crews have been included in the population of Broome.



## STATISTICAL DIVISIONS—POPULATION (a) AT CENSUSES, 1966 AND 1971

| Statistical Division       | Census, 30 June 1966 |         |         |                 | Census, 30 June 1971 |         |           |                 |
|----------------------------|----------------------|---------|---------|-----------------|----------------------|---------|-----------|-----------------|
|                            | Males                | Females | Persons | Masculinity (b) | Males                | Females | Persons   | Masculinity (b) |
| Perth Statistical Division | 275,122              | 284,176 | 559,298 | 96·81           | 348,740              | 352,652 | 701,392   | 98·99           |
| Other Divisions—           |                      |         |         |                 |                      |         |           |                 |
| South-West                 | 37,540               | 35,443  | 72,983  | 105·92          | 39,489               | 38,015  | 77,504    | 103·88          |
| Southern Agricultural      | 23,496               | 21,312  | 44,808  | 110·25          | 23,511               | 21,756  | 45,267    | 108·07          |
| Central Agricultural       | 31,628               | 27,192  | 58,820  | 116·31          | 28,782               | 25,207  | 53,989    | 114·18          |
| Northern Agricultural      | 21,061               | 17,756  | 38,817  | 118·61          | 22,882               | 19,771  | 42,653    | 115·74          |
| Eastern Goldfields         | 19,000               | 16,062  | 35,062  | 118·29          | 23,135               | 19,404  | 42,539    | 119·23          |
| Central                    | 2,640                | 1,980   | 4,620   | 133·33          | 3,870                | 2,265   | 6,135     | 170·86          |
| North-West                 | 5,747                | 3,299   | 9,046   | 174·20          | 6,565                | 4,992   | 11,557    | 131·51          |
| Pilbara                    | 6,350                | 2,557   | 8,907   | 248·34          | 19,901               | 9,568   | 29,469    | 208·00          |
| Kimberley                  | 7,476                | 5,224   | 12,700  | 143·11          | 7,877                | 6,259   | 14,136    | 125·85          |
| Total                      | 154,938              | 130,825 | 285,763 | 118·43          | 176,012              | 147,237 | 323,249   | 119·54          |
| Total, all Divisions       | 430,060              | 415,001 | 845,061 | 103·63          | 524,752              | 499,889 | 1,024,641 | 104·97          |
| Migratory (c)              | 2,509                | 530     | 3,039   | 473·40          | 2,465                | 266     | 2,731     | 926·69          |
| WESTERN AUSTRALIA          | 432,569              | 415,531 | 848,100 | 104·10          | 527,217              | 500,155 | 1,027,372 | 105·41          |

(a) Figures relate to total population, i.e. including Aborigines. (b) Number of males to each 100 females. (c) Refers to persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left an Australian port before Census night for a next port of call in Western Australia. It includes also those who were enumerated on long-distance trains, motor coaches or aircraft.

STATISTICAL DIVISIONS—ANALYSIS OF POPULATION INCREASE (a)  
30 JUNE 1966 TO 30 JUNE 1971

| Statistical Division       | Intercensal increase of population (b) |              |         |          |                                |
|----------------------------|----------------------------------------|--------------|---------|----------|--------------------------------|
|                            | By natural increase (c)                | By migration | Total   |          |                                |
|                            |                                        |              | Number  | Per cent | Average annual rate (per cent) |
| Perth Statistical Division | 37,507                                 | 104,587      | 142,094 | 25·41    | 4·63                           |
| Other Divisions—           |                                        |              |         |          |                                |
| South-West                 | 5,037                                  | —516         | 4,521   | 6·19     | 1·21                           |
| Southern Agricultural      | 4,011                                  | —3,552       | 459     | 1·02     | 0·20                           |
| Central Agricultural       | 5,445                                  | —10,276      | —4,831  | —8·21    | —1·70                          |
| Northern Agricultural      | 4,478                                  | —642         | 3,836   | 9·88     | 1·90                           |
| Eastern Goldfields         | 3,635                                  | 3,842        | 7,477   | 21·33    | 3·94                           |
| Central                    | 506                                    | 1,009        | 1,515   | 32·79    | 5·84                           |
| North-West                 | 1,061                                  | 1,450        | 2,511   | 27·76    | 5·02                           |
| Pilbara                    | 1,408                                  | 19,154       | 20,562  | 230·85   | 27·04                          |
| Kimberley                  | 1,366                                  | 70           | 1,436   | 11·31    | 2·17                           |
| Total                      | 26,947                                 | 10,539       | 37,486  | 13·12    | 2·50                           |
| Total, all Divisions       | 64,454                                 | 115,126      | 179,580 | 21·25    | 3·93                           |
| Migratory (d)              | n.a.                                   | —308         | —308    | —10·13   | n.a.                           |
| WESTERN AUSTRALIA          | 64,454                                 | 114,818      | 179,272 | 21·14    | 3·91                           |

n.a. denotes 'not applicable'.

(a) Figures relate to total population, i.e. including Aborigines. (b) Minus sign (—) denotes decrease. (c) Excess of births registered over deaths registered. (d) See note (c) to previous table.

The population of the Perth Statistical Division at the Census of 30 June 1971 was 701,392, or 68·3 per cent of the State total, compared with 559,298 (65·9 per cent) five years earlier, an increase of 142,094 persons or 25·4 per cent. The State's natural increase between the Censuses was 64,454 of which the Perth Statistical Division contributed 37,507. In addition, this Division experienced a net gain by migration of 104,587. The larger towns of the Agricultural and South-West Statistical Divisions also showed substantial population increases, the greatest being those of Geraldton (3,134 persons ; or 25·7 per cent), Bunbury (2,295 ; 14·8 per cent) and Albany (1,615 ; 14·1 per cent).

The total population in the area outside the Perth Statistical Division rose by 37,486 or 13·1 per cent. The natural increase recorded in the area was 26,947, so that there was a gain of 10,539 persons by migration. Of the total increase of 37,486 persons, the Pilbara Division accounted for more than half with a population gain of 20,562 and showed the greatest proportional increase, 230·9 per cent. Other Divisions showing an increase were Eastern Goldfields, 7,477 (21·3 per cent) ; South-West, 4,521 (6·2 per cent) ; Northern Agricultural, 3,836 (9·9 per cent) ; North-West, 2,511 (27·8 per cent) ; Kimberley 1,436 (11·3 per cent) ; and Southern Agricultural, 459 (1·0 per cent). The Central Agricultural Division experienced a decline in population with a loss of 4,831 persons, or 8·2 per cent.

The Eastern Goldfields, Central and Pilbara Statistical Divisions together comprised an area of 638,485 square miles (or almost two-thirds of the State) and had a population of only 78,143 persons at the Census of 30 June 1971. A low rainfall renders much of it virtually uninhabitable and desert or near-desert conditions prevail over some 350,000 square miles which includes much of the eastern and northern parts of the area and extends into the southern portion of the Kimberley Statistical Division. Almost no part of this desert area has an annual rainfall greater than ten inches and a considerable proportion has much less. Of the total population of 78,143 persons recorded in the three Divisions at the Census, more than three-quarters were enumerated in the urban centres of Kalgoorlie-Boulder (20,784), Port Hedland (7,172), Esperance (4,860), Kam-balda (4,209), Newman (3,889), Dampier (3,558), Tom Price (3,370), Karratha (1,823), Paraburdoo (1,778), Norseman (1,757), Roebourne (1,395) and Goldsworthy (1,020), and the townships of Meekatharra (921), Southern Cross (896), Mount Magnet (632), Coolgardie (622), Leonora (594), Wittenoom Gorge (422), Marble Bar (391), Koolyan-obbing (310), Cue (286) and Ravensthorpe (225).

#### Population of South-West Land Division

The South-West Land Division, as defined in the *Land Act, 1933-1971*, often has particular importance in matters of legislation and administration. Its boundaries are almost coincident with those of the area formed by the aggregation of the Perth Statistical Division and the South-West, Southern Agricultural, Central Agricultural and Northern Agricultural Statistical Divisions. It embraces an area of 98,305 square miles, a little more than one-tenth of the whole State (975,920 square miles), and had a population of 921,200 persons at the 1971 Census, equivalent to 89·7 per cent of the State total, compared with 774,800 (91·4 per cent) in 1966.

#### Population North of 26° S. Latitude

For administrative and other purposes, the portion of the State lying north of the 26th parallel of latitude frequently has special significance. This area, which embraces part of the Central Statistical Division, almost all of the North-West Statistical Division, and the whole of the Pilbara and Kimberley Statistical Divisions, is 529,486 square miles in extent and is therefore somewhat greater in area than half the entire State. It had a population of 31,053 persons at the 1966 Census and 57,219 in 1971. Of this total, more than two-thirds were enumerated in the ports and other coastal settlements of Port Hedland (7,172), Carnarvon (4,222), Dampier (3,558), Exmouth (2,638), Derby (2,521), Broome (1,884), Karratha (1,823), Wyndham (1,496), Roebourne (1,395), Onslow (349), Shark Bay (323) and Lake MacLeod (299), the iron-ore mining centres of Newman (3,889), Tom Price (3,370), Paraburdoo (1,778) and Goldsworthy (1,020), the Ord River agricultural settlement at Kununurra (1,182), and the townships of Halls Creek (676), Wittenoom Gorge (422) and Marble Bar (391).

#### POPULATION DENSITY

Urban Perth (see letterpress *Urban, Rural and Migratory Population* on page 136) is the most densely populated part of the State. At the Census of 30 June 1971 it had a population of 639,622 persons and an area of 202·17 square miles, representing a density of 3,164 persons per square mile. Among the Statistical Divisions, Perth with a population of

701,392 and 2,073 square miles in area showed the highest density, 338 persons per square mile. The Central Statistical Division was the most sparsely populated with an area of 218,010 square miles (more than one-fifth of the entire State) and a Census population of only 6,135 persons, equivalent to an average of one person to every thirty-six square miles.

#### STATISTICAL DIVISIONS—AREA, POPULATION AND DENSITY: CENSUS, 30 JUNE 1971

| Statistical Division       | Area         |                   | Population |         |           |                   |                           |
|----------------------------|--------------|-------------------|------------|---------|-----------|-------------------|---------------------------|
|                            | Square miles | Per cent of total | Males      | Females | Persons   |                   |                           |
|                            |              |                   |            |         | Total     | Per cent of total | Density (per square mile) |
| Perth Statistical Division | 2,073        | 0·21              | 348,740    | 352,652 | 701,392   | 68·27             | 338·35                    |
| Other Divisions—           |              |                   |            |         |           |                   |                           |
| South-West                 | 11,031       | 1·13              | 39,489     | 38,015  | 77,504    | 7·54              | 7·03                      |
| Southern Agricultural      | 22,046       | 2·26              | 23,511     | 21,756  | 45,267    | 4·41              | 2·05                      |
| Central Agricultural       | 30,270       | 3·10              | 28,782     | 25,207  | 53,989    | 5·26              | 1·78                      |
| Northern Agricultural      | 32,041       | 3·28              | 22,882     | 19,771  | 42,653    | 4·15              | 1·33                      |
| Eastern Goldfields         | 249,013      | 25·52             | 23,135     | 19,404  | 42,539    | 4·14              | 0·17                      |
| Central                    | 218,010      | 22·34             | 3,870      | 2,265   | 6,135     | 0·60              | 0·03                      |
| North-West                 | 77,612       | 7·95              | 6,565      | 4,992   | 11,557    | 1·12              | 0·15                      |
| Pilbara                    | 171,462      | 17·57             | 19,901     | 9,568   | 29,469    | 2·87              | 0·17                      |
| Kimberley                  | 162,363      | 16·64             | 7,877      | 6,259   | 14,136    | 1·38              | 0·09                      |
| Total                      | 973,847      | 99·79             | 176,012    | 147,237 | 323,249   | 31·46             | 0·33                      |
| Total, all Divisions       | 975,920      | 100·00            | 524,752    | 499,889 | 1,024,641 | 99·73             | 1·05                      |
| Migratory (a)              | n.a.         | n.a.              | 2,465      | 266     | 2,731     | 0·27              | n.a.                      |
| WESTERN AUSTRALIA          | 975,920      | 100·00            | 527,217    | 500,155 | 1,027,372 | 100·00            | 1·05                      |

n.a. denotes 'not applicable'.

(a) Refers to persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left Australian ports before Census night for ports in Western Australia. It includes also those who were enumerated on long-distance trains, motor coaches or aircraft.

Western Australia had a population density at the 1971 Census of only 1·05 persons per square mile, compared with an average of 4·29 for Australia as a whole. Victoria was the most densely populated State, having an average of 39·78 persons per square mile.

#### AREA, POPULATION AND DENSITY—STATES AND TERRITORIES: CENSUS, 30 JUNE 1971

| State or Territory           | Area         |                   | Population |           |            |                   |                           |
|------------------------------|--------------|-------------------|------------|-----------|------------|-------------------|---------------------------|
|                              | Square miles | Per cent of total | Males      | Females   | Persons    |                   |                           |
|                              |              |                   |            |           | Total      | Per cent of total | Density (per square mile) |
| New South Wales              | 309,433      | 10·43             | 2,302,110  | 2,287,446 | 4,589,556  | 36·06             | 14·83                     |
| Victoria                     | 87,884       | 2·96              | 1,748,916  | 1,747,245 | 3,496,161  | 27·47             | 39·78                     |
| Queensland                   | 667,000      | 22·47             | 919,992    | 903,370   | 1,823,362  | 14·33             | 2·73                      |
| South Australia              | 380,070      | 12·81             | 585,827    | 586,947   | 1,172,774  | 9·21              | 3·09                      |
| Western Australia            | 975,920      | 32·88             | 527,217    | 500,155   | 1,027,372  | 8·07              | 1·05                      |
| Tasmania                     | 26,383       | 0·89              | 196,284    | 193,590   | 389,874    | 3·06              | 14·78                     |
| Northern Territory           | 520,280      | 17·53             | 48,159     | 37,360    | 85,519     | 0·67              | 0·16                      |
| Australian Capital Territory | 939          | 0·03              | 73,513     | 70,330    | 143,843    | 1·13              | 153·19                    |
| AUSTRALIA                    | 2,967,909    | 100·00            | 6,402,018  | 6,326,443 | 12,728,461 | 100·00            | 4·29                      |

#### ABORIGINAL POPULATION

Reference is made on page 129 to the exclusion of *full-blood* Aborigines from the census tabulations. Aborigines have, however, been enumerated at all censuses of the Commonwealth, although the degree of coverage and information obtained have varied substantially since 1911. Since the Census taken in 1933, the adequacy of the particulars obtained has improved progressively, as a result of an increasing number of Aborigines coming into contact with more populated areas.

At the 1966 Census extensive arrangements were made to obtain as full a coverage of full-blood Aborigines as possible and to enumerate fully those Aborigines 'out of contact'. Throughout Australia the assistance of Aboriginal welfare bodies, mission superintendents, sheep and cattle station owners, patrol officers and police was sought in an effort to include all Aborigines and to obtain complete information about them. Statistics relating to characteristics of Aborigines enumerated at the 1966 Census have been published by the Commonwealth Statistician, Canberra in a bulletin *The Aboriginal Population of Australia—Summary of Characteristics*. Some information selected from this bulletin is shown in the following tables.

Prior to the 1966 Census, Aborigines 'out of contact' were not enumerated and estimates of their numbers were made by authorities responsible for Aboriginal welfare. The total number of Aborigines not contacted by collectors at the 1954 Census was estimated to be 12,956, comprising 2,311 in Queensland, 1,760 in South Australia, 3,516 in Western Australia and 5,369 in the Northern Territory. It is estimated that, at the 1961 Census, 2,000 Aborigines in Western Australia and 1,944 in the Northern Territory were not contacted by collectors.

### Aborigines Enumerated

The statistics shown in the following tables relate to persons who, according to the census schedule, had Aboriginal blood to the degree of one-half or more, or were described simply as 'Aboriginal'.

ABORIGINAL POPULATION (a)—STATES AND TERRITORIES  
CENSUSES, 1954 TO 1966

| State or Territory           | Census, 30 June 1954 |         |           | Census, 30 June 1961 |         |           | Census, 30 June 1966 |         |         |
|------------------------------|----------------------|---------|-----------|----------------------|---------|-----------|----------------------|---------|---------|
|                              | Males                | Females | Persons   | Males                | Females | Persons   | Males                | Females | Persons |
| New South Wales ....         | 6,278                | 5,935   | 12,213    | 7,494                | 7,222   | 14,716    | 7,343                | 6,876   | 14,219  |
| Victoria ....                | 691                  | 704     | 1,395     | 899                  | 897     | 1,796     | 856                  | 934     | 1,790   |
| Queensland ....              | 8,368                | 7,781   | (b)16,149 | 10,146               | 9,550   | 19,696    | 9,644                | 9,359   | 19,003  |
| South Australia ....         | 1,675                | 1,537   | (b) 3,212 | 2,607                | 2,277   | 4,884     | 2,914                | 2,591   | 5,505   |
| Western Australia ....       | 6,564                | 6,135   | (b)12,699 | 8,351                | 7,925   | (b)16,276 | 9,505                | 8,934   | 18,439  |
| Tasmania ....                | 50                   | 43      | 93        | 24                   | 14      | 38        | 19                   | 17      | 36      |
| Northern Territory ....      | 5,990                | 5,798   | (b)11,788 | 9,013                | 8,747   | (b)17,760 | 10,651               | 10,468  | 21,119  |
| Australian Capital Territory | 100                  | 73      | 173       | 78                   | 65      | 143       | 52                   | 44      | 96      |
| AUSTRALIA ....               | 29,716               | 28,006  | (b)57,722 | 38,612               | 36,697  | (b)75,309 | 40,984               | 39,223  | 80,207  |

(a) See letterpress *Aborigines Enumerated* above. (b) Excludes Aborigines 'out of contact' and therefore not enumerated by census collectors. For estimates of the numbers so excluded see letterpress preceding table.

ABORIGINAL POPULATION (a)—STATISTICAL DIVISIONS  
WESTERN AUSTRALIA: CENSUS, 30 JUNE 1966

| Statistical Division            | Males | Females | Persons |                   |
|---------------------------------|-------|---------|---------|-------------------|
|                                 |       |         | Total   | Per cent of total |
| Perth Statistical Division .... | 576   | 587     | 1,163   | 6·31              |
| Other Divisions—                |       |         |         |                   |
| South-West ....                 | 248   | 240     | 488     | 2·65              |
| Southern Agricultural ....      | 616   | 592     | 1,208   | 6·55              |
| Central Agricultural ....       | 918   | 837     | 1,755   | 9·52              |
| Northern Agricultural ....      | 791   | 796     | 1,587   | 8·61              |
| Eastern Goldfields ....         | 1,079 | 1,083   | 2,162   | 11·73             |
| Central ....                    | 633   | 513     | 1,146   | 6·22              |
| North-West ....                 | 616   | 543     | 1,159   | 6·29              |
| Pilbara ....                    | 984   | 882     | 1,866   | 10·12             |
| Kimberley ....                  | 3,044 | 2,861   | 5,905   | 32·02             |
| Total ....                      | 8,929 | 8,347   | 17,276  | 93·69             |
| WESTERN AUSTRALIA ....          | 9,505 | 8,934   | 18,439  | 100·00            |

(a) See letterpress *Aborigines Enumerated* above.

**ABORIGINAL POPULATION (a)—AGE DISTRIBUTION  
WESTERN AUSTRALIA AND AUSTRALIA: CENSUS, 30 JUNE 1966**

| Age last birthday<br>(years) | Western Australia |         |         |                      | Australia |         |         |                      |
|------------------------------|-------------------|---------|---------|----------------------|-----------|---------|---------|----------------------|
|                              | Males             | Females | Persons |                      | Males     | Females | Persons |                      |
|                              |                   |         | Total   | Per cent<br>of total |           |         | Total   | Per cent<br>of total |
| 0-4                          | 1,513             | 1,447   | 2,960   | 16.05                | 6,902     | 6,700   | 13,602  | 16.96                |
| 5-9                          | 1,397             | 1,345   | 2,742   | 14.87                | 6,043     | 5,858   | 11,901  | 14.84                |
| 10-14                        | 1,130             | 1,137   | 2,267   | 12.29                | 4,962     | 4,941   | 9,903   | 12.35                |
| 15-19                        | 776               | 762     | 1,538   | 8.34                 | 3,633     | 3,650   | 7,283   | 9.08                 |
| 20-24                        | 672               | 591     | 1,263   | 6.85                 | 3,057     | 2,776   | 5,833   | 7.27                 |
| 25-29                        | 553               | 539     | 1,092   | 5.92                 | 2,579     | 2,560   | 5,139   | 6.41                 |
| 30-34                        | 530               | 541     | 1,071   | 5.81                 | 2,373     | 2,419   | 4,792   | 5.97                 |
| 35-39                        | 483               | 414     | 897     | 4.86                 | 2,074     | 2,057   | 4,131   | 5.15                 |
| 40-44                        | 431               | 380     | 811     | 4.40                 | 1,804     | 1,668   | 3,472   | 4.33                 |
| 45-49                        | 364               | 314     | 678     | 3.68                 | 1,530     | 1,344   | 2,874   | 3.58                 |
| 50-54                        | 285               | 254     | 539     | 2.92                 | 1,199     | 1,056   | 2,255   | 2.81                 |
| 55-59                        | 259               | 202     | 461     | 2.50                 | 940       | 842     | 1,782   | 2.22                 |
| 60-64                        | 202               | 256     | 458     | 2.48                 | 790       | 812     | 1,602   | 2.00                 |
| 65-69                        | 281               | 205     | 486     | 2.64                 | 886       | 697     | 1,583   | 1.97                 |
| 70-74                        | 178               | 113     | 291     | 1.58                 | 581       | 398     | 979     | 1.22                 |
| 75 and over                  | 112               | 101     | 213     | 1.16                 | 388       | 322     | 710     | 0.89                 |
| Not stated                   | 339               | 333     | 672     | 3.64                 | 1,243     | 1,123   | 2,366   | 2.95                 |
| Total                        | 9,505             | 8,934   | 18,439  | 100.00               | 40,984    | 39,223  | 80,207  | 100.00               |
| Under 21                     | 4,969             | 4,820   | 9,789   | 53.09                | 22,208    | 21,802  | 44,010  | 54.87                |
| 21-64                        | 3,626             | 3,362   | 6,988   | 37.90                | 15,678    | 14,881  | 30,559  | 38.10                |
| 65 and over                  | 571               | 419     | 990     | 5.37                 | 1,855     | 1,417   | 3,272   | 4.08                 |
| Not stated                   | 339               | 333     | 672     | 3.64                 | 1,243     | 1,123   | 2,366   | 2.95                 |
| Total                        | 9,505             | 8,934   | 18,439  | 100.00               | 40,984    | 39,223  | 80,207  | 100.00               |

(a) See letterpress *Aborigines Enumerated* on page 143.

### ESTIMATES OF POPULATION

For dates other than those of the periodic census of population, estimates are based on records of births and deaths and of movements of population interstate and overseas. Estimates of the population of Australia and of each of the States and Territories are prepared by the Commonwealth Statistician as at 31 March, 30 June, 30 September and 31 December in each year. Because the available records of interstate movement are incomplete, these intercensal estimates as they apply to States and Territories are approximate and are revised when the results of the next succeeding census become known.

#### Mean Population

It is often useful to relate a given characteristic to population in order to express it in *per capita* terms or as 'per head of population'. In some cases it is appropriate to relate a characteristic to the population as at a specified date as, for example, savings bank balances per head of population at 30 June, or motor vehicles per head of population at 31 December.

Where events, as for instance births or deaths, are taking place continuously throughout a period, it is obviously not appropriate to relate these events to the population as at a specific date. It is necessary, therefore, to devise a measure which takes account of the change in population which occurs continuously throughout any period. This measure is known as the *mean population*.

As stated earlier, estimates of population are prepared as at the end of each quarter of the year. The mean population of a quarter might be taken to be the average, or arithmetic mean, of the populations at the beginning and the end of the quarter. If *a*

represents the population at the beginning of a year and  $b$ ,  $c$ ,  $d$  and  $e$  the populations at the end of the first, second, third and fourth quarters respectively, these quarterly means would then be  $\frac{1}{2}(a + b)$  for the first quarter,  $\frac{1}{2}(b + c)$  for the second,  $\frac{1}{2}(c + d)$  for the third and  $\frac{1}{2}(d + e)$  for the fourth quarter. The mean population for the year might then be taken as the arithmetic mean of the four quarterly average populations, or

$$\frac{1}{4}\{\frac{1}{2}(a + b) + \frac{1}{2}(b + c) + \frac{1}{2}(c + d) + \frac{1}{2}(d + e)\}$$

which may be more simply expressed as  $\frac{1}{8}(a + 2b + 2c + 2d + e)$ . This method of deriving mean population had been in use in Western Australia prior to its general adoption by the 1903 Conference of Australian Statisticians. It was later superseded by the more precise measure

$$\frac{1}{12}(a + 4b + 2c + 4d + e)$$

which is now commonly used in Australian statistics. In order to establish uniformity with current practice, estimates of mean population for 1901 and later years were revised, where necessary, by the application of this formula.

The estimated mean population of Western Australia is shown in the next table for each financial and calendar year in the period from 1 July 1966 to 31 December 1971.

### Population Estimates

As a result of the repeal, with effect from 10 August 1967, of section 127 of the Australian Constitution, to which reference is made on page 129, current population estimates no longer exclude full-blood Aborigines. Estimates for earlier dates and periods back to the Census of 30 June 1961 have also been prepared on the basis of *total* population (*i.e.* including Aborigines). The final results of the 1966 Census, inclusive of all persons enumerated, have been taken into account in the preparation of these estimates. Figures for dates and periods subsequent to 30 June 1966 are subject to revision in accordance with the final results of the 1971 Census.

The following table shows estimates of the population of Western Australia and the elements of population increase during the period from 1 July 1966 to 31 December 1971.

POPULATION ESTIMATES (a)

| Year                   | Population at end of year |            |              | Increase during year |                             |                | Mean population |         |           |
|------------------------|---------------------------|------------|--------------|----------------------|-----------------------------|----------------|-----------------|---------|-----------|
|                        | Males                     | Females    | Persons      | Natural increase (b) | Estimated net migration (c) | Total increase | Males           | Females | Persons   |
| YEAR ENDED 30 JUNE     |                           |            |              |                      |                             |                |                 |         |           |
| 1967                   | 448,804                   | 429,754    | 878,558      | 11,058               | 19,400                      | 30,458         | 440,553         | 422,675 | 863,228   |
| 1968                   | 467,490                   | 446,310    | 913,800      | 11,525               | 23,717                      | 35,242         | 457,914         | 437,918 | 895,832   |
| 1969                   | 488,126                   | 464,857    | 952,983      | 12,712               | 26,471                      | 39,183         | 478,243         | 456,189 | 934,432   |
| 1970                   | 507,132                   | 481,743    | 988,875      | 13,683               | 22,209                      | 35,892         | 498,459         | 474,432 | 972,891   |
| 1971                   | (d)527,217                | (d)500,155 | (d)1,027,372 | 15,476               | 23,021                      | 38,497         | 518,336         | 492,332 | 1,010,668 |
| YEAR ENDED 31 DECEMBER |                           |            |              |                      |                             |                |                 |         |           |
| 1967                   | 457,882                   | 438,174    | 896,056      | 11,244               | 21,029                      | 32,273         | 449,039         | 430,154 | 879,193   |
| 1968                   | 479,012                   | 457,236    | 936,248      | 12,073               | 28,119                      | 40,192         | 467,781         | 446,734 | 914,515   |
| 1969                   | 499,083                   | 475,366    | 974,449      | 13,404               | 24,797                      | 38,201         | 488,419         | 465,377 | 953,796   |
| 1970                   | 518,509                   | 492,754    | 1,011,263    | 14,075               | 22,739                      | 36,814         | 508,394         | 483,326 | 991,720   |
| 1971                   | 535,909                   | 509,846    | 1,045,755    | 16,433               | 18,059                      | 34,492         | 527,564         | 501,022 | 1,028,586 |

(a) Revised in accordance with the preliminary results of the 1971 Census; subject to further revision. (b) Excess of births registered over deaths registered. (c) Interstate and overseas. (d) Preliminary figures based on Census field count.

The following table shows the estimated population of each State and Territory of Australia at 31 December of the years 1967 to 1971. The estimates refer to *total* population (see letterpress preceding previous table).

POPULATION ESTIMATES—STATES AND TERRITORIES  
(‘000)

| State or Territory           | Estimated population at 31 December— |          |          |          |          |
|------------------------------|--------------------------------------|----------|----------|----------|----------|
|                              | 1967                                 | 1968     | 1969     | 1970     | 1971     |
| New South Wales              | 4,326·4                              | 4,395·3  | 4,482·6  | 4,563·3  | 4,640·8  |
| Victoria                     | 3,301·7                              | 3,353·7  | 3,416·8  | 3,476·5  | 3,530·7  |
| Queensland                   | 1,714·7                              | 1,745·9  | 1,777·1  | 1,809·4  | 1,848·6  |
| South Australia              | 1,115·6                              | 1,131·7  | 1,148·7  | 1,169·4  | 1,184·6  |
| Western Australia            | 896·1                                | 936·2    | 974·4    | 1,011·3  | 1,045·8  |
| Tasmania                     | 377·7                                | 382·8    | 386·6    | 389·8    | 392·5    |
| Northern Territory           | 64·1                                 | 69·8     | 75·2     | 82·0     | 87·4     |
| Australian Capital Territory | 107·8                                | 116·6    | 126·7    | 137·4    | 150·6    |
| AUSTRALIA                    | 11,904·1                             | 12,132·0 | 12,388·2 | 12,639·0 | 12,881·1 |

The following table shows the estimated population of Western Australia at ten-yearly intervals from 1830 to 1970, and annually from 1967 to 1971. The estimates for 1960 and earlier exclude full-blood Aborigines. The figures shown for 1967 and later refer to *total* population, *i.e.* including Aborigines; see letterpress *Population Estimates* on previous page.

ESTIMATED POPULATION (a)—1830–1971

| At 31 December—                   | Males   | Females | Persons   | Increase (b) |          |                                |
|-----------------------------------|---------|---------|-----------|--------------|----------|--------------------------------|
|                                   |         |         |           | Number       | Per cent | Average annual rate (per cent) |
| 1830                              | 877     | 295     | 1,172     | ....         | ....     | ....                           |
| 1840                              | 1,434   | 877     | 2,311     | 1,139        | 97·18    | 7·03                           |
| 1850                              | 3,576   | 2,310   | 5,886     | 3,575        | 154·69   | 9·80                           |
| 1860                              | 9,597   | 5,749   | 15,346    | 9,460        | 160·72   | 10·06                          |
| 1870                              | 15,511  | 9,624   | 25,135    | 9,789        | 63·79    | 5·06                           |
| 1880                              | 16,985  | 12,576  | 29,561    | 4,426        | 17·61    | 1·64                           |
| 1890                              | 28,854  | 19,648  | 48,502    | 18,941       | 64·07    | 5·08                           |
| 1900                              | 110,088 | 69,879  | 179,967   | 131,465      | 271·05   | 14·01                          |
| 1910                              | 157,971 | 118,861 | 276,832   | 96,865       | 53·82    | 4·40                           |
| 1920                              | 176,895 | 154,428 | 331,323   | 54,491       | 19·68    | 1·81                           |
| 1930                              | 232,868 | 198,742 | 431,610   | 100,287      | 30·27    | 2·68                           |
| 1940                              | 248,734 | 225,342 | 474,076   | 42,466       | 9·84     | 0·94                           |
| 1950                              | 294,758 | 277,891 | 572,649   | 98,573       | 20·79    | 1·91                           |
| 1960                              | 372,665 | 358,368 | 731,033   | 158,384      | 27·66    | 2·47                           |
| 1970 (a)                          | 518,509 | 492,754 | 1,011,263 | 280,230      | 38·33    | 3·30                           |
| 1967                              | 457,882 | 438,174 | 896,056   | 32,273       | 3·74     | ....                           |
| 1968                              | 479,012 | 457,236 | 936,248   | 40,192       | 4·49     | ....                           |
| 1969                              | 499,083 | 475,366 | 974,449   | 38,201       | 4·08     | ....                           |
| 1970                              | 518,509 | 492,754 | 1,011,263 | 36,814       | 3·78     | ....                           |
| 1971                              | 535,909 | 509,846 | 1,045,755 | 34,492       | 3·41     | ....                           |
| Five years ended 31 December 1971 |         |         |           | 181,972      | 21·07    | 3·90                           |

(a) Estimates for 1960 and earlier exclude full-blood Aborigines; those shown for 1967 and later refer to *total* population, *i.e.* including Aborigines. (b) Decennial increases during the period 1830–1970; annual increases from 1967 to 1971.

## Chapter IV—continued

### Part 2—Births, Deaths and Marriages

*NOTE.* Reference is made on page 129 to the repeal, with effect from 10 August 1967, of section 127 of the Australian Constitution. As a consequence of this repeal, all vital statistics, which previously excluded births, deaths and marriages of full-blood Aborigines, now include events among the total population. These new statistics were first compiled in respect of the March quarter of 1967. Since the previous issue of the Year Book, some statistics on the new basis have been compiled for the year 1966.

A line drawn across a column in the tables indicates a break in continuity in the series. Figures above the line exclude full-blood Aborigines; those below the line refer to events among the total population, i.e. including Aborigines.

#### THE REGISTRATION SYSTEM

Compulsory registration of births, deaths and marriages in Western Australia was originally provided for by legislation of the year 1841. The Statutes currently in force are the *Registration of Births, Deaths and Marriages Act, 1961-1965* (State) and the *Marriage Act 1961-1966* (Commonwealth). For administrative purposes, the State is divided into twenty-seven Registry Districts, each having a District Registrar. Particulars of births, deaths and marriages reported to the District Registrars are sent to the Registrar-General at Perth, where a central registry office has been maintained since 1841. Local registers are kept at each district office.

Births are required to be registered within sixty days of the event, and must be notified by the father, the mother or the occupier of the premises where the birth took place. Special provisions and penalties apply to notification and registration after the expiration of the sixty-day period.

A stillbirth is required to be registered both as a birth and a death. From 1 January 1968 the term 'stillbirth', for registration purposes, refers to a child of at least twenty weeks' gestation not born alive. Previously it was restricted to cases where the gestation period was at least twenty-eight weeks.

Deaths are required to be registered within fourteen days. Notification must be given by the person who disposes of the body or by the occupier of the premises where the death occurred. As in the case of births, special provisions and penalties exist for the late registration of a death.

Marriages are celebrated according to the provisions of the *Marriage Act 1961-1966* (Commonwealth) by ministers of religion registered under the Act, or by District Registrars. Ministers are required to lodge a marriage certificate with the District Registrar for registration within fourteen days of the celebration of a marriage. A penalty fee is provided for registrations after fourteen days from the date of marriage.

Statistics of births, deaths and marriages are prepared from the registration documents.

The following table shows, for the years 1968, 1969 and 1970 the number of births, deaths and marriages registered in Western Australia, classified according to Statistical Divisions. The figures do not necessarily represent the number of such events which actually occurred in a particular Statistical Division during each year, since births are allocated to the usual place of residence of the mother, deaths to the usual place of residence of the deceased, and marriages to the usual place of residence of the bridegroom. Further, the statistics are compiled according to date of registration and not date of occurrence.



**BIRTHS, DEATHS AND MARRIAGES**  
**NUMBERS REGISTERED—STATISTICAL DIVISIONS (a) (b) (c)**

| Statistical Division (a)   | Births (d) |        |        | Deaths (e) |       |       | Marriages |       |       |
|----------------------------|------------|--------|--------|------------|-------|-------|-----------|-------|-------|
|                            | 1968       | 1969   | 1970   | 1968       | 1969  | 1970  | 1968      | 1969  | 1970  |
| Perth Statistical Division | 12,018     | 13,094 | 13,908 | 5,264      | 5,185 | 5,345 | 5,590     | 6,441 | 6,640 |
| Other Divisions—           |            |        |        |            |       |       |           |       |       |
| South-West                 | 1,580      | 1,522  | 1,603  | 571        | 564   | 630   | 636       | 568   | 655   |
| Southern Agricultural      | 1,161      | 1,161  | 1,128  | 366        | 339   | 359   | 398       | 380   | 422   |
| Central Agricultural       | 1,470      | 1,494  | 1,300  | 336        | 335   | 347   | 482       | 509   | 478   |
| Northern Agricultural      | 1,167      | 1,192  | 1,135  | 254        | 229   | 245   | 374       | 395   | 348   |
| Eastern Goldfields         | 1,014      | 1,085  | 1,170  | 344        | 319   | 334   | 359       | 376   | 375   |
| Central                    | 163        | 158    | 164    | 53         | 59    | 46    | 31        | 28    | 24    |
| North-West                 | 264        | 271    | 273    | 48         | 52    | 32    | 67        | 80    | 76    |
| Pilbara                    | 292        | 377    | 485    | 89         | 87    | 68    | 88        | 127   | 135   |
| Kimberley                  | 412        | 400    | 452    | 143        | 181   | 137   | 61        | 89    | 74    |
| Total                      | 7,523      | 7,660  | 7,710  | 2,204      | 2,165 | 2,198 | 2,496     | 2,552 | 2,587 |
| WESTERN AUSTRALIA          | 19,541     | 20,754 | 21,618 | 7,468      | 7,350 | 7,543 | 8,086     | 8,993 | 9,227 |

(a) For component local government areas, see map at back of Year Book. (b) See letterpress immediately preceding table. (c) See NOTE at top of previous page. (d) Live births. (e) Stillbirths are not included; see next table.

## BIRTHS

Statistics of births in each of the five years 1966 to 1970 in the Perth Statistical Division, the rest of the State, and in Western Australia as a whole are shown in the following table.

### BIRTHS REGISTERED (a)

| Year                       | Live births  |                |                |                             |                           | Stillbirths<br>(d) |
|----------------------------|--------------|----------------|----------------|-----------------------------|---------------------------|--------------------|
|                            | Males<br>(b) | Females<br>(b) | Persons<br>(b) | Ex-nuptial<br>births<br>(c) | Multiple<br>births<br>(c) |                    |
| PERTH STATISTICAL DIVISION |              |                |                |                             |                           |                    |
| 1966                       | 5,383        | 5,080          | 10,463         | 867                         | 207                       | 113                |
| 1967                       | 5,681        | 5,271          | 10,952         | 917                         | 242                       | 118                |
| 1968                       | 6,190        | 5,828          | 12,018         | 990                         | (e) 235                   | 155                |
| 1969                       | 6,697        | 6,397          | 13,094         | 1,159                       | 253                       | 165                |
| 1970                       | 7,124        | 6,784          | 13,908         | 1,252                       | 278                       | 184                |
| OTHER DIVISIONS            |              |                |                |                             |                           |                    |
| 1966                       | 3,417        | 3,127          | 6,544          | 740                         | 132                       | 55                 |
| 1967                       | 3,641        | 3,430          | 7,071          | 1,027                       | (f) 155                   | 70                 |
| 1968                       | 3,880        | 3,643          | 7,523          | 1,024                       | (e) 169                   | 88                 |
| 1969                       | 3,898        | 3,762          | 7,660          | 1,072                       | (e) 152                   | 85                 |
| 1970                       | 4,048        | 3,662          | 7,710          | 1,064                       | (e) 132                   | 111                |
| WESTERN AUSTRALIA          |              |                |                |                             |                           |                    |
| 1966                       | 8,800        | 8,207          | 17,007         | 1,607                       | 339                       | 168                |
| 1967                       | 9,322        | 8,701          | 18,023         | 1,944                       | (f) 397                   | 188                |
| 1968                       | 10,070       | 9,471          | 19,541         | 2,014                       | (f) 404                   | 243                |
| 1969                       | 10,595       | 10,159         | 20,754         | 2,231                       | (e) 405                   | 250                |
| 1970                       | 11,172       | 10,446         | 21,618         | 2,316                       | (e) 410                   | 295                |

(a) See NOTE on previous page. (b) Includes ex-nuptial births and multiple births. (c) Figures represent the number of children live-born. (d) Figures for 1968 and later refer to stillbirths where the child was of at least 20 weeks' gestation; those for 1967 and earlier refer to cases where the gestation period was at least 28 weeks. (e) Includes one case of triplets. (f) Includes two cases of triplets.

The following table shows the number of nuptial confinements during 1970, classified according to age group of mother and number of previous issue.

NUPTIAL CONFINEMENTS—AGE OF MOTHER AND PREVIOUS ISSUE, 1970 (a)

| Previous issue<br>(number) | Age of mother (years) |       |       |       |       |       |                | Total married<br>mothers |          |
|----------------------------|-----------------------|-------|-------|-------|-------|-------|----------------|--------------------------|----------|
|                            | Under 20              | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45 and<br>over | Number                   | Per cent |
| 0                          | 1,416                 | 3,715 | 1,657 | 375   | 92    | 22    | 4              | 7,281                    | 38.09    |
| 1                          | 253                   | 2,573 | 2,162 | 537   | 136   | 25    | 1              | 5,687                    | 29.75    |
| 2                          | 26                    | 748   | 1,548 | 743   | 196   | 39    | 1              | 3,301                    | 17.27    |
| 3                          | 3                     | 177   | 613   | 538   | 211   | 37    | 3              | 1,582                    | 8.28     |
| 4                          | ....                  | 38    | 180   | 247   | 141   | 40    | 4              | 650                      | 3.40     |
| 5                          | ....                  | 5     | 53    | 116   | 68    | 25    | 2              | 269                      | 1.41     |
| 6                          | ....                  | ....  | 25    | 58    | 58    | 20    | 1              | 162                      | 0.85     |
| 7                          | ....                  | ....  | 5     | 31    | 47    | 9     | 1              | 93                       | 0.49     |
| 8                          | ....                  | ....  | 1     | 9     | 25    | 10    | ....           | 45                       | 0.24     |
| 9                          | ....                  | ....  | ....  | 3     | 11    | 3     | 2              | 19                       | 0.10     |
| 10 or more                 | ....                  | ....  | ....  | 4     | 16    | 7     | 1              | 28                       | 0.15     |
| Total married mothers .... | 1,698                 | 7,256 | 6,244 | 2,661 | 1,001 | 237   | 20             | 19,117                   | 100.00   |

(a) See NOTE on page 147.

The following table shows the number of nuptial confinements during 1970, classified according to the relative ages of parents.

NUPTIAL CONFINEMENTS—RELATIVE AGES OF PARENTS, 1970 (a)

| Age of father<br>(years)         | Age of mother (years) |       |       |       |       |       |                | Total fathers |          |
|----------------------------------|-----------------------|-------|-------|-------|-------|-------|----------------|---------------|----------|
|                                  | Under 20              | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45 and<br>over | Number        | Per cent |
| Under 20                         | 298                   | 41    | ....  | ....  | ....  | ....  | ....           | 339           | 1.77     |
| 20-24                            | 1,165                 | 3,061 | 232   | 11    | 1     | ....  | ....           | 4,470         | 23.38    |
| 25-29                            | 199                   | 3,319 | 3,015 | 249   | 20    | 1     | ....           | 6,803         | 35.59    |
| 30-34                            | 25                    | 667   | 2,354 | 1,229 | 103   | 5     | ....           | 4,383         | 22.93    |
| 35-39                            | 7                     | 132   | 491   | 841   | 428   | 39    | 1              | 1,939         | 10.14    |
| 40-44                            | 3                     | 28    | 117   | 238   | 325   | 100   | 4              | 815           | 4.26     |
| 45-49                            | 1                     | 8     | 27    | 69    | 97    | 65    | 9              | 276           | 1.44     |
| 50 and over                      | ....                  | ....  | 8     | 24    | 27    | 27    | 5              | 91            | 0.48     |
| Not stated                       | ....                  | ....  | ....  | ....  | ....  | ....  | 1              | 1             | 0.01     |
| Total married mothers—<br>Number | 1,698                 | 7,256 | 6,244 | 2,661 | 1,001 | 237   | 20             | 19,117        | ....     |
| Per cent                         | 8.88                  | 37.96 | 32.66 | 13.92 | 5.24  | 1.24  | 0.10           | ....          | 100.00   |

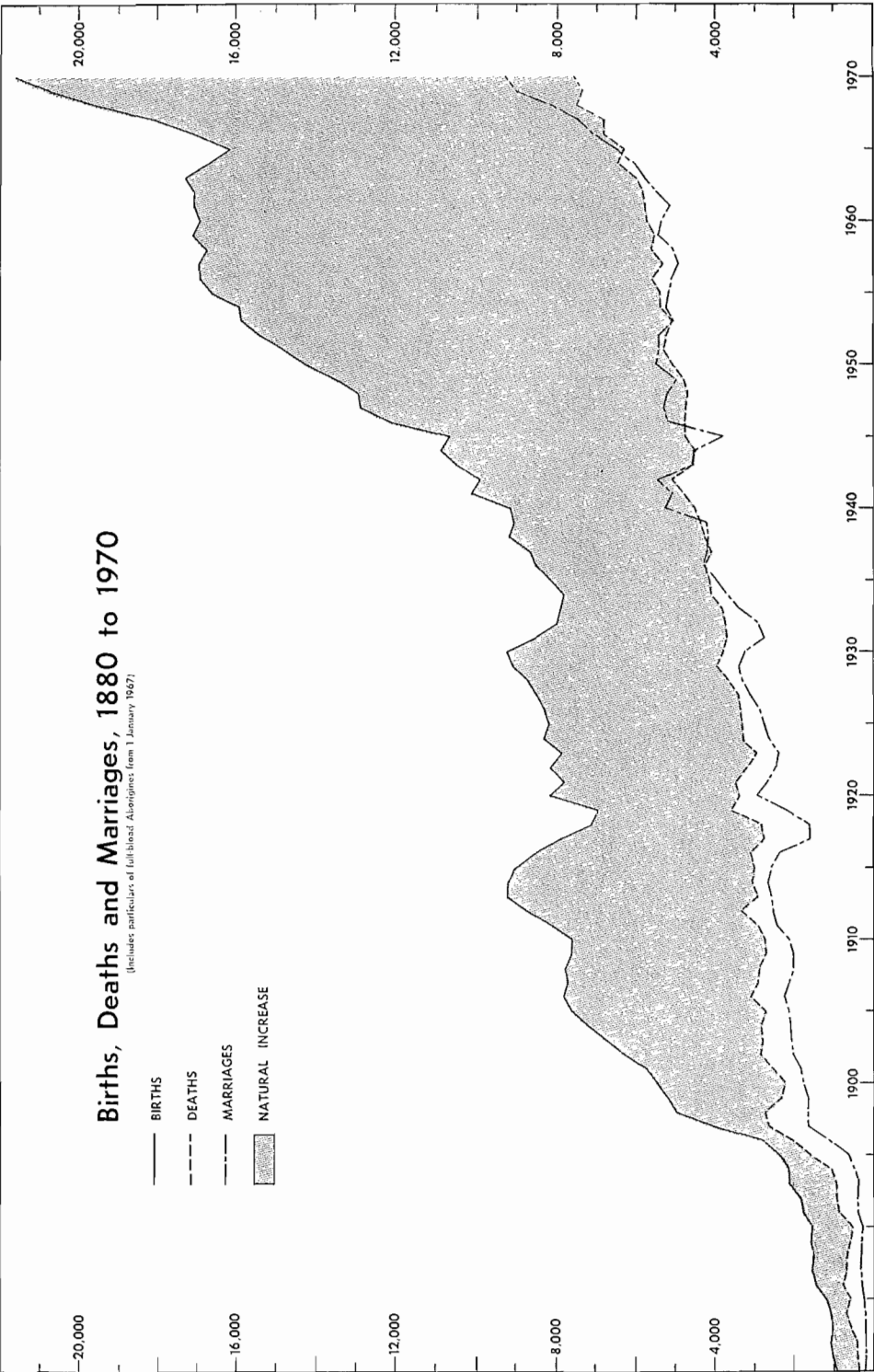
(a) See NOTE on page 147.

The ages of mothers of ex-nuptial children born during each of the years 1966 to 1970 are shown in the following table.

EX-NUPTIAL BIRTHS—AGE OF MOTHER (a)

| Age of mother (years)    |      |      |      | 1966  | 1967  | 1968  | 1969  | 1970  |
|--------------------------|------|------|------|-------|-------|-------|-------|-------|
| Under 14                 | .... | .... | .... | 2     | 5     | 5     | 4     | 7     |
| 14                       | .... | .... | .... | 11    | 7     | 15    | 11    | 15    |
| 15                       | .... | .... | .... | 34    | 44    | 49    | 34    | 55    |
| 16                       | .... | .... | .... | 102   | 117   | 103   | 123   | 128   |
| 17                       | .... | .... | .... | 141   | 177   | 173   | 197   | 200   |
| 18                       | .... | .... | .... | 170   | 221   | 197   | 217   | 227   |
| 19                       | .... | .... | .... | 157   | 194   | 215   | 192   | 241   |
| 20                       | .... | .... | .... | 126   | 170   | 144   | 205   | 215   |
| 21-24                    | .... | .... | .... | 348   | 383   | 446   | 552   | 550   |
| 25-29                    | .... | .... | .... | 228   | 291   | 319   | 313   | 311   |
| 30-34                    | .... | .... | .... | 140   | 161   | 178   | 207   | 211   |
| 35-39                    | .... | .... | .... | 95    | 117   | 115   | 115   | 108   |
| 40-44                    | .... | .... | .... | 41    | 40    | 45    | 41    | 39    |
| 45 and over              | .... | .... | .... | 5     | 8     | 3     | 8     | 5     |
| Not stated               | .... | .... | .... | 7     | 9     | 7     | 12    | 4     |
| Total, ex-nuptial births | .... | .... | .... | 1,607 | 1,944 | 2,014 | 2,231 | 2,316 |

(a) See NOTE on page 147.



**Crude Birth Rates.** The crude birth rate in any period may be defined as the number of live births occurring during the period for every thousand of the mean population.

The average annual rates for each five-year period in the fifty years from 1921 to 1970 and the rates for single years from 1961 to 1970, for Western Australia and Australia as a whole, are shown in the following table.

CRUDE BIRTH RATES (a)  
WESTERN AUSTRALIA AND AUSTRALIA

| Period        | Average annual rate<br>(b) |           | Year       | Annual rate<br>(b)   |           |
|---------------|----------------------------|-----------|------------|----------------------|-----------|
|               | Western<br>Australia       | Australia |            | Western<br>Australia | Australia |
| 1921-25 ..... | 22.85                      | 23.86     | 1961 ..... | 23.15                | 22.85     |
| 1926-30 ..... | 21.54                      | 20.98     | 1962 ..... | 22.58                | 22.15     |
| 1931-35 ..... | 18.36                      | 16.94     | 1963 ..... | 22.23                | 21.61     |
| 1936-40 ..... | 19.16                      | 17.52     | 1964 ..... | 20.93                | 20.60     |
| 1941-45 ..... | 21.72                      | 20.28     | 1965 ..... | 19.85                | 19.65     |
| 1946-50 ..... | 25.24                      | 23.39     | 1966 ..... | 20.25                | 19.28     |
| 1951-55 ..... | 25.37                      | 22.86     | 1967 ..... | 20.50                | 19.43     |
| 1956-60 ..... | 24.20                      | 22.59     | 1968 ..... | 21.37                | 20.06     |
| 1961-65 ..... | 21.71                      | 21.34     | 1969 ..... | 21.76                | 20.41     |
| 1966-70 ..... | 21.17                      | 19.97     | 1970 ..... | 21.80                | 20.59     |

(a) See NOTE on page 147. (b) Rates for the years 1961 to 1965 have been revised in accordance with the final results of the 1966 Census; those for 1966 and later have been revised in accordance with the preliminary results of the 1971 Census.

In each year of the period under review, Western Australia's crude birth rate has been higher than that of the Commonwealth with the exception of the early 1920s.

In Western Australia, the rate showed a marked and almost continuous decrease from the beginning of the century to the depression of thirty years later when the unprecedentedly low rate of 17.64 was recorded in 1934 (see Graph—*Rates of Birth, Death and Marriage*). In the years since then a fairly well-sustained improvement was evident until 1952 when the rate reached 25.66, its highest level since 1917. Since 1952 there has been a decline and in 1965 the rate was 19.85, the lowest since 1942. In 1970 the rate increased to 21.80, the highest recorded since 1963.

**Age-specific Birth Rates.** As a measure of fertility, the crude birth rate has the advantage of simplicity in calculation. The data necessary for its computation are usually readily available from published statistics, and it is therefore useful in comparing the fertility of the populations of States and countries for which no additional data are available. However, it is of limited use, since it does not take into account the important factors of age and sex composition of the population. Age-specific birth rates, which do have regard to these factors, therefore provide a better measure of fertility. Age-specific birth rates represent the number of births to women of specified ages per thousand women of those particular ages, and thus take cognisance of the variations in fertility experienced by women at the successive stages of their child-bearing life.

AGE-SPECIFIC BIRTH RATES (a)—WESTERN AUSTRALIA

| Year       | Age group (years) |        |        |        |       |       |       |
|------------|-------------------|--------|--------|--------|-------|-------|-------|
|            | 15-19             | 20-24  | 25-29  | 30-34  | 35-39 | 40-44 | 45-49 |
| 1947 ..... | 32.63             | 187.14 | 206.24 | 146.72 | 84.97 | 28.63 | 2.06  |
| 1954 ..... | 42.74             | 231.09 | 217.77 | 135.74 | 71.71 | 23.61 | 1.52  |
| 1961 ..... | 47.07             | 246.94 | 231.92 | 127.38 | 61.82 | 20.55 | 1.17  |
| 1966 ..... | 53.77             | 204.07 | 198.03 | 102.09 | 45.68 | 12.98 | 1.13  |

(a) Number of live births registered per 1,000 women in each age group. Rates are based on census results and exclude particulars of full-blood Aborigines (see NOTE on page 147).

For purposes of comparison with Western Australian experience, age-specific birth rates for Australia as a whole are given in the following table.

AGE-SPECIFIC BIRTH RATES (a)—AUSTRALIA

| Year      | Age group (years) |        |        |        |       |       |       |
|-----------|-------------------|--------|--------|--------|-------|-------|-------|
|           | 15-19             | 20-24  | 25-29  | 30-34  | 35-39 | 40-44 | 45-49 |
| 1947 .... | 32.06             | 166.18 | 186.60 | 129.99 | 75.02 | 23.52 | 1.81  |
| 1954 .... | 39.19             | 197.13 | 194.02 | 121.76 | 64.43 | 20.16 | 1.47  |
| 1961 .... | 47.35             | 225.81 | 221.21 | 131.11 | 63.38 | 19.17 | 1.41  |
| 1966 .... | 48.89             | 173.07 | 183.88 | 105.12 | 50.62 | 14.16 | 1.04  |

(a) Number of live births registered per 1,000 women in each age group. Rates are based on census results and exclude particulars of full-blood Aborigines (see NOTE on page 147).

**Gross and Net Reproduction Rates.** The gross reproduction rate is derived from fertility rates representing the number of *female* births to women of specified ages per thousand women of those particular ages. It provides a measure of the number of female children who would be born, on the average, to every woman assuming that she lives through the whole of the child-bearing period and that the basic fertility rates remain unaltered throughout.

The gross reproduction rate assumes that all females survive to the end of their child-bearing capacity. A more accurate measure, which takes into account the effect of mortality among women during this period is the net reproduction rate. This rate represents the average number of female children who would be born to women during their lifetime if they were subject in each succeeding year of life to the fertility and mortality rates on which the calculation is based. The net reproduction rate is a measure of the number of women who, in the next generation, will replace the women of reproductive age in the current generation. It provides a useful indication of likely future population trends. A rate remaining stationary at unity indicates an ultimately static population. If a rate greater than unity is maintained, an ultimate increase of population will result, while a continuing rate less than unity will lead to an ultimate decline.

GROSS AND NET REPRODUCTION RATES (a)  
WESTERN AUSTRALIA AND AUSTRALIA

| Year      | Gross reproduction rate |           | Net reproduction rate |           |
|-----------|-------------------------|-----------|-----------------------|-----------|
|           | Western Australia       | Australia | Western Australia     | Australia |
| 1947 .... | 1.683                   | 1.494     | (b) 1.595             | (b) 1.416 |
| 1954 .... | 1.772                   | 1.559     | (c) 1.704             | (c) 1.499 |
| 1961 .... | 1.785                   | 1.728     | (d) 1.730             | (d) 1.672 |
| 1966 .... | 1.490                   | 1.400     | (d) 1.445             | (d) 1.355 |

(a) Rates are based on census results and exclude particulars of full-blood Aborigines (see NOTE on page 147). (b) Based on 1946-48 mortality experience. (c) Based on 1953-55 mortality experience. (d) Based on 1960-62 mortality experience.

## DEATHS

Statistics of deaths in each of the five years 1966 to 1970 in the Perth Statistical Division, the rest of the State, and in Western Australia as a whole appear in the following table. Infant deaths (*i.e.* those occurring in the first year of life) are also shown.

## DEATHS REGISTERED (a)

| Year                       | Deaths (b) |         |         | Infant deaths (c) |         |         |
|----------------------------|------------|---------|---------|-------------------|---------|---------|
|                            | Males      | Females | Persons | Males             | Females | Persons |
| PERTH STATISTICAL DIVISION |            |         |         |                   |         |         |
| 1966 ....                  | 2,689      | 2,194   | 4,883   | 99                | 72      | 171     |
| 1967 ....                  | 2,748      | 2,107   | 4,855   | 84                | 64      | 148     |
| 1968 ....                  | 2,941      | 2,323   | 5,264   | 115               | 91      | 206     |
| 1969 ....                  | 2,936      | 2,249   | 5,185   | 133               | 107     | 240     |
| 1970 ....                  | 3,006      | 2,339   | 5,345   | 140               | 111     | 251     |
| OTHER DIVISIONS            |            |         |         |                   |         |         |
| 1966 ....                  | 1,232      | 657     | 1,889   | 85                | 73      | 158     |
| 1967 ....                  | 1,208      | 716     | 1,924   | 105               | 61      | 166     |
| 1968 ....                  | 1,397      | 807     | 2,204   | 121               | 71      | 192     |
| 1969 ....                  | 1,377      | 788     | 2,165   | 117               | 96      | 213     |
| 1970 ....                  | 1,386      | 812     | 2,198   | 109               | 99      | 208     |
| WESTERN AUSTRALIA          |            |         |         |                   |         |         |
| 1966 ....                  | 3,921      | 2,851   | 6,772   | 184               | 145     | 329     |
| 1967 ....                  | 3,956      | 2,823   | 6,779   | 189               | 125     | 314     |
| 1968 ....                  | 4,338      | 3,130   | 7,468   | 236               | 162     | 398     |
| 1969 ....                  | 4,313      | 3,037   | 7,350   | 250               | 203     | 453     |
| 1970 ....                  | 4,392      | 3,151   | 7,543   | 249               | 210     | 459     |

(a) See NOTE on page 147. (b) Including infant deaths. (c) Deaths occurring in the first year of life.

**Crude Death Rates.** The crude death rate is perhaps the most common measure of mortality, and is derived by relating the deaths occurring in a period to the mean population for that period. It is usually expressed as number of deaths per thousand of mean population.

The rates for Western Australia and for the Commonwealth in the period 1921 to 1970 are compared in the following table.

CRUDE DEATH RATES (a)  
WESTERN AUSTRALIA AND AUSTRALIA

| Period           | Average annual rate (b) |           | Year | Annual rate (b)   |           |
|------------------|-------------------------|-----------|------|-------------------|-----------|
|                  | Western Australia       | Australia |      | Western Australia | Australia |
| 1921-25 ....     | 9.17                    | 9.52      | 1961 | 7.77              | 8.47      |
| 1926-30 ....     | 8.91                    | 9.26      | 1962 | 7.69              | 8.71      |
| 1931-35 ....     | 8.83                    | 9.00      | 1963 | 7.68              | 8.70      |
| 1936-40 (c) .... | 9.22                    | 9.63      | 1964 | 8.06              | 9.04      |
| 1941-45 (c) .... | 9.86                    | 9.96      | 1965 | 7.70              | 8.79      |
| 1946-50 (c) .... | 9.23                    | 9.74      | 1966 | 8.13              | 9.01      |
| 1951-55 ....     | 8.49                    | 9.25      | 1967 | 7.71              | 8.70      |
| 1956-60 ....     | 7.90                    | 8.78      | 1968 | 8.17              | 9.12      |
| 1961-65 ....     | 7.78                    | 8.75      | 1969 | 7.71              | 8.69      |
| 1966-70 ....     | 7.86                    | 8.91      | 1970 | 7.61              | 9.04      |

(a) See NOTE on page 147. (b) Rates for the years 1961 to 1965 have been revised in accordance with the final results of the 1966 Census; those for 1966 and later have been revised in accordance with the preliminary results of the 1971 Census. (c) Excludes deaths of members of defence forces from September 1939 to June 1947.

In the early years of the century, the Western Australian rate was higher than that for Australia as a whole, but fell below the Australian average in 1909. Since that time, the rate for Western Australia has, with very few exceptions, remained lower than that for the Commonwealth.

Western Australia's crude death rate for the year 1902 was 13·79 per thousand of the mean population but by 1931 it had fallen to 8·51 (see Graph—*Rates of Birth, Death and Marriage*). After that year, the rate increased until it reached 10·65 in 1942. Since then there was a general decline until 1963 when the rate was 7·68. The rate for 1970 was 7·61 per thousand of mean population, the lowest ever recorded in Western Australia.

**Standardised Death Rates.** The crude death rate expresses simply the number of deaths occurring in a population during any period as a proportion of the mean population for that period. Although this rate is useful as a measure of the absolute level of mortality, its value is necessarily restricted when comparing the mortality in different communities in the same period, or in one community at different times.

The effect on the crude death rate of the presence in a community of a high proportion of young people or of aged people, or of a high or low masculinity, will be readily appreciated. To devise an adequate measure of comparative mortality, it is therefore necessary to select a 'standard' population to which the varying mortality experiences may be referred. A standard population compiled by the International Statistical Institute, based upon the age and sex distribution of the population of nineteen European countries at their censuses nearest to the year 1900, has been used as the basis of the standardised death rates for Western Australia and Australia given in the next paragraph. The rate is computed by applying to each sex and age group in the standard population, the death rates actually recorded in the corresponding groups of the State and Australian populations. The sum of these results represents the number of deaths which would have occurred in the standard population if it had been exposed to the same risks of mortality. The standardised death rate is derived by expressing this number in terms of 'per thousand of the standard population'.

For the Census years 1921, 1933, 1947, 1954, 1961 and 1966 the standardised death rates for Western Australia were 11·88, 8·74, 7·28, 6·71, 6·02 and 6·25, and the corresponding rates for Australia as a whole were 10·58, 8·62, 7·34, 6·90, 6·27 and 6·53. These rates have been compiled on a basis which excludes full-blood Aborigines; see *NOTE* on page 147.

**Causes of Death.** Statistics of causes of death provide important numerical facts by which to evaluate the varying health conditions and needs of different countries. In order to enable valid international comparisons, it is necessary that each country present its statistics of causes of death in a uniform manner. The first classification of causes of death to be adopted internationally was that compiled by Dr J. Bertillon at the request of the International Statistical Institute meeting in Vienna in 1891. Subsequently this classification was periodically revised by the Institute in collaboration with the League of Nations Health Organization. More recently revisions have been carried out by a Committee of the World Health Organization.

#### PRINCIPAL CAUSES OF DEATH, 1970 (a)

| International number | Cause of death (b) (c)                         | Males | Females | Persons | Per cent of all deaths | Rate (d) |
|----------------------|------------------------------------------------|-------|---------|---------|------------------------|----------|
| 000-136              | Infective and parasitic diseases—              |       |         |         |                        |          |
| 010-012              | Tuberculosis of respiratory system             | 10    | ....    | 10      | 0·1                    | 1·0      |
|                      | Other infective and parasitic diseases         | 37    | 44      | 81      | 1·1                    | 8·2      |
| 140-239              | Neoplasms—                                     |       |         |         |                        |          |
| 140-199              | Malignant—                                     |       |         |         |                        |          |
| 150-159              | Digestive organs and peritoneum                | 209   | 188     | 397     | 5·3                    | 40·0     |
| 162                  | Trachea, bronchus and lung                     | 237   | 42      | 279     | 3·7                    | 28·1     |
| 174                  | Breast                                         | ....  | 102     | 102     | 1·4                    | 10·3     |
| 180-189              | Genito-urinary organs                          | 130   | 97      | 227     | 3·0                    | 22·9     |
|                      | Other                                          | 117   | 75      | 192     | 2·5                    | 19·4     |
| 200-209              | Lymphatic and haematopoietic tissue—           |       |         |         |                        |          |
| 204-207              | Leukaemia and aleukaemia                       | 39    | 18      | 57      | 0·8                    | 5·7      |
|                      | Other                                          | 49    | 28      | 77      | 1·0                    | 7·8      |
| 210-239              | Benign and unspecified                         | 6     | 7       | 13      | 0·2                    | 1·3      |
| 240-279              | Endocrine, nutritional and metabolic diseases— |       |         |         |                        |          |
| 250                  | Diabetes mellitus                              | 53    | 78      | 131     | 1·7                    | 13·2     |
|                      | Other                                          | 14    | 12      | 26      | 0·3                    | 2·6      |
| 280-289              | Diseases of blood and blood-forming organs     | 11    | 13      | 24      | 0·3                    | 2·4      |
| 290-315              | Mental disorders                               | 39    | 47      | 86      | 1·1                    | 8·7      |

## PRINCIPAL CAUSES OF DEATH, 1970 (a)—continued

| International number | Cause of death (b) (c)                                       | Males | Females | Persons | Per cent of all deaths | Rate (d) |
|----------------------|--------------------------------------------------------------|-------|---------|---------|------------------------|----------|
| 320-389              | Diseases of the nervous system and sense organs              | 48    | 31      | 79      | 1.0                    | 8.0      |
| 390-458              | Diseases of the circulatory system—                          |       |         |         |                        |          |
| 393-398              | Rheumatic heart disease                                      | 29    | 46      | 75      | 1.0                    | 7.6      |
| 410-414              | Ischaemic heart disease                                      | 1,269 | 823     | 2,092   | 27.7                   | 210.9    |
| 430-438              | Cerebrovascular disease                                      | 414   | 487     | 901     | 11.9                   | 90.9     |
|                      | Other                                                        | 324   | 311     | 635     | 8.4                    | 64.0     |
| 460-519              | Diseases of the respiratory system—                          |       |         |         |                        |          |
| 480-486              | Pneumonia                                                    | 84    | 78      | 162     | 2.1                    | 16.3     |
| 490-493              | Bronchitis, emphysema and asthma                             | 248   | 48      | 296     | 3.9                    | 29.8     |
|                      | Other                                                        | 68    | 19      | 87      | 1.2                    | 8.8      |
| 520-577              | Diseases of the digestive system                             | 117   | 81      | 198     | 2.6                    | 20.0     |
| 580-629              | Diseases of the genito-urinary system                        | 69    | 44      | 113     | 1.5                    | 11.4     |
| 630-678              | Complications of pregnancy, childbirth and the puerperium    | ...   | 3       | 3       | ...                    | 0.3      |
| 680-709              | Diseases of the skin and subcutaneous tissue                 | 1     | 4       | 5       | 0.1                    | 0.5      |
| 710-738              | Diseases of the musculoskeletal system and connective tissue | 10    | 18      | 28      | 0.4                    | 2.8      |
| 740-759              | Congenital anomalies                                         | 76    | 57      | 133     | 1.8                    | 13.4     |
| 760-779              | Certain causes of perinatal morbidity and mortality          | 130   | 99      | 229     | 3.0                    | 23.1     |
| 780-796              | Ill-defined conditions                                       | 75    | 54      | 129     | 1.7                    | 13.0     |
| 800-999              | Accidents, poisonings and violence—                          |       |         |         |                        |          |
| 810-823              | Motor vehicle accidents                                      | 241   | 94      | 335     | 4.4                    | 33.8     |
| 850-877              | Accidental poisonings                                        | 3     | 5       | 8       | 0.1                    | 0.8      |
| 880-887              | Accidental falls                                             | 23    | 28      | 51      | 0.7                    | 5.1      |
| 950-959              | Suicide and self-inflicted injury                            | 72    | 38      | 110     | 1.5                    | 11.1     |
|                      | Other                                                        | 140   | 32      | 172     | 2.3                    | 17.3     |
|                      | All causes                                                   | 4,392 | 3,151   | 7,543   | 100.0                  | 760.6    |

(a) See NOTE on page 147. (b) Classified in accordance with the *International Statistical Classification of Diseases, Injuries, and Causes of Death* (Eighth Revision), operative from 1 January 1968. (c) Defined, in part, as the disease or injury which initiated the train of morbid events leading directly to death. (d) Per 100,000 of mean population based on the preliminary results of the 1971 Census.

The figures in the previous table have been compiled on the basis of the *International Statistical Classification of Diseases, Injuries, and Causes of Death* (Eighth Revision, 1965), operative from 1 January 1968. The term 'principal cause of death', as used in this table and elsewhere in this Part, means ' (a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury '.

The principal causes of deaths in age groups and the number and proportion (per cent) of total deaths from specified causes are shown in the following table.

## PRINCIPAL CAUSES OF DEATH—AGE GROUPS, 1970 (a)

| International number | Age group and cause of death (b)            | Deaths from specified cause |          |             |              |
|----------------------|---------------------------------------------|-----------------------------|----------|-------------|--------------|
|                      |                                             | In age group                |          | At all ages |              |
|                      |                                             | Number                      | Per cent | Number      | Per cent (c) |
|                      | Under 1 year                                | 459                         | 100.0    | ...         | ...          |
| 000-136              | Infective and parasitic diseases            | 33                          | 7.2      | 91          | 36.3         |
| 480-486              | Pneumonia                                   | 56                          | 12.2     | 162         | 34.6         |
| 740-759              | Congenital anomalies                        | 88                          | 19.2     | 133         | 66.2         |
| 760-769              | Maternal causes, including difficult labour | 125                         | 27.2     | 125         | 100.0        |
| 770                  | Conditions of placenta                      | 32                          | 7.0      | 32          | 100.0        |
| 776                  | Anoxic and hypoxic conditions n.e.c.        | 34                          | 7.4      | 34          | 100.0        |
|                      | Other causes                                | 91                          | 19.8     | ...         | ...          |
|                      | 1-4 years                                   | 96                          | 100.0    | ...         | ...          |
| 000-136              | Infective and parasitic diseases            | 8                           | 8.3      | 91          | 8.8          |
| 140-209              | Malignant neoplasms (d)                     | 10                          | 10.4     | 1,331       | 0.8          |
| 480-486              | Pneumonia                                   | 6                           | 6.3      | 162         | 3.7          |
| 740-759              | Congenital anomalies                        | 14                          | 14.6     | 133         | 10.5         |
| 800-949              | Accidents                                   | 35                          | 36.5     | 553         | 6.3          |
|                      | Other causes                                | 23                          | 24.0     | ...         | ...          |
|                      | 5-14 years                                  | 77                          | 100.0    | ...         | ...          |
| 140-209              | Malignant neoplasms (d)                     | 16                          | 20.8     | 1,331       | 1.2          |
| 480-486              | Pneumonia                                   | ...                         | ...      | 162         | ...          |
| 740-759              | Congenital anomalies                        | 13                          | 16.9     | 133         | 9.8          |
| 800-949              | Accidents                                   | 32                          | 41.6     | 553         | 5.8          |
|                      | Other causes                                | 16                          | 20.8     | ...         | ...          |



## PRINCIPAL CAUSES OF DEATH—AGE GROUPS, 1970 (a)—continued

| International number             | Age group and cause of death (b)    | Deaths from specified cause |              |             |              |
|----------------------------------|-------------------------------------|-----------------------------|--------------|-------------|--------------|
|                                  |                                     | In age group                |              | At all ages |              |
|                                  |                                     | Number                      | Per cent     | Number      | Per cent (c) |
|                                  | <b>15-19 years</b> ....             | <b>93</b>                   | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 5                           | 5.4          | 1,331       | 0.4          |
| 740-759                          | Congenital anomalies ....           | 2                           | 2.2          | 133         | 1.5          |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 53                          | 57.0         | 335         | 15.8         |
| 950-959                          | Suicide ....                        | 3                           | 3.2          | 110         | 2.7          |
|                                  | Other ....                          | 9                           | 9.7          | 231         | 3.9          |
|                                  | Other causes ....                   | 21                          | 22.6         | ....        | ....         |
|                                  | <b>20-24 years</b> ....             | <b>117</b>                  | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 8                           | 6.8          | 1,331       | 0.6          |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 57                          | 48.7         | 335         | 17.0         |
| 950-959                          | Suicide ....                        | 8                           | 6.8          | 110         | 7.3          |
|                                  | Other ....                          | 20                          | 17.1         | 231         | 8.7          |
|                                  | Other causes ....                   | 24                          | 20.5         | ....        | ....         |
|                                  | <b>25-34 years</b> ....             | <b>151</b>                  | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 21                          | 13.9         | 1,331       | 1.6          |
| 390-458                          | Diseases of circulatory system .... | 13                          | 8.6          | 3,703       | 0.4          |
| 740-759                          | Congenital anomalies ....           | 3                           | 2.0          | 133         | 2.3          |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 45                          | 29.8         | 335         | 13.4         |
| 950-959                          | Suicide ....                        | 14                          | 9.3          | 110         | 12.7         |
|                                  | Other ....                          | 21                          | 13.9         | 231         | 9.1          |
|                                  | Other causes ....                   | 34                          | 22.5         | ....        | ....         |
|                                  | <b>35-44 years</b> ....             | <b>253</b>                  | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 53                          | 20.9         | 1,331       | 4.0          |
| 393-398, 402 }<br>404, 410-429 } | Heart diseases ....                 | 51                          | 20.2         | 2,497       | 2.0          |
| 430-438                          | Cerebrovascular diseases ....       | 12                          | 4.7          | 901         | 1.3          |
| 460-519                          | Diseases of respiratory system .... | 5                           | 2.0          | 545         | 0.9          |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 37                          | 14.6         | 335         | 11.0         |
| 950-959                          | Suicide ....                        | 13                          | 5.1          | 110         | 11.8         |
|                                  | Other ....                          | 26                          | 10.3         | 231         | 11.3         |
|                                  | Other causes ....                   | 56                          | 22.1         | ....        | ....         |
|                                  | <b>45-54 years</b> ....             | <b>557</b>                  | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 167                         | 30.0         | 1,331       | 12.5         |
| 393-398, 402 }<br>404, 410-429 } | Heart diseases ....                 | 167                         | 30.0         | 2,497       | 6.7          |
| 430-438                          | Cerebrovascular diseases ....       | 34                          | 6.1          | 901         | 3.8          |
| 460-519                          | Diseases of respiratory system .... | 23                          | 4.1          | 545         | 4.2          |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 36                          | 6.5          | 335         | 10.8         |
| 950-959                          | Suicide ....                        | 26                          | 4.7          | 110         | 23.6         |
|                                  | Other ....                          | 20                          | 3.6          | 231         | 8.7          |
|                                  | Other causes ....                   | 84                          | 15.1         | ....        | ....         |
|                                  | <b>55-64 years</b> ....             | <b>1,155</b>                | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 313                         | 27.1         | 1,331       | 23.5         |
| 393-398, 402 }<br>404, 410-429 } | Heart diseases ....                 | 464                         | 40.2         | 2,497       | 18.6         |
| 430-438                          | Cerebrovascular diseases ....       | 88                          | 7.6          | 901         | 9.8          |
| 460-519                          | Diseases of respiratory system .... | 72                          | 6.2          | 545         | 13.2         |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 30                          | 2.6          | 335         | 9.0          |
|                                  | Other ....                          | 42                          | 3.6          | 341         | 12.3         |
|                                  | Other causes ....                   | 146                         | 12.6         | ....        | ....         |
|                                  | <b>65-74 years</b> ....             | <b>1,878</b>                | <b>100.0</b> | ....        | ....         |
| 140-209                          | Malignant neoplasms (d) ....        | 392                         | 20.9         | 1,331       | 29.5         |
| 250                              | Diabetes ....                       | 42                          | 2.2          | 131         | 32.1         |
| 393-398, 402 }<br>404, 410-429 } | Heart diseases ....                 | 744                         | 39.6         | 2,497       | 29.8         |
| 430-438                          | Cerebrovascular diseases ....       | 258                         | 13.7         | 901         | 28.6         |
| 460-519                          | Diseases of respiratory system .... | 143                         | 7.6          | 545         | 26.2         |
| 800-999                          | Accidents, poisonings, violence—    |                             |              |             |              |
| 810-823                          | Motor vehicle accidents ....        | 27                          | 1.4          | 335         | 8.1          |
|                                  | Other ....                          | 32                          | 1.7          | 341         | 9.4          |
|                                  | Other causes ....                   | 240                         | 12.8         | ....        | ....         |

## PRINCIPAL CAUSES OF DEATH—AGE GROUPS, 1970 (a)—continued

| International number | Age group and cause of death (b)                      | Deaths from specified cause |          |             |              |
|----------------------|-------------------------------------------------------|-----------------------------|----------|-------------|--------------|
|                      |                                                       | In age group                |          | At all ages |              |
|                      |                                                       | Number                      | Per cent | Number      | Per cent (c) |
|                      | 75 years and over ....                                | 2,707                       | 100.0    | ....        | ....         |
| 140-209              | Malignant neoplasms (d) ....                          | 346                         | 12.8     | 1,331       | 26.0         |
| 393-398, 402         | Heart diseases ....                                   | 1,055                       | 39.0     | 2,497       | 42.3         |
| 404, 410-429         | Cerebrovascular diseases ....                         | 503                         | 18.6     | 901         | 55.8         |
| 430-438              | Diseases of arteries, arterioles and capillaries .... | 166                         | 6.1      | 249         | 66.7         |
| 440-448              | Diseases of respiratory system ....                   | 212                         | 7.8      | 545         | 38.9         |
| 460-519              | Accidents, poisonings, violence—                      |                             |          |             |              |
| 800-999              | Accidental falls ....                                 | 36                          | 1.3      | 51          | 70.6         |
| 880-887              | Other ....                                            | 36                          | 1.3      | 625         | 5.8          |
|                      | Other causes ....                                     | 353                         | 13.0     | ....        | ....         |

n.e.c. denotes 'not elsewhere classified'.

(a) See NOTE on page 147. (b) Classified in accordance with the *International Statistical Classification of Diseases, Injuries, and Causes of Death* (Eighth Revision), operative from 1 January 1968. (c) Deaths in the specified age group as a percentage of total deaths for a particular cause. (d) Including neoplasms of lymphatic and haematopoietic tissue.

**Infant Deaths.** The term 'infant death' refers to a death which occurs before the completion of the first year of life. In the following table, infant deaths registered in Western Australia during each of the five years to 1970 are classified according to age at death.

## INFANT MORTALITY (a)—AGES AT DEATH

| Year    | Days    |      |      |       |       | Total under 28 days | Months  |     |      | Total under 1 year |    |     |
|---------|---------|------|------|-------|-------|---------------------|---------|-----|------|--------------------|----|-----|
|         | Under 1 | 1-6  | 7-13 | 14-20 | 21-27 |                     | Under 3 | 3-5 | 6-11 |                    |    |     |
| MALES   |         |      |      |       |       |                     |         |     |      |                    |    |     |
| 1966    | ....    | .... | 62   | 58    | 8     | 3                   | 5       | 136 | 148  | 20                 | 16 | 184 |
| 1967    | ....    | .... | 83   | 54    | 6     | 7                   | 5       | 155 | 172  | 5                  | 12 | 189 |
| 1968    | ....    | .... | 110  | 51    | 8     | ....                | 4       | 173 | 199  | 12                 | 25 | 236 |
| 1969    | ....    | .... | 93   | 68    | 10    | 8                   | 3       | 182 | 201  | 17                 | 32 | 250 |
| 1970    | ....    | .... | 91   | 62    | 18    | 5                   | 3       | 179 | 208  | 19                 | 22 | 249 |
| FEMALES |         |      |      |       |       |                     |         |     |      |                    |    |     |
| 1966    | ....    | .... | 53   | 35    | 11    | 5                   | 3       | 107 | 120  | 14                 | 11 | 145 |
| 1967    | ....    | .... | 48   | 23    | 8     | 2                   | ....    | 81  | 92   | 17                 | 16 | 125 |
| 1968    | ....    | .... | 67   | 35    | 5     | 5                   | 5       | 117 | 130  | 19                 | 13 | 162 |
| 1969    | ....    | .... | 76   | 56    | 3     | 4                   | 1       | 140 | 152  | 29                 | 22 | 203 |
| 1970    | ....    | .... | 80   | 39    | 9     | 3                   | 5       | 136 | 158  | 18                 | 34 | 210 |
| PERSONS |         |      |      |       |       |                     |         |     |      |                    |    |     |
| 1966    | ....    | .... | 115  | 93    | 19    | 8                   | 8       | 243 | 268  | 34                 | 27 | 329 |
| 1967    | ....    | .... | 131  | 77    | 14    | 9                   | 5       | 236 | 264  | 22                 | 28 | 314 |
| 1968    | ....    | .... | 177  | 86    | 13    | 5                   | 9       | 290 | 329  | 31                 | 38 | 398 |
| 1969    | ....    | .... | 169  | 124   | 13    | 12                  | 4       | 322 | 353  | 46                 | 54 | 453 |
| 1970    | ....    | .... | 171  | 101   | 27    | 8                   | 8       | 315 | 366  | 37                 | 56 | 459 |

(a) See NOTE on page 147.

**Infant Mortality Rates.** The infant mortality rate expresses the relationship between deaths of infants and the live births occurring in a period, and is stated in terms of number of deaths under one year of age per thousand live births.

The rates for Western Australia and for the Commonwealth in the period 1921 to 1970 are shown in the following table.

**INFANT MORTALITY RATES (a)  
WESTERN AUSTRALIA AND AUSTRALIA**

| Period       | Average annual rate   |           | Year | Annual rate           |           |
|--------------|-----------------------|-----------|------|-----------------------|-----------|
|              | Western Australia (b) | Australia |      | Western Australia (b) | Australia |
| 1921-25 .... | 59.1                  | 57.88     | 1961 | 19.7                  | 19.54     |
| 1926-30 .... | 49.3                  | 51.99     | 1962 | 22.3                  | 20.41     |
| 1931-35 .... | 40.8                  | 41.27     | 1963 | 20.4                  | 19.55     |
| 1936-40 .... | 39.7                  | 38.81     | 1964 | 19.7                  | 19.06     |
| 1941-45 .... | 33.3                  | 34.97     | 1965 | 21.7                  | 18.47     |
| 1946-50 .... | 28.1                  | 26.98     | 1966 | 19.9                  | 18.73     |
| 1951-55 .... | 24.4                  | 23.34     | 1967 | 17.4                  | 18.26     |
| 1956-60 .... | 21.4                  | 21.05     | 1968 | 20.4                  | 17.78     |
| 1961-65 .... | 20.7                  | 19.42     | 1969 | 21.8                  | 17.92     |
| 1966-70 .... | 20.2                  | 18.10     | 1970 | 21.2                  | 17.88     |

(a) See NOTE on page 147. (b) Rates for individual States are based on too few deaths to warrant calculation to the second place of decimals.

In the first decade of the century, the average annual rate (106.1) in Western Australia was considerably above the Commonwealth average of 86.83, and was the highest among the Australian States. Since then both the Western Australian and the Australian rates have shown a remarkable decrease. Despite the improvement in Western Australia, the experience of recent years generally reveals a less favourable situation than for the Commonwealth as a whole. In the five years ended 1970, Western Australia's average annual rate was 20.2 compared with the Australian rate of 18.10 and was greater than that for any other State.

**Causes of Infant Deaths.** The causes of infant deaths registered during the year 1970 are set out in the following table.

**INFANT MORTALITY—CAUSES OF DEATH, 1970 (a)**

| International number | Cause of death (b)                                                 | Males      | Females    | Persons    |
|----------------------|--------------------------------------------------------------------|------------|------------|------------|
| 740-759              | Causes mainly of prenatal and natal origin—                        |            |            |            |
| 760-769              | Congenital anomalies                                               | 51         | 37         | 88         |
| 762                  | Attributed to conditions of the mother—                            |            |            |            |
| 764-768              | Toxaemia of pregnancy                                              | 12         | 3          | 15         |
| 769                  | Difficult labour                                                   | 12         | 10         | 22         |
|                      | Other complications of pregnancy and childbirth                    | 36         | 33         | 69         |
|                      | Other                                                              | 8          | 11         | 19         |
| 770                  | Conditions of placenta                                             | 20         | 12         | 32         |
| 771                  | Conditions of umbilical cord                                       | 1          | 2          | 3          |
| 774, 775             | Haemolytic disease of newborn                                      | 2          | 5          | 7          |
| 776                  | Anoxic and hypoxic conditions, n.e.c.                              | 21         | 13         | 34         |
| 777                  | Immaturity, unqualified                                            | 10         | 6          | 16         |
|                      | Other                                                              | 8          | 4          | 12         |
|                      | <b>Total</b>                                                       | <b>181</b> | <b>136</b> | <b>317</b> |
| 000-009              | Causes mainly of postnatal origin—                                 |            |            |            |
| 038                  | Intestinal infectious diseases                                     | 4          | 16         | 20         |
| 320, 036             | Septicaemia                                                        | 1          | 1          | 2          |
| 480-486              | Meningitis and meningococcal infection                             | 4          | 1          | 5          |
| 911                  | Pneumonia                                                          | 25         | 31         | 56         |
|                      | Inhalation or ingestion of food causing obstruction or suffocation | 2          | 1          | 3          |
|                      | Other                                                              | 32         | 24         | 56         |
|                      | <b>Total</b>                                                       | <b>68</b>  | <b>74</b>  | <b>142</b> |
|                      | <b>All causes</b>                                                  | <b>249</b> | <b>210</b> | <b>459</b> |

n.e.c. denotes 'not elsewhere classified'.

(a) See NOTE on page 147. (b) Classified in accordance with the *International Statistical Classification of Diseases, Injuries, and Causes of Death* (Eighth Revision), operative from 1 January 1968.

**Stillbirths.** The infant mortality rate discussed above is that most commonly used, and takes no account of stillbirths. It is informative, however, to examine these two factors in relation, as in the next table.

STILLBIRTHS (a) AND INFANT DEATHS (b)

| Year      | Stillbirths (a) |         |         |                 | Deaths under one year of age |         |         |                 |
|-----------|-----------------|---------|---------|-----------------|------------------------------|---------|---------|-----------------|
|           | Males           | Females | Persons | Masculinity (c) | Males                        | Females | Persons | Masculinity (c) |
| 1966 .... | 96              | 72      | 168     | 133.3           | 184                          | 145     | 329     | 126.9           |
| 1967 .... | 92              | 96      | 188     | 95.8            | 189                          | 125     | 314     | 151.2           |
| 1968 .... | 115             | 128     | 243     | 89.8            | 236                          | 162     | 398     | 145.7           |
| 1969 .... | 145             | 105     | 250     | 138.1           | 250                          | 203     | 453     | 123.2           |
| 1970 .... | 166             | 129     | 295     | 128.7           | 249                          | 210     | 459     | 118.6           |

(a) Figures for 1968 and later refer to stillbirths where the child was of at least 20 weeks' gestation; those for 1967 and earlier refer to cases where the gestation period was at least 28 weeks. (b) See NOTE on page 147. (c) Number of males to each 100 females.

The relationship between stillbirths and infant deaths during the same period is further examined in the following table, which shows the numbers of stillbirths and of infant deaths at various ages. The rates shown represent the number of stillbirths, or of infant deaths, per thousand of total births (*i.e.* including stillbirths).

STILLBIRTHS (a) AND INFANT DEATHS (b)  
NUMBERS AND RATES

| Year     | Stillbirths<br>(a) | Infant deaths |               |                | Stillbirths and infant deaths<br>(a) |      |
|----------|--------------------|---------------|---------------|----------------|--------------------------------------|------|
|          |                    | Under 7 days  | Under 28 days | Under one year |                                      |      |
| NUMBER   |                    |               |               |                |                                      |      |
| 1966     | ....               | 168           | 208           | 243            | 329                                  | 497  |
| 1967     | ....               | 188           | 208           | 236            | 314                                  | 502  |
| 1968     | ....               | 243           | 263           | 290            | 398                                  | 641  |
| 1969     | ....               | 250           | 293           | 322            | 453                                  | 703  |
| 1970     | ....               | 295           | 272           | 315            | 459                                  | 754  |
| RATE (c) |                    |               |               |                |                                      |      |
| 1966     | ....               | 9.8           | 12.1          | 14.1           | 19.2                                 | 28.9 |
| 1967     | ....               | 10.3          | 11.4          | 13.0           | 17.2                                 | 27.6 |
| 1968     | ....               | 12.3          | 13.3          | 14.7           | 20.1                                 | 32.4 |
| 1969     | ....               | 11.9          | 13.9          | 15.3           | 21.6                                 | 33.5 |
| 1970     | ....               | 13.5          | 12.4          | 14.4           | 20.9                                 | 34.4 |

(a) Figures for 1968 and later refer to stillbirths where the child was of at least 20 weeks' gestation; those for 1967 and earlier refer to cases where the gestation period was at least 28 weeks. (b) See NOTE on page 147. (c) Rate per 1,000 of total births (*i.e.* including stillbirths); see also note (a).

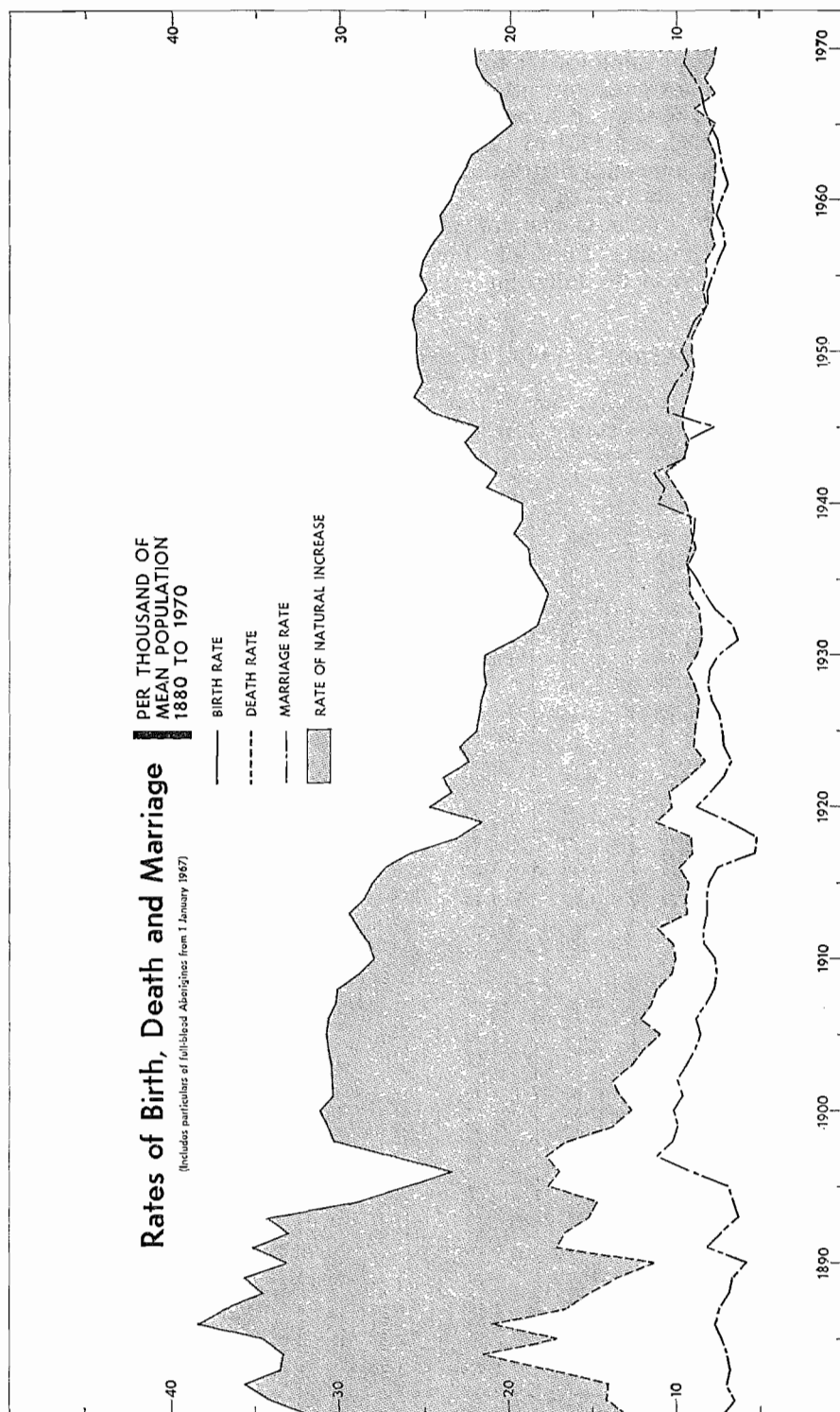
**Age-specific Death Rates.** The age-specific death rate expresses the number of deaths at specified ages in terms of the population at those particular ages. In the following table, which shows age-specific death rates for Western Australia, the average annual rates for 1965-67 and earlier periods relate to deaths in the three years surrounding a Population Census.

## BIRTHS, DEATHS AND MARRIAGES

## AGE-SPECIFIC DEATH RATES (a)

| Age group (years) | 1910-12 | 1920-22 | 1932-34 | 1946-48 | 1953-55 | 1960-62  | 1965-67 (b) |
|-------------------|---------|---------|---------|---------|---------|----------|-------------|
| MALES             |         |         |         |         |         |          |             |
| Under 1           | 28.4    | 23.9    | 12.8    | 9.3     | 7.0     | (c) 22.9 | (c) 22.1    |
| 1-4               | 2.6     | 2.2     | 1.6     | 0.9     | 0.7     | 1.2      | 1.2         |
| 5-9               | 2.2     | 1.4     | 1.4     | 0.6     | 0.5     | 0.5      | 0.5         |
| 10-14             | 2.9     | 2.4     | 1.8     | 1.5     | 1.6     | 0.4      | 0.4         |
| 15-19             | 5.2     | 4.0     | 2.5     | 2.2     | 2.0     | 1.7      | 1.6         |
| 20-24             | 5.9     | 4.1     | 2.9     | 2.0     | 1.9     | 1.5      | 1.5         |
| 25-29             | 6.8     | 5.4     | 3.1     | 2.3     | 1.8     | 1.6      | 1.8         |
| 30-34             | 8.4     | 6.4     | 4.0     | 2.5     | 2.2     | 2.1      | 2.3         |
| 35-39             | 10.4    | 7.9     | 5.7     | 4.2     | 3.2     | 3.5      | 3.4         |
| 40-44             | 15.0    | 12.1    | 8.8     | 6.3     | 5.8     | 5.0      | 5.3         |
| 45-49             | 17.7    | 17.2    | 13.5    | 11.5    | 9.0     | 9.5      | 9.2         |
| 50-54             | 24.7    | 23.8    | 21.4    | 17.2    | 15.8    | 14.8     | 16.1        |
| 55-59             | 35.1    | 34.2    | 28.3    | 26.3    | 24.8    | 23.8     | 25.4        |
| 60-64             | 46.0    | 49.5    | 42.4    | 40.3    | 41.5    | 40.3     | 41.4        |
| 65-69             | 78.7    | 72.2    | 63.4    | 61.0    | 62.9    | 59.6     | 63.6        |
| 70-74             | 110.5   | 115.6   | 105.1   | 98.7    | 93.8    | 96.7     | 96.4        |
| 75-79             | 185.2   | 184.5   | 176.8   | 149.5   | 146.9   | 140.9    | 146.5       |
| 80-84             | 328.2   | 283.5   | 265.0   | 222.4   | 225.7   | 244.5    | 247.4       |
| 85-89             | 321.4   | 566.7   | 380.8   | 376.2   | 297.4   |          |             |
| 90 and over       |         |         |         |         |         |          |             |
| FEMALES           |         |         |         |         |         |          |             |
| Under 1           | 21.8    | 18.8    | 8.6     | 7.9     | 5.1     | (c) 19.4 | (c) 17.7    |
| 1-4               | 2.6     | 1.3     | 1.3     | 0.5     | 0.5     | 1.2      | 0.8         |
| 5-9               | 1.8     | 1.2     | 1.0     | 0.6     | 0.3     | 0.3      | 0.3         |
| 10-14             | 2.0     | 1.3     | 1.3     | 0.7     | 0.7     | 0.2      | 0.2         |
| 15-19             | 3.8     | 3.1     | 1.9     | 1.2     | 0.7     | 0.5      | 0.7         |
| 20-24             | 4.4     | 4.0     | 2.8     | 1.5     | 0.8     | 0.6      | 0.7         |
| 25-29             | 4.9     | 4.6     | 3.1     | 1.6     | 1.0     | 0.8      | 0.8         |
| 30-34             | 6.2     | 4.9     | 4.2     | 2.6     | 1.5     | 1.4      | 1.4         |
| 35-39             | 6.7     | 6.4     | 5.8     | 3.1     | 2.1     | 2.0      | 2.1         |
| 40-44             | 8.4     | 8.1     | 6.4     | 5.1     | 3.6     | 3.3      | 3.3         |
| 45-49             | 11.8    | 10.6    | 9.1     | 6.8     | 5.9     | 5.0      | 5.3         |
| 50-54             | 14.2    | 12.8    | 10.7    | 10.1    | 8.6     | 7.2      | 7.6         |
| 55-59             | 20.4    | 17.8    | 17.3    | 16.1    | 13.9    | 11.4     | 12.6        |
| 60-64             | 34.6    | 30.5    | 29.8    | 24.6    | 20.7    | 19.4     | 20.7        |
| 65-69             | 54.5    | 54.2    | 44.1    | 40.8    | 39.2    | 35.4     | 34.6        |
| 70-74             | 92.5    | 96.4    | 74.4    | 74.2    | 67.7    | 60.6     | 57.8        |
| 75-79             | 144.1   | 137.1   | 121.0   | 117.6   | 109.7   | 101.9    | 100.6       |
| 80-84             | 186.7   | 219.5   | 192.4   | 187.5   | 189.9   | 191.5    | 182.4       |
| 85-89             | 359.0   | 478.3   | 397.2   | 273.8   | 285.9   |          |             |
| 90 and over       |         |         |         |         |         |          |             |
| PERSONS           |         |         |         |         |         |          |             |
| Under 1           | 25.2    | 21.4    | 11.4    | 8.6     | 6.1     | (c) 21.2 | (c) 19.9    |
| 1-4               | 2.6     | 1.8     | 1.4     | 0.7     | 0.6     | 1.2      | 1.0         |
| 5-9               | 2.0     | 1.3     | 1.2     | 0.6     | 0.4     | 0.4      | 0.4         |
| 10-14             | 2.5     | 1.9     | 1.5     | 1.1     | 1.2     | 0.3      | 0.3         |
| 15-19             | 4.6     | 3.5     | 2.2     | 1.7     | 1.4     | 0.8      | 0.8         |
| 20-24             | 5.3     | 4.0     | 2.8     | 1.7     | 1.4     | 1.2      | 1.2         |
| 25-29             | 6.0     | 5.0     | 3.1     | 1.9     | 1.4     | 1.1      | 1.1         |
| 30-34             | 7.5     | 5.7     | 4.1     | 2.5     | 1.8     | 1.2      | 1.3         |
| 35-39             | 9.1     | 7.2     | 5.2     | 3.7     | 2.7     | 1.8      | 1.9         |
| 40-44             | 12.7    | 10.4    | 7.7     | 5.7     | 4.8     | 2.8      | 2.8         |
| 45-49             | 15.6    | 14.6    | 11.5    | 9.2     | 7.6     | 4.2      | 4.3         |
| 50-54             | 20.9    | 19.6    | 16.6    | 13.8    | 12.3    | 7.4      | 7.3         |
| 55-59             | 29.3    | 27.9    | 23.4    | 21.4    | 19.3    | 11.4     | 12.1        |
| 60-64             | 41.2    | 41.7    | 37.0    | 32.6    | 30.9    | 17.8     | 19.3        |
| 65-69             | 68.7    | 64.3    | 55.3    | 50.8    | 50.4    | 29.1     | 30.8        |
| 70-74             | 103.3   | 106.7   | 91.1    | 86.6    | 79.8    | 46.5     | 47.2        |
| 75-79             | 170.1   | 162.6   | 149.7   | 133.2   | 125.9   | 76.3     | 74.1        |
| 80-84             | 266.7   | 252.0   | 222.9   | 204.1   | 205.8   | 118.0    | 118.3       |
| 85-89             | 333.3   | 528.3   | 389.2   | 312.3   | 290.4   | 210.7    | 203.8       |
| 90 and over       |         |         |         |         |         |          |             |

(a) Rates for the three-year periods 1965-67 and earlier represent the average annual number of deaths per 1,000 of population in each age group at the relevant Census; for Census dates see table on page 129. Rates for 1960-62 and earlier exclude full-blood Aborigines; those for 1965-67 refer to total population (i.e. including Aborigines). (b) Based on total population (i.e. including Aborigines); see note (a). See also NOTE on page 147. (c) Infant deaths per 1,000 live births registered.



**Australian Life Tables.** It has been the practice at each census from 1911 onwards to prepare Life Tables representative of the mortality experience of Australia. The mortality of the Australian population for the thirty years from 1881 to 1910 inclusive was investigated in 1911 by the Commonwealth Statistician. Tables were compiled for each State and for Australia as a whole in respect of each sex for each of the decennial periods 1881 to 1890, 1891 to 1900, and 1901 to 1910. At the Census of 1921, Life Tables were prepared by the Commonwealth Statistician from the recorded census population and the deaths in the three years 1920 to 1922. Tables based on data derived from later censuses have been compiled by the Commonwealth Actuary.

The expectation of life of males and females at various ages as revealed by these investigations is shown in the following table.

EXPECTATION OF LIFE (a)—AUSTRALIA: 1881-90 TO 1960-62  
(Years)

| Age last birthday<br>(years) | 1881-90 | 1891-1900 | 1901-10 | 1920-22 | 1932-34 | 1946-48 | 1953-55 | 1960-62 |
|------------------------------|---------|-----------|---------|---------|---------|---------|---------|---------|
| MALES                        |         |           |         |         |         |         |         |         |
| 0                            | 47·20   | 51·08     | 55·20   | 59·15   | 63·48   | 66·07   | 67·14   | 67·92   |
| 5                            | 52·86   | 55·61     | 57·91   | 60·43   | 62·57   | 63·77   | 64·32   | 64·77   |
| 10                           | 48·86   | 51·43     | 53·53   | 56·01   | 58·02   | 59·04   | 59·53   | 59·93   |
| 15                           | 44·45   | 46·98     | 49·03   | 51·44   | 53·36   | 54·28   | 54·72   | 55·07   |
| 20                           | 40·58   | 42·81     | 44·74   | 46·99   | 48·81   | 49·64   | 50·10   | 50·40   |
| 25                           | 37·10   | 38·90     | 40·60   | 42·70   | 44·37   | 45·04   | 45·54   | 45·80   |
| 30                           | 33·64   | 35·11     | 36·52   | 38·44   | 39·90   | 40·40   | 40·90   | 41·12   |
| 35                           | 30·06   | 31·34     | 32·49   | 34·20   | 35·46   | 35·79   | 36·25   | 36·45   |
| 40                           | 26·50   | 27·65     | 28·56   | 30·05   | 31·11   | 31·23   | 31·65   | 31·84   |
| 45                           | 23·04   | 23·99     | 24·78   | 26·03   | 26·87   | 26·83   | 27·18   | 27·38   |
| 50                           | 19·74   | 20·45     | 21·16   | 22·20   | 22·83   | 22·67   | 22·92   | 23·13   |
| 55                           | 16·65   | 17·08     | 17·67   | 18·51   | 19·03   | 18·84   | 19·00   | 19·18   |
| 60                           | 13·77   | 13·99     | 14·35   | 15·08   | 15·57   | 15·36   | 15·47   | 15·60   |
| 65                           | 11·06   | 11·25     | 11·31   | 12·01   | 12·40   | 12·25   | 12·33   | 12·47   |
| 70                           | 8·82    | 8·90      | 8·67    | 9·26    | 9·60    | 9·55    | 9·59    | 9·77    |
| 75                           | 6·72    | 6·70      | 6·58    | 6·87    | 7·19    | 7·23    | 7·33    | 7·47    |
| 80                           | 5·11    | 5·00      | 4·96    | 5·00    | 5·22    | 5·36    | 5·47    | 5·57    |
| 85                           | 3·86    | 3·79      | 3·65    | 3·62    | 3·90    | 3·84    | 4·01    | 4·08    |
| 90                           | 2·91    | 2·91      | 2·64    | 2·60    | 2·99    | 2·74    | 2·93    | 3·02    |
| 95                           | 2·16    | 2·16      | 1·88    | 1·86    | 2·11    | 1·93    | 2·10    | 2·29    |
| 100                          | 1·32    | 1·29      | 1·18    | 1·17    | 1·10    | ....    | ....    | ....    |
| FEMALES                      |         |           |         |         |         |         |         |         |
| 0                            | 50·84   | 54·76     | 58·84   | 63·31   | 67·14   | 70·63   | 72·75   | 74·18   |
| 5                            | 56·00   | 58·64     | 60·80   | 63·64   | 65·64   | 67·91   | 69·61   | 70·78   |
| 10                           | 51·95   | 54·46     | 56·39   | 59·20   | 61·02   | 63·11   | 64·78   | 65·92   |
| 15                           | 47·54   | 49·97     | 51·86   | 54·55   | 56·29   | 58·27   | 59·90   | 61·01   |
| 20                           | 43·43   | 45·72     | 47·52   | 50·03   | 51·67   | 53·47   | 55·06   | 56·16   |
| 25                           | 39·67   | 41·69     | 43·36   | 45·71   | 47·19   | 48·74   | 50·24   | 51·32   |
| 30                           | 36·13   | 37·86     | 39·33   | 41·48   | 42·77   | 44·08   | 45·43   | 46·49   |
| 35                           | 32·58   | 34·14     | 35·37   | 37·28   | 38·37   | 39·46   | 40·67   | 41·70   |
| 40                           | 29·08   | 30·49     | 31·47   | 33·14   | 34·04   | 34·91   | 36·00   | 36·99   |
| 45                           | 25·56   | 26·69     | 27·59   | 28·99   | 29·74   | 30·45   | 31·44   | 32·38   |
| 50                           | 22·06   | 22·93     | 23·69   | 24·90   | 25·58   | 26·14   | 27·03   | 27·92   |
| 55                           | 18·64   | 19·29     | 19·85   | 20·95   | 21·58   | 22·04   | 22·81   | 23·63   |
| 60                           | 15·39   | 15·86     | 16·20   | 17·17   | 17·74   | 18·11   | 18·78   | 19·51   |
| 65                           | 12·27   | 12·75     | 12·88   | 13·60   | 14·15   | 14·44   | 15·02   | 15·68   |
| 70                           | 9·70    | 9·89      | 9·96    | 10·41   | 10·98   | 11·14   | 11·62   | 12·19   |
| 75                           | 7·24    | 7·37      | 7·59    | 7·73    | 8·23    | 8·32    | 8·69    | 9·16    |
| 80                           | 5·27    | 5·49      | 5·73    | 5·61    | 6·01    | 6·02    | 6·30    | 6·68    |
| 85                           | 3·90    | 4·12      | 4·19    | 4·06    | 4·30    | 4·32    | 4·52    | 4·79    |
| 90                           | 2·98    | 3·07      | 2·99    | 2·91    | 3·05    | 3·08    | 3·24    | 3·48    |
| 95                           | 2·25    | 2·18      | 2·10    | 2·07    | 2·00    | 2·14    | 2·31    | 2·59    |
| 100                          | 1·37    | 1·23      | 1·24    | 1·24    | 1·02    | ....    | ....    | ....    |

(a) Refers to population exclusive of full-blood Aborigines; see letterpress *Aborigines* on page 129.

## MARRIAGES

The number of marriages registered in Western Australia in each of the five years 1966 to 1970 is shown in the following table. Marriages celebrated by ministers of religion are distinguished from those celebrated by civil officers, and the numbers of minors marrying are also shown.

## MARRIAGES REGISTERED (a)

| Year | Marriages celebrated by— |                | All marriages | Proportion celebrated by civil officers (per cent) | Marriages of minors |                             |         |                    |                      |
|------|--------------------------|----------------|---------------|----------------------------------------------------|---------------------|-----------------------------|---------|--------------------|----------------------|
|      | Ministers of religion    | Civil officers |               |                                                    | Males               | Per cent of all bridegrooms | Females | Per cent of brides | Total minors married |

## PERTH STATISTICAL DIVISION

|      |      |      |       |       |       |      |       |       |       |       |       |
|------|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 1966 | .... | .... | 4,190 | 689   | 4,879 | 14.1 | 751   | 15.39 | 2,192 | 44.93 | 2,943 |
| 1967 | .... | .... | 4,395 | 823   | 5,218 | 15.8 | 863   | 16.54 | 2,442 | 46.80 | 3,305 |
| 1968 | .... | .... | 4,650 | 940   | 5,590 | 16.8 | 927   | 16.58 | 2,568 | 45.94 | 3,495 |
| 1969 | .... | .... | 5,308 | 1,133 | 6,441 | 17.6 | 993   | 15.42 | 2,950 | 45.80 | 3,943 |
| 1970 | .... | .... | 5,296 | 1,344 | 6,640 | 20.2 | 1,063 | 16.01 | 3,023 | 45.53 | 4,086 |

## OTHER DIVISIONS

|      |      |      |       |     |       |      |     |       |       |       |       |
|------|------|------|-------|-----|-------|------|-----|-------|-------|-------|-------|
| 1966 | .... | .... | 1,805 | 317 | 2,122 | 14.9 | 306 | 14.42 | 1,056 | 49.76 | 1,362 |
| 1967 | .... | .... | 1,894 | 318 | 2,212 | 14.4 | 357 | 16.14 | 1,116 | 50.45 | 1,473 |
| 1968 | .... | .... | 2,160 | 336 | 2,496 | 13.5 | 425 | 17.03 | 1,273 | 51.00 | 1,698 |
| 1969 | .... | .... | 2,155 | 397 | 2,552 | 15.6 | 398 | 15.60 | 1,234 | 48.35 | 1,632 |
| 1970 | .... | .... | 2,177 | 410 | 2,587 | 15.8 | 465 | 17.97 | 1,346 | 52.03 | 1,811 |

## WESTERN AUSTRALIA

|      |      |      |       |       |       |      |       |       |       |       |       |
|------|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 1966 | .... | .... | 5,995 | 1,006 | 7,001 | 14.4 | 1,057 | 15.10 | 3,248 | 46.39 | 4,305 |
| 1967 | .... | .... | 6,289 | 1,141 | 7,430 | 15.4 | 1,220 | 16.42 | 3,558 | 47.89 | 4,778 |
| 1968 | .... | .... | 6,810 | 1,276 | 8,086 | 15.8 | 1,352 | 16.72 | 3,841 | 47.50 | 5,193 |
| 1969 | .... | .... | 7,463 | 1,530 | 8,993 | 17.0 | 1,391 | 15.47 | 4,184 | 46.53 | 5,575 |
| 1970 | .... | .... | 7,473 | 1,754 | 9,227 | 19.0 | 1,528 | 16.56 | 4,369 | 47.35 | 5,897 |

(a) See NOTE on page 147.

The statistics of minors marrying during the five-year period as shown above reveal that 47.1 per cent of brides were minors, compared with only 16.1 per cent of bridegrooms.

**Age at Marriage.** The relative ages of bridegrooms and brides who married in Western Australia in 1970 are shown in the following table.

## RELATIVE AGES OF BRIDEGROOMS AND BRIDES, 1970 (a)

| Age of bridegroom (years) | Total bridegrooms | Age of bride (years) |       |       |       |       |       |       |             |
|---------------------------|-------------------|----------------------|-------|-------|-------|-------|-------|-------|-------------|
|                           |                   | Under 15             | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45 and over |
| Under 20                  | 747               | ....                 | 634   | 109   | 4     | ....  | ....  | ....  | ....        |
| 20-24                     | 5,169             | ....                 | 2,052 | 2,923 | 164   | 20    | 5     | 3     | 2           |
| 25-29                     | 1,845             | ....                 | 282   | 1,128 | 351   | 57    | 18    | 6     | 3           |
| 30-34                     | 579               | ....                 | 46    | 223   | 177   | 89    | 28    | 11    | 5           |
| 35-39                     | 227               | ....                 | 6     | 44    | 63    | 54    | 35    | 19    | 6           |
| 40-44                     | 179               | ....                 | 5     | 9     | 27    | 33    | 47    | 26    | 32          |
| 45-49                     | 139               | ....                 | 1     | 5     | 13    | 16    | 30    | 27    | 47          |
| 50-54                     | 113               | ....                 | ....  | 1     | 5     | 4     | 9     | 26    | 68          |
| 55-59                     | 82                | ....                 | ....  | ....  | ....  | 5     | 3     | 14    | 59          |
| 60-64                     | 49                | ....                 | ....  | ....  | ....  | 2     | ....  | 6     | 41          |
| 65 and over               | 98                | ....                 | ....  | ....  | ....  | ....  | 1     | 1     | 96          |
| Total brides              | 9,227             | ....                 | 3,026 | 4,443 | 804   | 280   | 176   | 139   | 359         |

(a) See NOTE on page 147.



Of the women who married in 1970, 32·80 per cent were aged less than twenty years. The corresponding figure for men was 8·10 per cent.

The following table gives details of the average age and the conjugal condition of bridegrooms and brides in each of the five years to 1970. In each year of the period the difference in the average age of bridegrooms and brides was about three years, the difference in 1970 being 2·77 years.

AVERAGE AGES OF BRIDEGROOMS AND BRIDES (a)

| Year      | Average age of bridegrooms (years) |          |          |       | Average age of brides (years) |        |          |       |
|-----------|------------------------------------|----------|----------|-------|-------------------------------|--------|----------|-------|
|           | Bachelors                          | Widowers | Divorced | Total | Spinsters                     | Widows | Divorced | Total |
| 1966 .... | 24·91                              | 54·95    | 41·97    | 26·83 | 21·81                         | 48·78  | 38·24    | 23·76 |
| 1967 .... | 24·78                              | 56·46    | 40·92    | 26·84 | 21·79                         | 48·91  | 38·04    | 23·74 |
| 1968 .... | 24·57                              | 55·12    | 41·04    | 26·37 | 21·57                         | 48·16  | 37·27    | 23·41 |
| 1969 .... | 24·58                              | 54·94    | 40·30    | 26·36 | 21·71                         | 47·82  | 37·13    | 23·51 |
| 1970 .... | 24·31                              | 56·88    | 40·42    | 26·25 | 21·65                         | 49·79  | 36·88    | 23·48 |

(a) See NOTE on page 147.

The following table shows the age and conjugal condition at time of marriage of bridegrooms and brides who married in Western Australia during 1970.

AGE AND CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES, 1970 (a)

| Age at marriage (years) | Bridegrooms |          |          |       | Brides    |        |          |       |
|-------------------------|-------------|----------|----------|-------|-----------|--------|----------|-------|
|                         | Bachelors   | Widowers | Divorced | Total | Spinsters | Widows | Divorced | Total |
| Under 20                | 747         | ....     | ....     | 747   | 3,025     | 1      | ....     | 3,026 |
| 20-24 ....              | 5,154       | 2        | 13       | 5,169 | 4,379     | 9      | 55       | 4,443 |
| 25-29 ....              | 1,731       | 6        | 108      | 1,845 | 674       | 15     | 115      | 804   |
| 30-34 ....              | 463         | 7        | 109      | 579   | 153       | 23     | 104      | 280   |
| 35-39 ....              | 122         | 10       | 95       | 227   | 73        | 18     | 85       | 176   |
| 40-44 ....              | 69          | 22       | 88       | 179   | 28        | 40     | 71       | 139   |
| 45-49 ....              | 41          | 20       | 78       | 139   | 18        | 42     | 66       | 126   |
| 50-54 ....              | 22          | 36       | 55       | 113   | 10        | 40     | 27       | 77    |
| 55-59 ....              | 10          | 36       | 36       | 82    | 2         | 37     | 16       | 55    |
| 60-64 ....              | 4           | 31       | 14       | 49    | 4         | 39     | 8        | 51    |
| 65 and over             | 6           | 77       | 15       | 98    | 6         | 37     | 7        | 50    |
| Total ....              | 8,369       | 247      | 611      | 9,227 | 8,372     | 301    | 554      | 9,227 |

(a) See NOTE on page 147.

The numbers and ages of minors who married in Western Australia during each of the five years 1966 to 1970 are given in the following table.

MARRIAGES OF MINORS (a)

| Year      | Bridegrooms               |      |    |     |     |     |          | Brides                    |     |     |     |       |       |          |
|-----------|---------------------------|------|----|-----|-----|-----|----------|---------------------------|-----|-----|-----|-------|-------|----------|
|           | Age last birthday (years) |      |    |     |     |     |          | Age last birthday (years) |     |     |     |       |       |          |
|           | Under 16                  | 16   | 17 | 18  | 19  | 20  | Under 21 | Under 16                  | 16  | 17  | 18  | 19    | 20    | Under 21 |
| 1966 .... | ....                      | .... | 12 | 170 | 407 | 468 | 1,057    | 9                         | 155 | 407 | 708 | 1,037 | 932   | 3,248    |
| 1967 .... | ....                      | 1    | 14 | 211 | 384 | 610 | 1,220    | 14                        | 193 | 405 | 743 | 1,062 | 1,141 | 3,558    |
| 1968 .... | ....                      | .... | 20 | 213 | 422 | 697 | 1,352    | 16                        | 211 | 481 | 857 | 1,101 | 1,175 | 3,841    |
| 1969 .... | ....                      | .... | 11 | 224 | 440 | 716 | 1,391    | 6                         | 231 | 517 | 905 | 1,200 | 1,325 | 4,184    |
| 1970 .... | ....                      | 1    | 17 | 231 | 498 | 781 | 1,528    | 14                        | 220 | 540 | 979 | 1,273 | 1,343 | 4,369    |

(a) See NOTE on page 147.

**Religious and Civil Marriages.** The *Marriage Act* 1961-1966 (Commonwealth) provides that marriages may be celebrated either by ministers of religion registered for the purpose with the Registrar of Ministers of Religion in each State or Territory or by certain civil officers, usually District Registrars.

The following table, which relates to marriages registered in Western Australia during the period 1966 to 1970, shows the numbers and proportions celebrated by ministers of the principal religious denominations and by civil officers.

## RELIGIOUS AND CIVIL MARRIAGES (a)

| Category of celebrant                             | 1966  | 1967  | 1968  | 1969  | 1970   |                   |
|---------------------------------------------------|-------|-------|-------|-------|--------|-------------------|
|                                                   |       |       |       |       | Number | Per cent of total |
| Ministers of religion—                            |       |       |       |       |        |                   |
| Recognised denominations (b)—                     |       |       |       |       |        |                   |
| Church of England in Australia .....              | 2,235 | 2,388 | 2,560 | 2,754 | 2,778  | 30.1              |
| Roman Catholic Church .....                       | 1,851 | 1,928 | 2,122 | 2,436 | 2,490  | 27.0              |
| The Methodist Church of Australasia .....         | 817   | 806   | 892   | 975   | 962    | 10.4              |
| The Presbyterian Church of Australia .....        | 392   | 405   | 410   | 523   | 475    | 5.1               |
| Churches of Christ in Australia .....             | 132   | 176   | 190   | 162   | 175    | 1.9               |
| Congregational Union of Australia .....           | 105   | 127   | 128   | 109   | 123    | 1.3               |
| The Baptist Union of Australia .....              | 101   | 104   | 105   | 110   | 133    | 1.4               |
| Orthodox Church (c) .....                         | 63    | 70    | 71    | 82    | 75     | 0.8               |
| The Salvation Army .....                          | 43    | 50    | 46    | 48    | 33     | 0.4               |
| Seventh-day Adventist Church .....                | 32    | 36    | 42    | 45    | 28     | 0.3               |
| Lutheran Church (c) .....                         | 35    | 26    | 53    | 46    | 47     | 0.5               |
| Church of Jesus Christ of Latter Day Saints ..... | 14    | 20    | 15    | 14    | 15     | 0.2               |
| Jehovah's Witnesses .....                         | 19    | 16    | 24    | 36    | 30     | 0.3               |
| Jewry .....                                       | 15    | 11    | 7     | 14    | 8      | 0.1               |
| Other recognised denominations .....              | 125   | 101   | 116   | 72    | 63     | 0.7               |
| Other ministers .....                             | 16    | 25    | 29    | 37    | 38     | 0.4               |
| Total, Ministers of religion .....                | 5,995 | 6,289 | 6,810 | 7,463 | 7,473  | 81.0              |
| Civil officers .....                              | 1,006 | 1,141 | 1,276 | 1,530 | 1,754  | 19.0              |
| Total marriages .....                             | 7,001 | 7,430 | 8,086 | 8,993 | 9,227  | 100.0             |
| Proportion of total (per cent)—                   |       |       |       |       |        |                   |
| Ministers of religion .....                       | 85.6  | 84.6  | 84.2  | 83.0  | ....   | 81.0              |
| Civil officers .....                              | 14.4  | 15.4  | 15.8  | 17.0  | ....   | 19.0              |

(a) See NOTE on page 147. (b) Under authority of the *Marriage Act* 1961-1966 (Commonwealth). (c) Includes churches grouped under this heading in the proclamation made under the *Marriage Act*.

**Marriage Rates.** The average annual marriage rates per thousand of mean population for Western Australia and for the Commonwealth in each five-year period from 1921 to 1970, as well as the rates for each of the years from 1961 to 1970, are shown in the following table.

MARRIAGE RATES (a)  
WESTERN AUSTRALIA AND AUSTRALIA

| Period        | Average annual rate<br>(b) |           | Year | Annual rate<br>(b)   |           |
|---------------|----------------------------|-----------|------|----------------------|-----------|
|               | Western<br>Australia       | Australia |      | Western<br>Australia | Australia |
| 1921-25 ..... | 7.27                       | 8.04      | 1961 | 6.98                 | 7.30      |
| 1926-30 ..... | 7.80                       | 7.52      | 1962 | 7.23                 | 7.39      |
| 1931-35 ..... | 7.58                       | 7.16      | 1963 | 7.40                 | 7.42      |
| 1936-40 ..... | 9.49                       | 9.35      | 1964 | 7.55                 | 7.73      |
| 1941-45 ..... | 9.74                       | 9.94      | 1965 | 7.91                 | 8.25      |
| 1946-50 ..... | 10.01                      | 9.77      | 1966 | 8.25                 | 8.28      |
| 1951-55 ..... | 8.44                       | 8.29      | 1967 | 8.45                 | 8.47      |
| 1956-60 ..... | 7.36                       | 7.50      | 1968 | 8.84                 | 8.85      |
| 1961-65 ..... | 7.43                       | 7.63      | 1969 | 9.43                 | 9.18      |
| 1966-70 ..... | 8.88                       | 8.82      | 1970 | 9.30                 | 9.28      |

(a) See NOTE on page 147. (b) Rates for the years 1961 to 1965 have been revised in accordance with the final results of the 1966 Census; those for 1966 and later have been revised in accordance with the preliminary results of the 1971 Census.

## DIVORCE

The *Matrimonial Causes Act* 1959-1966 (Commonwealth), which came into operation on 1 February 1961, establishes uniform grounds throughout Australia for the termination of marriage. Previously, each State was primarily responsible for the provision of matrimonial relief but the law varied from State to State. While the Commonwealth Act supersedes the divorce laws of the States, jurisdiction continues to be vested in the Courts of the States.

Under the uniform law, grounds for dissolution of marriage (*i.e.* divorce) include desertion for not less than two years, adultery, separation for not less than five years, cruelty, drunkenness, and failure to comply with maintenance orders. The main grounds for nullity of marriage are bigamy and incapacity to consummate the marriage.

Decrees may be granted by a Court for dissolution of marriage, judicial separations, nullity of marriage, and restitution of conjugal rights. Orders may also be made for the custody and welfare of children, maintenance, the settlement of property, and damages for adultery.

A decree for dissolution of marriage is in the first instance a decree *nisi*. The decree automatically becomes absolute at the expiration of three months, unless it is in the meantime rescinded; appeal proceedings are instituted; or there are children of the marriage under the age of sixteen years, in which case the court must be satisfied that appropriate arrangements have been made for their welfare before the decree will become absolute. The parties cannot remarry until a decree *nisi* has become absolute. A decree of judicial separation is available on most of the grounds available for divorce.

## PETITIONS FILED

| Year | Petitions for—          |                     |                     |                                | Total petitions | Petitioner |      |
|------|-------------------------|---------------------|---------------------|--------------------------------|-----------------|------------|------|
|      | Dissolution of marriage | Nullity of marriage | Judicial separation | Restitution of conjugal rights |                 | Husband    | Wife |
| 1966 | 787                     | 3                   | 1                   | 7                              | 798             | 384        | 414  |
| 1967 | 888                     | 2                   | ....                | 3                              | 893             | 412        | 481  |
| 1968 | 995                     | 5                   | 3                   | 3                              | 1,006           | 489        | 517  |
| 1969 | 1,059                   | 5                   | 1                   | 6                              | 1,071           | 503        | 568  |
| 1970 | 1,204                   | 2                   | ....                | 1                              | 1,207           | 578        | 629  |

The following table gives the number of decrees absolute granted and the grounds for the decrees in the period 1966 to 1970. In each year except 1967, adultery was the principal ground for divorce, and accounted for 38·7 per cent of all decrees granted during the five years.

## DISSOLUTION OF MARRIAGE—DECREES ABSOLUTE GRANTED

| Year | Ground (a) |           |                                  |                 |       | Total decrees absolute | Petitioner |      |              |
|------|------------|-----------|----------------------------------|-----------------|-------|------------------------|------------|------|--------------|
|      | Adultery   | Desertion | Separation for 5 years or longer | Maintenance (b) | Other |                        | Husband    | Wife | Both parties |
| 1966 | 251        | 208       | 154                              | 5               | 19    | 637                    | 314        | 322  | 1            |
| 1967 | 249        | 258       | 189                              | 2               | 28    | 726                    | 345        | 381  | ....         |
| 1968 | 305        | 259       | 204                              | 7               | 37    | 812                    | 365        | 447  | ....         |
| 1969 | 340        | 311       | 183                              | 7               | 31    | 872                    | 421        | 451  | ....         |
| 1970 | 377        | 308       | 169                              | 1               | 34    | 889                    | 433        | 456  | ....         |

(a) Where a dissolution is granted on two or more grounds, only one ground is tabulated, preference being given in the order shown.

(b) Non-compliance with maintenance order.

In the following table particulars are given of the duration of marriage, *i.e.* the interval between marriage and the date when the decree was made absolute, for marriages dissolved during the five years 1966 to 1970.

### DISSOLUTION OF MARRIAGE—DURATION OF MARRIAGES DISSOLVED

| Year of dissolution of marriage | Marriages dissolved after a duration of— |           |             |             |             |             |             |                   | Total marriages dissolved |
|---------------------------------|------------------------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------------|---------------------------|
|                                 | Under 5 years                            | 5–9 years | 10–14 years | 15–19 years | 20–24 years | 25–29 years | 30–34 years | 35 years and over |                           |
| 1966                            | 53                                       | 141       | 155         | 123         | 69          | 44          | 29          | 23                | 637                       |
| 1967                            | 76                                       | 162       | 138         | 128         | 102         | 68          | 31          | 21                | 726                       |
| 1968                            | 71                                       | 219       | 167         | 133         | 108         | 61          | 34          | 19                | 812                       |
| 1969                            | 92                                       | 223       | 180         | 129         | 128         | 71          | 32          | 17                | 872                       |
| 1970                            | 106                                      | 247       | 167         | 116         | 120         | 81          | 32          | 20                | 889                       |

The following table shows, for the year 1970, the number of marriages dissolved classified according to duration of marriage and the number of children of the marriage.

### DISSOLUTION OF MARRIAGE—DURATION OF MARRIAGES DISSOLVED AND NUMBER OF CHILDREN, 1970

| Duration of marriage (years) | Marriages dissolved with— |         |            |            |            |            |           | Total marriages dissolved |          | Total number of children (a) |
|------------------------------|---------------------------|---------|------------|------------|------------|------------|-----------|---------------------------|----------|------------------------------|
|                              | No children               | 1 child | 2 children | 3 children | 4 children | 5 children | 6 or more | Number                    | Per cent |                              |
| 0–4                          | 66                        | 32      | 8          | ...        | ...        | ...        | ...       | 106                       | 11.9     | 43                           |
| 5–9                          | 74                        | 84      | 62         | 14         | 10         | 1          | 2         | 247                       | 27.8     | 307                          |
| 10–14                        | 27                        | 22      | 56         | 44         | 12         | 4          | 2         | 167                       | 18.8     | 348                          |
| 15–19                        | 17                        | 15      | 30         | 32         | 15         | 4          | 3         | 116                       | 13.1     | 270                          |
| 20–24                        | 11                        | 26      | 25         | 28         | 13         | 9          | 8         | 120                       | 13.5     | 311                          |
| 25–29                        | 22                        | 28      | 21         | 5          | 3          | 1          | 1         | 81                        | 9.1      | 110                          |
| 30–34                        | 18                        | 8       | 4          | 2          | ...        | ...        | ...       | 32                        | 3.6      | 22                           |
| 35 and over                  | 16                        | 3       | 1          | ...        | ...        | ...        | ...       | 20                        | 2.2      | 5                            |
| Petitioner—                  |                           |         |            |            |            |            |           |                           |          |                              |
| Husband                      | 123                       | 104     | 105        | 62         | 26         | 7          | 6         | 433                       | 48.7     | 679                          |
| Wife                         | 128                       | 114     | 102        | 63         | 27         | 12         | 10        | 456                       | 51.3     | 742                          |
| Total                        | 251                       | 218     | 207        | 125        | 53         | 19         | 16        | 889                       | 100.0    | 1,421                        |

(a) At date of petition. The term *children* refers to *children of the marriage* as defined in the Matrimonial Causes Act, living and under 21 years of age.

The following table shows, for the year 1970, the ages of husband and wife at the date of decree absolute.

### DISSOLUTION OF MARRIAGE—AGES OF PARTIES, 1970

| Age group (a) of husband (years) | Age group (a) of wife (years) |       |       |       |       |       |       |       |       |             | Total husbands |          |
|----------------------------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|----------|
|                                  | Under 20                      | 20–24 | 25–29 | 30–34 | 35–39 | 40–44 | 45–49 | 50–54 | 55–59 | 60 and over | Number         | Per cent |
| Under 20                         | ...                           | ...   | ...   | ...   | ...   | ...   | ...   | ...   | ...   | ...         | ...            | ...      |
| 20–24                            | 1                             | 32    | 6     | ...   | ...   | ...   | ...   | ...   | ...   | ...         | 39             | 4.4      |
| 25–29                            | ...                           | 72    | 74    | 8     | 2     | ...   | ...   | ...   | ...   | ...         | 156            | 17.6     |
| 30–34                            | ...                           | 11    | 85    | 50    | 3     | ...   | ...   | ...   | 1     | ...         | 150            | 16.9     |
| 35–39                            | ...                           | 1     | 23    | 60    | 39    | 7     | 1     | 1     | ...   | ...         | 132            | 14.8     |
| 40–44                            | ...                           | ...   | 6     | 13    | 42    | 46    | 10    | 2     | ...   | ...         | 119            | 13.4     |
| 45–49                            | ...                           | ...   | 3     | 7     | 7     | 42    | 46    | 13    | 1     | 1           | 120            | 13.5     |
| 50–54                            | ...                           | ...   | ...   | 1     | 1     | 13    | 39    | 16    | 4     | ...         | 74             | 8.3      |
| 55–59                            | ...                           | ...   | ...   | ...   | 3     | 4     | 11    | 22    | 20    | 4           | 64             | 7.2      |
| 60 and over                      | ...                           | ...   | ...   | ...   | ...   | 1     | ...   | 4     | 15    | 15          | 35             | 3.9      |
| Total wives—                     |                               |       |       |       |       |       |       |       |       |             |                |          |
| Number                           | 1                             | 116   | 197   | 139   | 97    | 113   | 107   | 58    | 41    | 29          | 889            | ...      |
| Per cent                         | 0.1                           | 13.1  | 22.2  | 15.6  | 10.9  | 12.7  | 12.0  | 6.5   | 4.6   | 2.3         | ...            | 100.0    |

(a) Age at date of decree absolute.

## CHAPTER V—SOCIAL CONDITIONS

### Part 1—Education

#### PRIMARY, SECONDARY AND TECHNICAL EDUCATION

In Western Australia, education at primary and secondary levels is provided at government schools administered and staffed by the Education Department and at non-government schools, most of which are conducted by the principal religious bodies. The Technical Education Division of the Education Department provides technician-level courses, apprenticeship and part-apprenticeship training programmes, general studies (including courses for students preparing for public and other external examinations), and adult education (including classes designed as leisure-type studies).

#### Government Financial Assistance

The State Government each year awards to country students 150 scholarships, valued at \$81 per annum, tenable for the first three years of secondary education at government or non-government schools and a further ten scholarships, valued at \$162 per annum, tenable in the fourth and fifth years. Selected students intending to enter the teaching service are granted bursaries, also valued at \$162 per annum and tenable in the fourth and fifth years. All these amounts are additional to the boarding allowances which are paid to students who are obliged to live away from home to attend secondary schools. As a contribution towards tuition fees at non-government schools assistance is made available on the basis of \$30 annually for a student in the first three years of secondary education and \$36 in each of the fourth and fifth years, except in the case of students in receipt of any scholarship, bursary or like award of a value exceeding \$80 per annum. Further assistance is available to non-government schools on the basis of \$20 per annum in respect of each pupil in primary grades. An annual text book subsidy payment of \$5 in respect of each student in first, second and third year and \$10 for each student in fourth and fifth year of secondary education commenced in 1969. A scheme providing for the issue of free text books to primary school children commenced in 1972.

All these forms of assistance are granted without the application of a means test.

The State Government provides financial aid to non-government schools by a system of direct annual grants. The value of these grants is determined by the number of primary and secondary enrolments. Assistance is also given by way of reimbursement of interest paid, up to a prescribed maximum rate, on moneys borrowed since 1 January 1965 for expenditure on new residential accommodation for scholars. In addition, subsidies are provided for the installation of swimming pools.

The Commonwealth Government makes an annual award of scholarships tenable by students in the fourth and fifth years of secondary education at government and non-government schools, as well as technical scholarships for certain courses at technical institutions. Benefits, which are not subject to a means test, comprise, for full-time students, a living allowance of \$200 per annum, \$50 per annum for text books and equipment, and up to \$150 per annum for fees. For part-time technical students, allowances of \$100 per annum, not subject to a means test, are granted and compulsory fees are reimbursed up to a maximum of \$100 per annum. Aboriginal study grants are payable by the Commonwealth Government to assist persons of Aboriginal descent to undertake courses of post-secondary education. The grants provide a living allowance to full-time students of up to \$1,100 per annum, a textbook allowance and payment of compulsory fees. Where appropriate, travel and dependants' allowances are also payable. Commonwealth Advanced Education Scholarships are awarded each year to students in approved non-university tertiary courses. They provide benefits comprising payment of compulsory fees and a living allowance which is subject to a means test.

The Commonwealth Government also provides assistance for secondary and technical education by means of specific-purpose grants for science laboratories, technical training and school libraries. Reference to these grants will be found in the section *Commonwealth Financial Assistance for Education* on pages 188-91.

### School Attendance

Where a child lives within reasonable access of a government or approved non-government school, attendance is compulsory from the age of six years and upward to the end of the year in which the child attains the age of fifteen years, unless satisfactory instruction is provided elsewhere. The Minister for Education may, however, if he is satisfied that the best interests of the child would be served, exempt a child from further attendance at school if the child has attained the age of fourteen years, is assured of employment and it is necessary for the child to leave school in order to engage in that employment.

### School Enrolments

The following tables give a classification according to age of pupils enrolled at government and non-government schools on 1 August in the years shown.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS  
PUPILS CLASSIFIED ACCORDING TO AGE

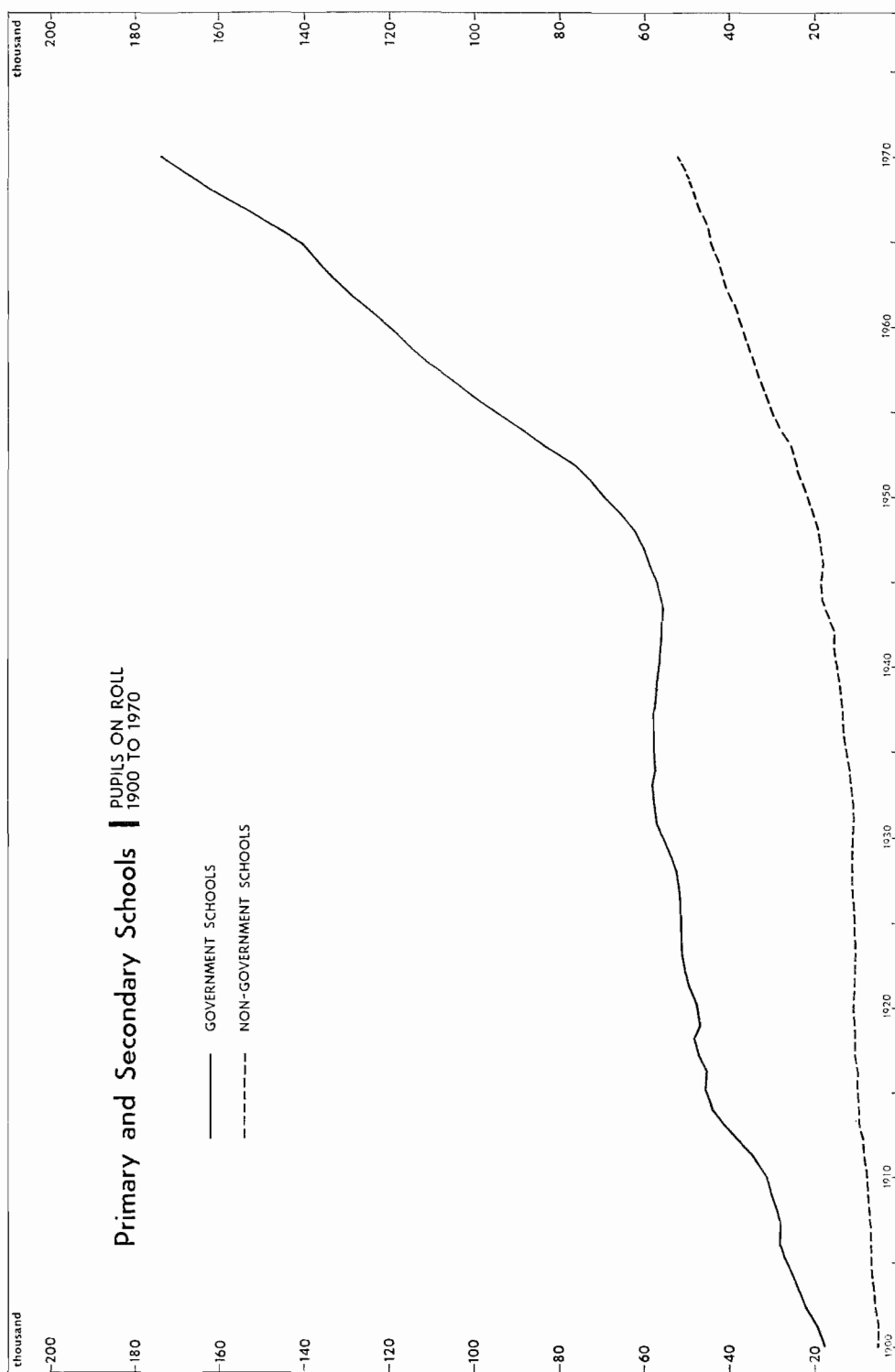
| Age last birthday (a)<br>(years) | Government schools (b) |         |         |         |         | Non-government schools (c) |        |        |        |        |
|----------------------------------|------------------------|---------|---------|---------|---------|----------------------------|--------|--------|--------|--------|
|                                  | 1966                   | 1967    | 1968    | 1969    | 1970    | 1966                       | 1967   | 1968   | 1969   | 1970   |
| Under 6                          | 5,870                  | 6,196   | 6,409   | 6,584   | 6,675   | 1,565                      | 1,314  | 1,457  | 1,304  | 1,379  |
| 6                                | 14,865                 | 15,517  | 16,042  | 16,965  | 16,765  | 3,325                      | 3,563  | 3,456  | 3,617  | 3,414  |
| 7                                | 14,740                 | 15,494  | 16,355  | 16,818  | 17,470  | 3,353                      | 3,470  | 3,535  | 3,460  | 3,724  |
| 8                                | 14,799                 | 15,401  | 16,241  | 17,165  | 17,474  | 3,192                      | 3,309  | 3,442  | 3,399  | 3,465  |
| 9                                | 14,685                 | 15,363  | 15,975  | 16,810  | 17,826  | 3,242                      | 3,268  | 3,270  | 3,449  | 3,461  |
| 10                               | 15,038                 | 15,163  | 15,967  | 16,648  | 17,284  | 3,231                      | 3,265  | 3,276  | 3,379  | 3,438  |
| 11                               | 14,487                 | 15,464  | 15,574  | 16,308  | 16,785  | 3,297                      | 3,368  | 3,321  | 3,388  | 3,484  |
| 12                               | 13,728                 | 14,619  | 15,436  | 15,646  | 16,394  | 3,469                      | 3,718  | 3,747  | 3,725  | 3,845  |
| 13                               | 13,400                 | 13,457  | 14,507  | 15,231  | 15,434  | 3,888                      | 3,936  | 4,116  | 4,185  | 4,160  |
| 14                               | 12,349                 | 13,314  | 13,305  | 14,399  | 15,048  | 3,528                      | 3,829  | 3,961  | 4,002  | 4,080  |
| 15                               | 7,560                  | 9,062   | 9,227   | 9,327   | 10,179  | 2,924                      | 3,106  | 3,249  | 3,303  | 3,471  |
| 16                               | 3,202                  | 3,481   | 3,822   | 4,198   | 4,446   | 1,891                      | 1,985  | 2,112  | 2,177  | 2,175  |
| 17                               | 1,434                  | 1,636   | 1,690   | 1,901   | 2,069   | 1,005                      | 1,067  | 1,114  | 1,239  | 1,287  |
| 18 and over                      | 154                    | 168     | 196     | 195     | 175     | 172                        | 163    | 183    | 181    | 175    |
| Total                            | 146,311                | 154,335 | 160,746 | 168,195 | 174,024 | 38,082                     | 39,361 | 40,239 | 40,808 | 41,558 |

(a) At 1 August. (b) Includes Special Schools and Classes; see letterpress on page 174. Excludes Technical Schools and Colleges; see table on page 176. Excludes also part-time students enrolled in the Western Australian Correspondence School. (c) Excludes pupils attending kindergarten schools and pupils in kindergarten grades at other non-government schools; see letterpress on pages 178-9.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS  
PUPILS CLASSIFIED ACCORDING TO AGE AND SEX: AUGUST 1970

| Age last birthday (a)<br>(years) | Government schools (b) |        |         | Non-government schools (c) |        |        | All schools (b) (c) |         |         |
|----------------------------------|------------------------|--------|---------|----------------------------|--------|--------|---------------------|---------|---------|
|                                  | Boys                   | Girls  | Total   | Boys                       | Girls  | Total  | Boys                | Girls   | Total   |
| Under 6                          | 3,384                  | 3,291  | 6,675   | 683                        | 696    | 1,379  | 4,067               | 3,987   | 8,054   |
| 6                                | 8,711                  | 8,054  | 16,765  | 1,609                      | 1,805  | 3,414  | 10,320              | 9,859   | 20,179  |
| 7                                | 9,146                  | 8,324  | 17,470  | 1,817                      | 1,907  | 3,724  | 10,963              | 10,231  | 21,194  |
| 8                                | 9,089                  | 8,385  | 17,474  | 1,662                      | 1,803  | 3,465  | 10,751              | 10,188  | 20,939  |
| 9                                | 9,376                  | 8,450  | 17,826  | 1,631                      | 1,830  | 3,461  | 11,007              | 10,280  | 21,287  |
| 10                               | 9,056                  | 8,228  | 17,284  | 1,560                      | 1,878  | 3,438  | 10,616              | 10,106  | 20,722  |
| 11                               | 8,810                  | 7,975  | 16,785  | 1,604                      | 1,880  | 3,484  | 10,414              | 9,855   | 20,269  |
| 12                               | 8,577                  | 7,817  | 16,394  | 1,790                      | 2,055  | 3,845  | 10,367              | 9,872   | 20,239  |
| 13                               | 8,118                  | 7,316  | 15,434  | 2,000                      | 2,160  | 4,160  | 10,118              | 9,476   | 19,594  |
| 14                               | 8,041                  | 7,007  | 15,048  | 1,920                      | 2,160  | 4,080  | 9,961               | 9,167   | 19,128  |
| 15                               | 5,464                  | 4,715  | 10,179  | 1,578                      | 1,893  | 3,471  | 7,042               | 6,608   | 13,650  |
| 16                               | 2,558                  | 1,888  | 4,446   | 1,116                      | 1,059  | 2,175  | 3,674               | 2,947   | 6,621   |
| 17                               | 1,234                  | 835    | 2,069   | 683                        | 604    | 1,287  | 1,917               | 1,439   | 3,356   |
| 18 and over                      | 134                    | 41     | 175     | 125                        | 50     | 175    | 259                 | 91      | 350     |
| Total                            | 91,698                 | 82,326 | 174,024 | 19,778                     | 21,780 | 41,558 | 111,476             | 104,106 | 215,582 |

For footnotes, see previous table.



School censuses are conducted annually at or about the beginning of August in all States and the internal Territories of Australia. The Western Australian Correspondence School (see letterpress on page 174), special schools and classes (see letterpress on page 174), schools in institutional homes, hospitals and similar establishments, and kindergartens are included in the census. Institutions such as business colleges and coaching establishments are excluded.

In the following table pupils enrolled in primary grades at 1 August 1970 are classified according to grade and age. The figures exclude particulars of pupils attending kindergarten schools and pupils in kindergarten grades at other non-government schools. Reference to kindergarten schools will be found on pages 178-9.

## PRIMARY PUPILS—AGE AND GRADE AT 1 AUGUST 1970

| Age last birthday (years)  | Grade  |        |        |        |        |        |        | Ungraded pupils—       |                       | Total   |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|------------------------|-----------------------|---------|
|                            | 1      | 2      | 3      | 4      | 5      | 6      | 7      | In special classes (a) | In special schools(a) |         |
| GOVERNMENT SCHOOLS (b)     |        |        |        |        |        |        |        |                        |                       |         |
| Under 6                    | 6,620  | 3      | ....   | ....   | ....   | ....   | ....   | 2                      | 50                    | 6,675   |
| 6                          | 10,684 | 5,960  | 16     | 30     | ....   | ....   | ....   | 15                     | 90                    | 16,765  |
| 7                          | 803    | 10,866 | 5,619  | 5,331  | 9      | ....   | ....   | 68                     | 84                    | 17,470  |
| 8                          | 50     | 1,112  | 10,764 | 5,331  | ....   | ....   | ....   | 111                    | 97                    | 17,474  |
| 9                          | 10     | 79     | 1,188  | 10,770 | 5,464  | ....   | ....   | 203                    | 97                    | 17,825  |
| 10                         | 4      | 16     | 105    | 1,228  | 10,226 | 5,343  | 6      | 263                    | 93                    | 17,284  |
| 11                         | 1      | 3      | 21     | 108    | 1,202  | 9,996  | 5,062  | 266                    | 98                    | 16,757  |
| 12                         | 1      | ....   | 10     | 25     | 117    | 1,099  | 9,725  | 234                    | 96                    | 11,307  |
| 13                         | ....   | ....   | 1      | 6      | 21     | 102    | 1,011  | 51                     | 90                    | 1,282   |
| 14                         | 1      | ....   | 2      | 12     | 8      | 16     | 67     | 1                      | 90                    | 197     |
| 15                         | ....   | ....   | ....   | 1      | 1      | 5      | 18     | ....                   | 88                    | 113     |
| 16                         | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | 60                    | 62      |
| 17                         | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | 35                    | 35      |
| 18 and over                | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | 9                     | 9       |
| Total                      | 18,174 | 18,039 | 17,726 | 17,511 | 17,049 | 16,576 | 15,889 | 1,214                  | 1,077                 | 123,255 |
| NON-GOVERNMENT SCHOOLS (c) |        |        |        |        |        |        |        |                        |                       |         |
| Under 6                    | 1,375  | 4      | ....   | ....   | ....   | ....   | ....   | ....                   | ....                  | 1,379   |
| 6                          | 2,363  | 1,049  | ....   | ....   | ....   | ....   | ....   | ....                   | ....                  | 3,414   |
| 7                          | 182    | 2,338  | 1,195  | 9      | ....   | ....   | ....   | ....                   | ....                  | 3,724   |
| 8                          | 10     | 231    | 2,197  | 1,020  | 7      | ....   | ....   | ....                   | ....                  | 3,465   |
| 9                          | 4      | 23     | 262    | 2,111  | 1,054  | 6      | 1      | ....                   | ....                  | 3,461   |
| 10                         | 2      | 1      | 44     | 274    | 2,122  | 981    | 14     | ....                   | ....                  | 3,438   |
| 11                         | ....   | ....   | 8      | 53     | 303    | 2,093  | 1,021  | ....                   | ....                  | 3,478   |
| 12                         | ....   | ....   | ....   | 9      | 39     | 265    | 2,209  | ....                   | ....                  | 2,522   |
| 13                         | ....   | ....   | 1      | 6      | 12     | 37     | 296    | ....                   | ....                  | 352     |
| 14                         | ....   | ....   | 1      | 2      | 2      | 9      | 47     | ....                   | ....                  | 61      |
| 15                         | ....   | ....   | ....   | ....   | 1      | 1      | 14     | ....                   | ....                  | 16      |
| 16                         | ....   | ....   | ....   | ....   | ....   | 1      | 1      | ....                   | ....                  | 2       |
| 17                         | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | ....                  | ....    |
| 18 and over                | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | ....                  | ....    |
| Total                      | 3,936  | 3,646  | 3,710  | 3,484  | 3,540  | 3,393  | 3,603  | ....                   | ....                  | 25,312  |
| ALL SCHOOLS (b) (c)        |        |        |        |        |        |        |        |                        |                       |         |
| Under 6                    | 7,995  | 7      | ....   | ....   | ....   | ....   | ....   | 2                      | 50                    | 8,054   |
| 6                          | 13,047 | 7,009  | 18     | 39     | ....   | ....   | ....   | 15                     | 90                    | 20,179  |
| 7                          | 985    | 13,204 | 6,814  | 5,331  | ....   | ....   | ....   | 68                     | 84                    | 21,194  |
| 8                          | 60     | 1,343  | 12,961 | 6,351  | 16     | ....   | ....   | 111                    | 97                    | 20,939  |
| 9                          | 14     | 102    | 1,450  | 12,881 | 6,518  | 20     | 1      | 203                    | 97                    | 21,286  |
| 10                         | 6      | 17     | 149    | 1,502  | 12,348 | 6,324  | 20     | 263                    | 93                    | 20,722  |
| 11                         | 1      | 3      | 29     | 161    | 1,505  | 12,089 | 6,083  | 266                    | 98                    | 20,235  |
| 12                         | 1      | ....   | 10     | 34     | 156    | 1,364  | 11,934 | 234                    | 96                    | 13,829  |
| 13                         | ....   | ....   | 2      | 12     | 33     | 139    | 1,307  | 51                     | 90                    | 1,634   |
| 14                         | 1      | ....   | 3      | 14     | 10     | 25     | 114    | 1                      | 90                    | 258     |
| 15                         | ....   | ....   | ....   | 1      | 2      | 6      | 32     | ....                   | 88                    | 129     |
| 16                         | ....   | ....   | ....   | ....   | 1      | 2      | 1      | ....                   | 60                    | 64      |
| 17                         | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | 35                    | 35      |
| 18 and over                | ....   | ....   | ....   | ....   | ....   | ....   | ....   | ....                   | 9                     | 9       |
| Total                      | 22,110 | 21,685 | 21,436 | 20,995 | 20,589 | 19,969 | 19,492 | 1,214                  | 1,077                 | 148,567 |

(a) See letterpress *Special Schools and Classes* on page 174. (b) Excludes part-time students enrolled in the Western Australian Correspondence School. (c) Excludes 10,201 pupils attending kindergarten schools and 386 pupils in kindergarten grades at other non-government schools.



The following table gives a classification of school pupils at secondary level at 1 August 1970 according to year of study and age of pupil.

### SECONDARY PUPILS—AGE AND YEAR OF STUDY AT 1 AUGUST 1970

| Age last birthday<br>(years) | Year of study |        |        |       |       | Ungraded<br>pupils in<br>special<br>classes<br>(a) | Total      |
|------------------------------|---------------|--------|--------|-------|-------|----------------------------------------------------|------------|
|                              | 1             | 2      | 3      | 4     | 5     |                                                    |            |
| GOVERNMENT SCHOOLS (b)       |               |        |        |       |       |                                                    |            |
| 11                           | (c) 29        | ....   | ....   | ....  | ....  | ....                                               | (c) 29     |
| 12                           | 5,053         | 23     | ....   | ....  | ....  | 11                                                 | 5,087      |
| 13                           | 9,358         | 4,631  | 12     | ....  | ....  | 151                                                | 14,152     |
| 14                           | 1,289         | 9,244  | 4,158  | 5     | ....  | 155                                                | 14,851     |
| 15                           | 67            | 1,031  | 7,562  | 1,340 | 13    | 53                                                 | 10,066     |
| 16                           | 8             | 114    | 729    | 2,551 | 979   | 3                                                  | 4,384      |
| 17                           | ....          | 13     | 97     | 184   | 1,740 | ....                                               | 2,034      |
| 18 and over                  | ....          | ....   | 6      | 7     | 153   | ....                                               | 166        |
| Total                        | (c) 15,804    | 15,056 | 12,564 | 4,087 | 2,885 | 373                                                | (c) 50,769 |
| NON-GOVERNMENT SCHOOLS       |               |        |        |       |       |                                                    |            |
| 11                           | 6             | ....   | ....   | ....  | ....  | ....                                               | 6          |
| 12                           | 1,316         | 7      | ....   | ....  | ....  | ....                                               | 1,323      |
| 13                           | 2,572         | 1,226  | 10     | ....  | ....  | ....                                               | 3,808      |
| 14                           | 322           | 2,597  | 1,098  | 2     | ....  | ....                                               | 4,019      |
| 15                           | 43            | 271    | 2,428  | 709   | 4     | ....                                               | 3,455      |
| 16                           | 1             | 14     | 330    | 1,289 | 539   | ....                                               | 2,173      |
| 17                           | ....          | 1      | 30     | 150   | 1,106 | ....                                               | 1,287      |
| 18 and over                  | ....          | ....   | ....   | 19    | 156   | ....                                               | 175        |
| Total                        | 4,260         | 4,116  | 3,896  | 2,169 | 1,805 | ....                                               | 16,246     |
| ALL SCHOOLS (b)              |               |        |        |       |       |                                                    |            |
| 11                           | (c) 35        | ....   | ....   | ....  | ....  | ....                                               | (c) 35     |
| 12                           | 6,369         | 30     | ....   | ....  | ....  | 11                                                 | 6,410      |
| 13                           | 11,930        | 5,857  | 22     | ....  | ....  | 151                                                | 17,960     |
| 14                           | 1,611         | 11,841 | 5,256  | 7     | ....  | 155                                                | 18,870     |
| 15                           | 110           | 1,302  | 9,990  | 2,049 | 17    | 53                                                 | 13,521     |
| 16                           | 9             | 128    | 1,059  | 3,840 | 1,518 | 3                                                  | 6,557      |
| 17                           | ....          | 14     | 127    | 334   | 2,846 | ....                                               | 3,321      |
| 18 and over                  | ....          | ....   | 6      | 26    | 309   | ....                                               | 341        |
| Total                        | (c) 20,064    | 19,172 | 16,460 | 6,256 | 4,690 | 373                                                | (c) 67,015 |

(a) See *Letterpress Special Schools and Classes* on page 174. (b) Excludes part-time students enrolled in the Western Australian Correspondence School. (c) Includes one pupil aged 9 years.

### THE EDUCATION DEPARTMENT

The Education Department is responsible for the organisation and management of the State Government's education programme and is controlled by a Director-General of Education responsible to the Minister for Education. The administrative structure of the Department provides for five Divisions. The Divisions, each of which is in the charge of a Director, are those of Primary Education, Secondary Education, Technical Education, Teacher Education, and Special Services. Special Branches attached to particular Divisions are concerned with such activities as physical education (including swimming instruction), music, drama, art and crafts, visual education and publications. In addition there is provision for a number of other services which are concerned with particular aspects of the education and welfare of school children, such as the Nature Advisory Service, and the School Medical and Dental Services conducted in collaboration with the Department of Public Health.

#### Primary and Secondary Schools

Instruction in the primary school is given in seven grades. A child who makes normal progress completes the course at the age of twelve years and may then enter high school. A Senior High School provides tuition to standards required for the Junior Examination,

usually taken at the age of fifteen years, and the Leaving Examination, which is the final examination in Western Australian secondary schools and is normally taken at the age of seventeen years. A High School gives instruction in the first three years of the secondary school curriculum leading to the Junior Examination. A Junior High School is one which provides primary and post-primary education to Junior level. At some centres where there is no high school, post-primary subjects are taught at the primary school.

The Junior Certificate is being replaced by an Achievement Certificate. An amendment made to the Education Act in 1969 provides for the establishment of a Board of Secondary Education. The principal functions of the Board are, in respect of secondary schools and other bodies and institutions conducting courses of secondary education, to approve courses of study; assist in assessment of students; ensure comparability of such assessments; and issue certificates of achievement to students. The Achievement Certificate records the achievement of a student during the first three years of secondary schooling.

The following table shows the number of schools staffed and controlled by the Education Department, the number of teachers employed, and the number of pupils classified according to grade of education, for each of the years 1966 to 1970.

## GOVERNMENT SCHOOLS

| Particulars | At 1 August— |      |      |      |      |
|-------------|--------------|------|------|------|------|
|             | 1966         | 1967 | 1968 | 1969 | 1970 |

## NUMBER OF SCHOOLS

|                     |     |     |     |     |     |
|---------------------|-----|-----|-----|-----|-----|
| Primary schools     | 473 | 481 | 482 | 484 | 493 |
| Junior high schools | 37  | 37  | 40  | 40  | 45  |
| High schools        | 20  | 19  | 19  | 20  | 15  |
| Senior high schools | 25  | 28  | 29  | 29  | 36  |
| Total               | 555 | 565 | 570 | 573 | 589 |

## NUMBER OF TEACHERS (a)

|                            |       |       |       |       |       |
|----------------------------|-------|-------|-------|-------|-------|
| Engaged in teaching duties | 5,213 | 5,534 | 5,910 | 6,306 | 6,688 |
| On special duties          | 92    | 110   | 121   | 121   | 131   |
| On leave                   | 90    | 90    | 110   | 70    | 99    |
| Total                      | 5,395 | 5,734 | 6,141 | 6,497 | 6,918 |
| Males                      | 2,766 | 2,869 | 3,072 | 3,164 | 3,278 |
| Females                    | 2,629 | 2,865 | 3,069 | 3,333 | 3,640 |
| Total                      | 5,395 | 5,734 | 6,141 | 6,497 | 6,918 |

## NUMBER OF PUPILS (b)

|                            |         |         |         |         |         |
|----------------------------|---------|---------|---------|---------|---------|
| Grade of education—        |         |         |         |         |         |
| Primary                    | 105,882 | 110,821 | 115,217 | 120,032 | 123,255 |
| Secondary—Years 1, 2 and 3 | 35,578  | 38,076  | 39,768  | 41,691  | 43,797  |
| Years 4 and 5              | 4,851   | 5,438   | 5,761   | 6,472   | 6,972   |
| Total                      | 146,311 | 154,335 | 160,746 | 168,195 | 174,024 |
| Males                      | 77,038  | 81,177  | 84,613  | 88,487  | 91,698  |
| Females                    | 69,273  | 73,158  | 76,133  | 79,708  | 82,326  |
| Total                      | 146,311 | 154,335 | 160,746 | 168,195 | 174,024 |

(a) Excluding persons teaching part-time.  
Correspondence School.

(b) Excludes part-time students enrolled in the Western Australian Correspondence School.

The figures shown under the heading 'On special duties' represent teachers engaged in activities associated with the Division of Special Services and the Special Branches of the Department.

### **Primary and Secondary Curriculum**

In primary schools the subjects taught are English, mathematics, social studies, elementary science, physical education, handicrafts, music and art. Handicrafts in the primary schools consist of needlework for girls and such crafts as leatherwork, bookbinding, papiermache work and canework for boys. At the post-primary levels, mathematics, languages, science subjects, economics, home economics, woodwork, metal work and technical drawing are introduced. The teaching of elementary science aims at a better understanding of the child's physical environment. The course is adapted to the conditions of the particular neighbourhood, and so varies between town and country areas. In musical expression, choral singing receives most attention, although school orchestras are being developed in some primary and high schools. Advisory teachers, under the direction of specialist superintendents, assist teachers in the fields of handicrafts, physical education, art, music, speech, drama and elementary science.

Education in the government schools is secular in character but periods are set aside during which representatives of various religious denominations attend to give religious instruction. In addition, instruction in scripture stories is given by class teachers.

### **Radio, Television and Film Aids**

Extensive use is made of radio and films, most schools having radio receivers and many being equipped also with film projectors and sound-reproduction systems. The use of television is increasing, particularly in secondary schools, as an aid in the teaching of mathematics, science, literature, social studies and languages. The Australian Broadcasting Commission co-operates with the Education Department in providing suitable radio and television programmes and Parents and Citizens' Associations assist in supplying the necessary equipment. The Audio-Visual Education Branch of the Department provides a wide variety of audio-visual aids.

### **Student Counselling and Vocational Guidance**

Guidance officers of the Division of Special Services are available to discuss with parents the most suitable courses of study for their children and vocational guidance is given to pupils leaving high school. In addition, cases of handicapped or educationally retarded children are investigated and appropriate courses of education recommended.

### **Special Schools and Classes**

The Division of Special Services provides a variety of assistance for physically and mentally handicapped children. A Kindergarten and Infant School for Deaf Children is maintained, as well as a Deaf School for older pupils. Special classes are organised for the blind and for the mentally handicapped, and instruction is given to patients at the Princess Margaret Hospital for Children and at other hospitals. The Department co-operates with welfare organisations, such as the Spastic Welfare Association and the Slow Learning Children's Group, by making teachers available to them.

### **Correspondence Tuition**

The Western Australian Correspondence School provides tuition by correspondence for children living in remote areas or unable to attend school for other reasons. The service extends also to post-primary students in the smaller country schools, to sick and invalid children, and to some adults in country areas. Adults enrol mainly to prepare for nursing training or for the Junior Examination and similar examinations, or to improve their general education. At 1 August 1970, full-time students enrolled in the Correspondence School comprised 443 primary and 57 secondary students.

Schools of the Air are conducted through the radio network of the Royal Flying Doctor Service from bases at Carnarvon, Derby, Kalgoorlie, Meekatharra and Port Hedland to supplement tuition provided by the Correspondence School.

### Education of Aborigines

Aboriginal and part-Aboriginal children are admitted to ordinary schools and are educated under the same conditions as other children. For schools with a preponderance of Aborigines, special attention is directed to the framing of courses of study suited to the vocational needs of the older Aboriginal pupils. In August 1970 there were 5,536 Aboriginal and part-Aboriginal children at government primary schools and high schools and 1,096 at non-government schools.

Instruction for adult Aborigines is available under the Adult Aboriginal Education programme conducted by the Technical Education Division (see page 177).

### Agricultural Education

Agricultural education is provided at certain high schools. Residential accommodation is available at the Narrogin Agricultural Senior High School, the Harvey Agricultural High School and the Agricultural Junior High Schools at Cunderdin and Denmark. Day instruction is provided by high schools at Esperance, Kojonup, Manjimup, Margaret River, Morawa, Mount Barker and Wyalkatchem. Preference is given to the sons of farmers but other suitably qualified boys, with the physical capacity for farm work, are admitted. The curriculum is designed as a continuation of general education to standards equivalent to those of other types of schools but with appropriate vocational emphasis. The aim is to produce young men capable of becoming leaders in rural communities as well as being successful farmers with an appreciation of the value of scientific methods in agriculture. Each school providing agricultural instruction has agricultural land attached to it.

Diploma and Certificate courses in various aspects of agriculture are provided by the Technical Education Division by means of class tuition, or by correspondence through the Technical Extension Service.

In addition to the activities of the Education Department in the field of agricultural education, facilities are also provided by Muresk Agricultural College, a department of The Western Australian Institute of Technology (see letterpress on pages 179-82).

### Technical Education

The Technical Education Division provides instruction in eleven 'areas of study', namely Agriculture; Apprenticeships and Post-trade Courses; Art; Building and Architecture; Business and Commercial Studies; Engineering (including Aeronautical); General Studies; Health and Psychology; Home Economics; Management; and Mathematics and Science.

Institutions under the control of the Technical Education Division at 31 December 1970 comprised five technical colleges (Fremantle, Leederville, Mount Lawley, Perth, and the Technical Extension Service), six technical schools (Bunbury, Carlisle, Claremont, Eastern Goldfields, Midland and Wembley), eleven technical centres with full-time officers in charge, and sixty technical centres with part-time officers in charge. The Division has a Counselling Service which is available to advise students in selecting a course, to assist them in their studies, and to provide consultant services to industry and commerce on staff selection and training.

Technician-level studies are usually designed as Diploma or Certificate courses, for which the minimum entry requirement is the satisfactory completion of three years of secondary education or its accepted equivalent. Although these courses were originally on the basis of part-time study, some of them are now also available by full-time study, and other part-time courses at these levels are being progressively redesigned on a full-time, or partially full-time, basis. This means that an increasing number of subjects in these courses are becoming available to part-time students who can obtain day release from their employers to attend classes. Diploma and Certificate courses are conducted, wholly or partly, at technical colleges and schools, and subjects in the early stages of a number of courses are also available at some technical education centres.

## TECHNICAL EDUCATION

| Particulars                                             | 1966   | 1967 (a) | 1968   | 1969   | 1970       |
|---------------------------------------------------------|--------|----------|--------|--------|------------|
| COLLEGES (b)                                            |        |          |        |        |            |
| Number of—                                              |        |          |        |        |            |
| Colleges (c) ....                                       | 1      | 1        | 5      | 5      | 5          |
| Teaching positions (d)—                                 |        |          |        |        |            |
| Full-time ....                                          | 200    | 67       | 340    | 383    | 419        |
| Part-time ....                                          | 282    | 389      | 711    | 620    | 744        |
| Student enrolments (e) ....                             | 9,090  | 7,118    | 33,949 | 31,991 | 34,854     |
| SCHOOLS                                                 |        |          |        |        |            |
| Number of—                                              |        |          |        |        |            |
| Schools (c) ....                                        | 9      | 9        | 6      | 6      | 6          |
| Teaching positions (d)—                                 |        |          |        |        |            |
| Full-time ....                                          | 327    | 339      | 149    | 168    | 191        |
| Part-time ....                                          | 528    | 531      | 269    | 289    | 277        |
| Student enrolments (e) ....                             | 20,939 | 21,847   | 10,836 | 11,747 | 11,540     |
| CENTRES                                                 |        |          |        |        |            |
| Number of—                                              |        |          |        |        |            |
| Centres (c) ....                                        | 26     | 24       | 69     | 81     | 71         |
| Teaching positions (d)—                                 |        |          |        |        |            |
| Full-time ....                                          | 8      | 17       | 18     | 20     | 32         |
| Part-time ....                                          | 504    | 485      | 718    | 849    | 851        |
| Student enrolments (e) ....                             | 9,719  | 10,312   | 16,829 | 21,613 | 20,618     |
| OTHER SERVICES (f)                                      |        |          |        |        |            |
| Number of—                                              |        |          |        |        |            |
| Services (c) ....                                       | 3      | 3        | 3      | 3      | 3          |
| Teaching positions (d)—                                 |        |          |        |        |            |
| Full-time ....                                          | 71     | 74       | 21     | 27     | 30         |
| Part-time ....                                          | 396    | 417      | 124    | 96     | 244        |
| Student enrolments (e) ....                             | 18,809 | 20,475   | 2,386  | 3,487  | 3,243      |
| TOTAL                                                   |        |          |        |        |            |
| Number of—                                              |        |          |        |        |            |
| Colleges, schools, centres, and other services (c) .... | 39     | 37       | 83     | 95     | 85         |
| Teaching positions (d)—                                 |        |          |        |        |            |
| Full-time ....                                          | 606    | 497      | 528    | 598    | 672        |
| Part-time ....                                          | 1,710  | 1,822    | 1,822  | 1,854  | 2,116      |
| Total ....                                              | 2,316  | 2,319    | 2,350  | 2,452  | 2,788      |
| Student enrolments (e)—                                 |        |          |        |        |            |
| Males ....                                              | 39,161 | 39,140   | 38,557 | 40,197 | (g) 42,603 |
| Females ....                                            | 19,396 | 20,612   | 25,443 | 28,641 | (g) 27,652 |
| Total ....                                              | 58,557 | 59,752   | 64,000 | 68,838 | 70,255     |

(a) During 1967 much of the senior work of the Technical Education Division was transferred to The Western Australian Institute of Technology (see pages 179–82). (b) From 1968 includes Technical Extension Service. (c) At 31 December. (d) At 1 July. A teacher may occupy teaching positions at more than one institution; the number of individual teachers is not available. (e) A student is counted once for each course undertaken during the year. (f) Adult Aboriginal Education Classes, Youth Education Classes, Counselling Service, and teachers in administrative positions. The Technical Extension Service is also included for 1966 and 1967; see footnote (b). (g) Estimated. A few small centres were unable to provide separate figures for males and females.

Programmes of study are available for students wishing to undertake examinations organised by other examining bodies such as the Public Examinations Board (see page 186), The Royal Society of Health and a number of Commonwealth and State Government Departments.

Vocational courses, including apprenticeship training, may be taken at colleges and schools close to Perth, at the Bunbury and Eastern Goldfields Technical Schools and at the Geraldton and Albany Technical Education Centres. In addition, there are many courses and subjects which help students to develop useful and interesting leisure-time activities.

The Technical Education Division has a number of evening technical centres in the metropolitan area and in country towns. These centres, which are located in government school buildings, offer those subjects for which there is sufficient local demand and suitable facilities and staff are available. The subjects provided fall into the categories of general education, including Public Examination and pre-diploma subjects, accounting, business studies and commercial subjects, and leisure-type activities.

The Technical Extension Service, through its correspondence courses, caters for a wide range of instruction for students who are unable to attend formal classes because of remoteness or individual limitations such as physical disability. In larger country centres, correspondence instruction is supplemented by the provision of study groups which students may attend for one period a week to do their correspondence work in the local school under the supervision of a teacher who is able to assist in interpretation of material and in the presentation of answers. The technical aspects of this instruction are the responsibility of specialist tutors employed in the Service.

The Technical Education Division collaborates with two Commonwealth Government authorities, the Department of Immigration and the Department of Education and Science, in providing courses in the English language for adult migrants. The Division conducts an Adult Aboriginal Education programme which, although designed mainly to develop literacy, also conducts classes in community obligations, home skills, employment skills and leisure-time activities.

### Teacher Education

Teacher education is conducted by the Education Department at five colleges especially established for the purpose, the first at Claremont in 1902, the second at Graylands in 1955, the third (for secondary teachers) on a site adjacent to the University in 1967, and the fourth at Mount Lawley in 1970. A fifth college is being developed at Churchlands.

#### TEACHERS COLLEGES

| Particulars            | 1966  | 1967  | 1968  | 1969  | 1970  |
|------------------------|-------|-------|-------|-------|-------|
| Number of—             |       |       |       |       |       |
| Lecturers (a) ....     | 74    | 82    | 109   | 133   | 154   |
| Students enrolled (a)— |       |       |       |       |       |
| Departmental (b)—      |       |       |       |       |       |
| Primary course ....    | 790   | 860   | 993   | 1,137 | 1,285 |
| Secondary course ....  | 838   | 911   | 931   | 1,050 | 1,205 |
| On study leave ....    | 36    | 48    | 49    | 43    | 63    |
| Private (b) ....       | 35    | 47    | 41    | 40    | 46    |
| Total ....             | 1,699 | 1,866 | 2,014 | 2,270 | 2,599 |
| Students graduating—   |       |       |       |       |       |
| Departmental (b) ....  | 555   | 635   | 695   | 668   | 715   |
| Private (b) ....       | 22    | 35    | 29    | 22    | 13    |
| Total ....             | 577   | 670   | 724   | 690   | 728   |

(a) At 1 August. (b) 'Departmental' students are those who have entered into an agreement to serve with the Education Department for a period after completion of the course; 'Private' students are those who have not entered into such an agreement.

The basic course is of three years' duration. The minimum requirement for entrance is a pass in English and three other subjects of the Leaving Examination, or its equivalent. Selected students may study in extended fields for periods of from three to six years to

obtain University degrees and/or other qualifications. There is also a one-year training course open to University graduates and to associates of The Western Australian Institute of Technology.

The total number of students enrolled at 1 August 1970 was 2,599. Of this total, 686 were at the Claremont college, 450 at the Graylands college, 1,276 at the secondary teachers college and 187 at the Mount Lawley college.

### NON-GOVERNMENT SCHOOLS

The non-government schools, which are conducted mainly by religious organisations, provide education from kindergarten to the end of the secondary school course, equivalent to the final year in the government high schools. The curriculum at the primary and secondary levels is substantially the same as that in the government schools.

#### NON-GOVERNMENT SCHOOLS (a)

| Particulars                      | At 1 August— |        |        |        |        |
|----------------------------------|--------------|--------|--------|--------|--------|
|                                  | 1966         | 1967   | 1968   | 1969   | 1970   |
| NUMBER OF SCHOOLS                |              |        |        |        |        |
| Primary and secondary—           |              |        |        |        |        |
| Church of England .....          | 9            | 9      | 9      | 9      | 8      |
| Methodist .....                  | 3            | 3      | 3      | 3      | 3      |
| Presbyterian .....               | 2            | 2      | 2      | 2      | 2      |
| Roman Catholic .....             | 174          | 174    | 171    | 168    | 168    |
| Other denominations .....        | 9            | 10     | 10     | 10     | 10     |
| Undenominational .....           | 3            | 4      | 4      | 4      | 5      |
| Kindergarten .....               | 183          | 193    | 186    | 209    | 229    |
| Total .....                      | 383          | 395    | 385    | 405    | 425    |
| NUMBER OF TEACHERS (a)           |              |        |        |        |        |
| Primary and secondary—           |              |        |        |        |        |
| Church of England .....          | *200         | 212    | 228    | 236    | 260    |
| Methodist .....                  | 88           | 90     | 99     | 107    | 107    |
| Presbyterian .....               | * 70         | 74     | 79     | 81     | 91     |
| Roman Catholic .....             | 874          | 924    | 945    | 976    | 1,005  |
| Other denominations .....        | 36           | 40     | 43     | 44     | 45     |
| Undenominational .....           | 6            | 7      | 8      | 12     | 12     |
| Kindergarten .....               | 328          | 371    | 352    | 374    | 459    |
| Total .....                      | *1,602       | 1,718  | 1,754  | 1,830  | 1,979  |
| NUMBER OF PUPILS                 |              |        |        |        |        |
| Primary and secondary—           |              |        |        |        |        |
| Church of England .....          | 3,741        | 3,838  | 3,970  | 4,103  | 4,138  |
| Methodist .....                  | 1,631        | 1,731  | 1,782  | 1,859  | 1,944  |
| Presbyterian .....               | 1,262        | 1,331  | 1,393  | 1,455  | 1,503  |
| Roman Catholic .....             | 31,418       | 32,315 | 32,861 | 33,088 | 33,700 |
| Other denominations .....        | 819          | 892    | 972    | 953    | 967    |
| Undenominational .....           | 6,580        | 7,352  | 7,579  | 8,786  | 9,893  |
| Total .....                      | 45,451       | 47,459 | 48,557 | 50,244 | 52,145 |
| Grade of education—              |              |        |        |        |        |
| Kindergarten .....               | 7,369        | 8,098  | 8,318  | 9,436  | 10,587 |
| Primary .....                    | 24,024       | 24,551 | 24,768 | 24,929 | 25,312 |
| Secondary—Years 1, 2 and 3 ..... | 10,794       | 11,389 | 11,822 | 11,972 | 12,272 |
| Years 4 and 5 .....              | 3,264        | 3,421  | 3,649  | 3,907  | 3,974  |
| Total .....                      | 45,451       | 47,459 | 48,557 | 50,244 | 52,145 |
| Males .....                      | 21,939       | 22,776 | 23,379 | 24,373 | 25,215 |
| Females .....                    | 23,512       | 24,683 | 25,178 | 25,871 | 26,930 |
| Total .....                      | 45,451       | 47,459 | 48,557 | 50,244 | 52,145 |

(a) Excluding persons on leave without pay and persons teaching part-time.

\* Revised.

**Kindergarten Schools.** The Education Act requires that every person conducting a kindergarten must hold a permit issued for the purpose by the Education Department. The Kindergarten Association of Western Australia, Incorporated, a voluntary organisation subsidised from government funds, maintains a training college for kindergarten teachers.

At 1 August 1970 the number of kindergartens registered with the Education Department was 229 of which 114 were affiliated with the Kindergarten Association.

Details of staff and children enrolled at the kindergartens affiliated with the Association and particulars of staff and students at the training college appear in the following table.

#### KINDERGARTEN ASSOCIATION OF WESTERN AUSTRALIA

| Particulars | 1966 | 1967 | 1968 | 1969 | 1970 |
|-------------|------|------|------|------|------|
|-------------|------|------|------|------|------|

#### KINDERGARTEN TEACHERS COLLEGE

|                             |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|
| Number of—                  |    |    |    |    |    |
| Professional staff (a) .... | 4  | 5  | 7  | 7  | 7  |
| Students—                   |    |    |    |    |    |
| New enrolments (b) ....     | 25 | 28 | 22 | 42 | 29 |
| Total enrolments (b) ....   | 64 | 72 | 71 | 90 | 86 |
| Graduating ....             | 16 | 17 | 21 | 28 | 25 |

#### KINDERGARTENS

|                    |       |       |       |       |       |
|--------------------|-------|-------|-------|-------|-------|
| Number of (a)—     |       |       |       |       |       |
| Kindergartens .... | 79    | 83    | 94    | 106   | 114   |
| Children enrolled  | 3,952 | 4,420 | 4,770 | 5,676 | 6,466 |
| Staff—             |       |       |       |       |       |
| Teachers ....      | 88    | 92    | 95    | 111   | 141   |
| Other ....         | 70    | 81    | 100   | 105   | 132   |

(a) At 30 June.

(b) At 1 April.

### THE WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY

The Western Australian Institute of Technology is a college of advanced education, established in terms of the *Western Australian Institute of Technology Act, 1966-1971* as an autonomous body under the control of a governing council. The main functions of the Institute, as set out in the Act, are to provide facilities for higher specialised instruction and to advance training in the various branches of technology and science; to aid the advancement, development and practical application to industry of science or any techniques; and to encourage and provide facilities for the development and improvement of tertiary education whether on a full or part-time basis to meet the needs of the community in the State.

Buildings for the Institute were commenced in 1963 on a site of some 277 acres at Bentley, approximately seven miles from the Perth city centre, and the initial group of buildings was officially opened on 17 August 1966. The administration and associated buildings were officially opened on 11 October 1968.

Courses leading to the Associateship of The Western Australian Institute of Technology comprise three years' full-time study or the part-time equivalent. (In the case of Architecture the three-year full-time course is followed by two years' part-time study while in approved employment). The normal entrance requirement is that a student shall have attained an aggregate of 270 or more on percentage marks obtained in English and four other subjects of the Leaving Examination, or shall have passed the qualifying examination (at Leaving standard) conducted by the Technical Education Division of the Education Department. In some courses a student over the age of twenty-three years without the normal entrance requirements may sit for an Institute Mature Age Examination to gain admission. Qualifications held by students entering from secondary schools in other States or countries, or from other institutions, are assessed prior to admission to courses.



Associateship courses are provided in Accounting, Administration, Applied Chemistry, Applied Geology, Applied Physics, Applied Science (Biology, Chemistry, Mathematics and Physics), Architecture, Art, Art Teaching, Asian Studies, Commerce, Design, Engineering, (Civil, Communications, Electrical, Electronic, Mechanical, Mining, Production), English, Fine Art, Geophysics, Home Economics, Industrial Arts, Information Processing, Library Studies, Mathematics, Medical Laboratory Technology, Metallurgy, Mining Geology, Nutrition, Occupational Therapy, Pharmacy, Physiotherapy, Secretarial and Administrative Practice, Social Science, Social Work, Surveying, and Town and Regional Planning.

The Institute also offers diploma courses in Agriculture, Applied Linguistics, Dental Therapy, Educational Administration, Home Economics, Quantity Surveying, and Valuation, and post-graduate diploma courses in Administration and Applied Physics.

On 1 January 1969 the Institute took over the administration and academic control of the Royal Perth Hospital School of Occupational Therapy, the School of Physiotherapy, the School of Mines of Western Australia and Muresk Agricultural College.

### **School of Mines of Western Australia**

The School of Mines of Western Australia was established at Coolgardie in 1902 and was transferred to Kalgoorlie in the following year. Control of the School of Mines, formerly part of the Department of Mines, passed to The Western Australian Institute of Technology in January 1969.

Associateship courses are available in Accounting, Engineering (Civil, Electrical, Mechanical, Mining), Metallurgy, and Mining Geology. The courses are arranged to occupy two years of full-time study followed by two years of part-time study, but they can for the most part be completed by wholly full-time or wholly part-time study.

Senior Certificate courses, for which the entrance requirements are less stringent than those for associateship courses, are also available. These courses normally occupy three years of part-time study, with day release from industry.

Through the Kalgoorlie Metallurgical Laboratory, the School undertakes metallurgical investigations as well as assays for gold or for other metals. Free assays and mineral determinations are made available for *bona fide* prospectors.

The School has a geological museum which is open to the public and contains rocks and minerals from all over Australia and elsewhere.

The number of students enrolled in 1970 was 132.

### **Muresk Agricultural College**

Muresk Agricultural College, situated eight miles south of Northam in the Avon valley, was established by the Department of Agriculture in 1926. Control of the College was transferred to The Western Australian Institute of Technology in January 1969.

The College course, which is at tertiary level, leads to a Diploma of Agriculture. It is of two years' duration and is fully residential. The course is designed to give a sound scientific, technical and managerial training suitable for those wishing to become farm owners or managers, or to work in industries servicing agriculture. The subjects studied are Plant Sciences and Husbandry, Animal Sciences and Husbandry, Agricultural Engineering, Farm Management, Soil Science, Humanities and Practical Farm Work. Instruction is given by means of lectures, assignments, laboratory and workshop practical work, demonstrations, tutorials, day tours to farms and research stations, extended tours into the agricultural areas, and practical farming on the College estate.

The estate of 4,000 acres is devoted to mixed farming and provides the students with an opportunity to gain a considerable amount of practical experience by observation, demonstration and actual participation in a wide variety of farming activities. Use is made of the College facilities for various research projects. High quality stock from the College's herds and flocks is available to Western Australian farmers.

From time to time short courses are held at the College. These include in-service training schools for personnel of the Department of Agriculture and for field and service staff of agricultural firms.

The number of students enrolled at the College in 1970 was forty-six.

### Teachers, Students and Awards Conferred

The following table gives particulars of teaching staff in each of the years 1967 to 1970. The number of associateships and diplomas conferred is also shown.

#### THE WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY

| Particulars                      | 1967 | 1968 | 1969 | 1970 |
|----------------------------------|------|------|------|------|
| NUMBER OF TEACHING STAFF (a)     |      |      |      |      |
| Full-time—                       |      |      |      |      |
| School and department heads .... | 12   | 13   | 16   | 21   |
| Senior lecturers ....            | 14   | 31   | 37   | 49   |
| Lecturers ....                   | 118  | 133  | 149  | 171  |
| Assistant lecturers ....         |      |      |      |      |
| Tutors, demonstrators ....       | 39   | 60   | 85   | 87   |
| Total, Full-time ....            | 183  | 252  | 303  | 355  |
| Part-time (b)                    |      |      |      |      |
| Teaching staff ....              | n.a. | *21  | *35  | *32  |
| Tutors, demonstrators ....       | n.a. | 2    | *4   | 7    |

#### NUMBER OF STUDENTS (c)

|                     |       |       |       |       |
|---------------------|-------|-------|-------|-------|
| Full-time ....      | 1,224 | 1,558 | 1,680 | 1,824 |
| Part-time ....      | 1,609 | 1,931 | 2,565 | 3,107 |
| Correspondence .... | ....  | 223   | 334   | 463   |
| Total ....          | 2,833 | 3,712 | 4,579 | 5,394 |
| Males ....          | n.a.  | 3,119 | 3,776 | 4,466 |
| Females ....        | n.a.  | 593   | 803   | 928   |
| Total ....          | 2,833 | 3,712 | 4,579 | 5,394 |

#### ASSOCIATESHIPS AND DIPLOMAS CONFERRED

|                                      |      |      |      |     |
|--------------------------------------|------|------|------|-----|
| School or department—                |      |      |      |     |
| Accounting and business studies .... | 10   | 17   | 13   | 32  |
| Administrative studies ....          | 8    | *31  | 31   | 30  |
| Agriculture ....                     | .... | .... | 17   | 30  |
| Architecture ....                    | 15   | 41   | 21   | 16  |
| Art and design ....                  | 12   | 7    | 13   | 23  |
| Chemistry ....                       | 14   | 17   | 14   | 23  |
| Engineering—                         |      |      |      |     |
| Civil ....                           | 26   | 25   | *31  | 40  |
| Electrical ....                      | 13   | 16   | 16   | 24  |
| Mechanical ....                      | 20   | 10   | 16   | 17  |
| Home economics ....                  | 7    | 16   | 18   | 22  |
| Mathematics ....                     | .... | 1    | 5    | 5   |
| Medical technology ....              | .... | .... | .... | 21  |
| Mines ....                           | .... | .... | 7    | 19  |
| Pharmacy ....                        | 18   | 29   | 46   | 28  |
| Physics ....                         | 20   | 19   | 22   | 16  |
| Surveying ....                       | .... | .... | .... | 19  |
| Therapy ....                         | .... | .... | 31   | 30  |
| General studies ....                 | 3    | 25   | 29   | 38  |
| Total ....                           | 166  | *254 | *330 | 433 |
| Males ....                           | n.a. | *226 | *260 | 343 |
| Females ....                         | n.a. | 28   | 70   | 90  |
| Total ....                           | 166  | *254 | *330 | 433 |

n.a. denotes 'not available'.

(a) At 30 June. (b) Expressed on the basis of full-time staff equivalents. (c) Figures shown for 1967 and 1968 are as at 30 June, those for 1969 at 30 September, and for 1970 at 30 April.  
\* Revised.

**Finance**

The following table relates to income and expenditure of The Western Australian Institute of Technology in each year from 1967 to 1970.

THE WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY—FINANCE  
(\$'000)

| Particulars                               | 1967         | 1968         | 1969         | 1970         |
|-------------------------------------------|--------------|--------------|--------------|--------------|
| <b>INCOME</b>                             |              |              |              |              |
| Income for specific capital purposes (a)— |              |              |              |              |
| Commonwealth Government grants ....       | 281          | 697          | 1,765        | 1,192        |
| State Government grants ....              | 281          | 697          | 1,765        | 1,192        |
| Total ....                                | 562          | 1,394        | 3,530        | 2,384        |
| Income for other purposes—                |              |              |              |              |
| Commonwealth Government grants ....       | 639          | 883          | 1,395        | 2,017        |
| State Government grants ....              | 1,129        | 1,485        | 2,233        | 3,203        |
| Donations and endowments ....             | 6            | 45           | 54           | 28           |
| Student fees (b) ....                     | 53           | 153          | 289          | 529          |
| Other ....                                | ....         | 5            | 59           | 94           |
| Total ....                                | 1,828        | 2,570        | 4,030        | 5,871        |
| <b>TOTAL INCOME ....</b>                  | <b>2,390</b> | <b>3,964</b> | <b>7,560</b> | <b>8,255</b> |
| <b>EXPENDITURE</b>                        |              |              |              |              |
| Salaries and wages ....                   | 1,239        | 2,047        | 2,595        | 4,351        |
| Library ....                              | 57           | 29           | 48           | 78           |
| Buildings, grounds and equipment ....     | 674          | 1,420        | 3,580        | 2,532        |
| Minor equipment ....                      | 195          | 62           | 94           | 211          |
| Sundry auxiliary expenditure ....         | 218          | 361          | 1,203        | 1,003        |
| <b>TOTAL EXPENDITURE ....</b>             | <b>2,383</b> | <b>3,918</b> | <b>7,520</b> | <b>8,175</b> |

(a) Income received specifically for new buildings, major alterations and additions to buildings, installation of services, purchase of land and buildings and major equipment. (b) Excludes fees collected on behalf of student organisations.

**THE UNIVERSITY OF WESTERN AUSTRALIA**

University education first became available in Western Australia in 1898, with the formation of the Extension Committee of the University of Adelaide by which facilities were provided for external studies in courses for degrees in Arts and Science. The first step towards the establishment of a university in Western Australia was taken in 1904, when a University Endowment Act providing for the incorporation of a trust to administer funds for the purpose was passed by the State Parliament. Following a favourable report made by a Royal Commission under the chairmanship of Dr (later Sir Winthrop) J. W. Hackett, the University was established by the University of Western Australia Act of 1911. Teaching began in 1913 in subjects related to the Faculties of Arts, Science and Engineering. Additional Faculties established since that time are those of Law (1927), Agriculture (1936), Dental Science (1946), Education (1947), Economics (1954), Medicine (1956) and Architecture (1966). The Faculty of Economics was reconstituted as the Faculty of Economics and Commerce in 1961.

**Matriculation Requirements**

A student wishing to matriculate at the University must pass the Leaving Examination in five subjects from specified groups at leaving level, and in three subjects at matriculation level, provided that one of these eight passes shall be in English or English Literature. The matriculation level examinations require a student 'to give more evidence of ability and experience in study in depth'. A candidate must pass all these examinations in the same year, or pass all the leaving level examinations in one year and the matriculation level examinations in the following year. A part-time student is allowed three years to complete the requirements.

Matriculant status may be granted to an applicant who has satisfied the examination requirements of another university in Australia, New Zealand or the United Kingdom, or of any other university recognised by the University of Western Australia, qualifying him for matriculation.

The regulations provide for a Mature Age Examination enabling the provisional admission to some University courses of persons over the age of twenty-one years who have not otherwise qualified for matriculation. Candidates take certain papers in the Leaving Examination as follows : English at leaving level ; one other subject selected from a specified list at both leaving and matriculation levels. A pass in the Mature Age Examination is recognised as qualifying for provisional admission to the Faculty of Arts (for Bachelor of Arts and Bachelor of Psychology degree courses) and to the Faculties of Education and Economics and Commerce. Full matriculation status is granted on successful completion of the first academic year, *i.e.* a pass in four first-year units of the course of study.

Provision is made for admission to some Faculties of persons holding certain certificates or diplomas or other specified qualifications.

### Degrees and Diplomas

Degrees are granted in the Faculties of Arts, Law, Education, Economics and Commerce, Science, Engineering, Agriculture, Dental Science, Medicine and Architecture.

Courses for the degrees of Bachelor of Arts, Bachelor of Economics, Bachelor of Commerce and Bachelor of Science extend over a period of not less than three years; those for the degrees of Bachelor of Music, Bachelor of Psychology, Bachelor of Education, Bachelor of Engineering and Bachelor of Science in Agriculture, over not less than four years; and those for the degrees of Bachelor of Dental Science and Bachelor of Architecture over not less than five years. The course for the degree of Bachelor of Laws extends over a period of not less than four years, following successful completion of the first year of a course in any other faculty. Honours degree courses in Arts, Music, Psychology, Economics, Commerce and Science are usually of four years' duration, and five years in Education. The course in the Faculty of Medicine for the degrees of Bachelor of Medicine and Bachelor of Surgery extends over six years, and that for the degree of Bachelor of Medical Science over four years or five years according to the subjects taken. The degrees of Master of Arts and Doctor of Letters, Master of Music and Doctor of Music, Master of Psychology, Master of Laws and Doctor of Laws, Master of Education, Master of Economics, Master of Commerce, Master of Science and Doctor of Science, Master of Engineering Science, Master of Engineering and Doctor of Engineering, Master of Science in Agriculture and Doctor of Science in Agriculture, Master of Dental Science and Doctor of Dental Science, Master of Surgery and Doctor of Medicine, Master of Architecture, Master of Building Science and Master of Social Work are conferred by the University. The degree of Doctor of Philosophy is also given for research in all faculties.

Courses for diplomas, all of which are postgraduate, are also offered by various faculties. Details of diplomas granted in the five years ended 1970 are given in the table on page 185 where particulars of the number of degrees conferred are also shown.

### University Government

The original Act provided that the Senate and Convocation should constitute the governing authority with power to make statutes for 'the management, good government and discipline of the University'.

The Senate consists of twenty-five members, of whom six are appointed by the Governor, six are elected by Convocation, four are elected by the full-time teaching staff, two are elected by students, three are *ex officio* members (the Vice-Chancellor of the University, the Director-General of Education and the President of the Guild of Undergraduates), and four are co-opted members. Convocation consists of graduates of the University and such other persons as are eligible for membership under the provisions of the University of Western Australia Act.

Since an amendment to the Act in 1944 the Senate alone has been the governing authority and is responsible, subject to the Act and the statutes, for the entire control and management of the University. Statutes originate in the Senate and are submitted to Convocation for its consideration, and although Convocation may suggest amendments the Senate is not bound to accept them. The Act requires that statutes shall be submitted to the Governor for approval, after which they have the force of law.

The Chancellor is the titular head of the University. He is elected annually by the Senate from among its members and presides over its meetings. The Vice-Chancellor is the chief executive officer of the University and is appointed by the Senate for a period not exceeding ten years, at the end of which term he is eligible for reappointment. At meetings of Convocation the chairman is the Warden who is elected annually by Convocation from among its members.

The Guild of Undergraduates is constituted under the Act as an association of undergraduates 'for furthering of their common interests, and shall be the recognised means of communication between the undergraduates and the governing authority of the University'. The government of the student body is vested in the Guild Council to which the Senate appoints two of its own members, the remaining members of the Council being elected in accordance with regulations made by the Guild.

### **Student Fees and Scholarships**

The Royal Commission appointed to inquire into the establishment of a University recommended that teaching should be free and suggested that 'if fees are found to be necessary, they should be on the lowest possible scale'. Until 1962 lecture fees were not charged to students normally resident in Australia, except those in the Faculty of Medicine, where tuition fees were payable in the second and later years, and those enrolled at the Western Australian College of Dental Science, an institution affiliated with the University, who paid lecture fees to the College. All students paid a 'faculty service charge' designed to cover such items as the use of the library, annual examination fees, the use of laboratory equipment, and the lecture synopses provided in some courses. To assist in meeting the increasing costs of operation resulting from a rapidly growing student population and to enable the University to take full advantage of financial aid available under Commonwealth legislation, a system of annual 'enrolment fees' was introduced in 1962. The current tuition fees are based on an annual course fee for all full-time bachelor degree courses. Part-time students' fees are assessed proportionately, according to the number and type of subjects to be taken during the year. The fees for higher degree students are also related to the basic scale. Subscriptions to the Guild of Undergraduates and to certain faculty associations are payable by all students enrolled for one or more full units towards a bachelor degree or a diploma.

Financial assistance is available to students under the Commonwealth University Scholarship Scheme. Awards are made on merit and, in addition to having their compulsory fees paid, scholarship holders may receive a living allowance which is subject to a means test. Hackett Bursaries are offered each year for students of merit whose means make it difficult for them to undertake or continue a full-time undergraduate course. The State Government provides a number of University Exhibitions for competition among candidates at the Leaving Examination. In addition, the University is able to grant a limited number of fees bursaries each year from special endowment funds.

As well as the normal awards under the Commonwealth University Scholarship Scheme, there is provision in the scheme for financial assistance for post-graduate studies in the form of a living allowance, which is not subject to a means test, and payment of fees. The University also provides, from its own funds, research studentships for post-graduate study which are competed for by students holding no other award and having an Honours degree of second class (Division A), or higher, standard. Hackett Scholarships, tenable at the University of Western Australia or in special circumstances at other recognised institutions in Australia, are open to graduates of the University. Graduates may also

apply for Hackett Studentships which, in addition to other financial benefits, may carry a travel grant where the Student elects to study overseas or in another State. Some large private industrial concerns also make annual awards for study at post-graduate level.

The State Government makes a contribution towards tuition fees where a student does not receive other financial assistance, or where such assistance is equal to or is less than one-half the tuition fees. This subsidy ranges from one-sixth of the fees payable by an overseas student to one-half in the case of a full-time student permanently domiciled in Western Australia and proceeding to a first degree.

### Teachers, Students, Degrees Conferred and Diplomas Granted

The following table gives particulars of teaching staff and students in each of the years from 1966 to 1970. The numbers of degrees conferred and diplomas granted during each of these years are also shown. Information in greater detail is available from the publications *University Statistics: Part 1—Students and Degrees Conferred* and *Part 2—Staff and Libraries*, which are issued annually by the Commonwealth Statistician, Canberra.

#### UNIVERSITY OF WESTERN AUSTRALIA

| Particulars                                      | 1966  | 1967  | 1968  | 1969  | 1970  |
|--------------------------------------------------|-------|-------|-------|-------|-------|
| NUMBER OF TEACHING STAFF (a)                     |       |       |       |       |       |
| Full-time—                                       |       |       |       |       |       |
| Professors .....                                 | 44    | 47    | 53    | 54    | 54    |
| Readers .....                                    | 38    | 41    | 45    | 49    | 50    |
| Senior lecturers .....                           | 111   | 119   | 122   | 130   | 142   |
| Lecturers .....                                  | 95    | 105   | 115   | 112   | 118   |
| Tutors, demonstrators .....                      | 67    | 58    | 68    | 84    | 91    |
| Total, Full-time .....                           | 355   | 370   | 403   | 429   | 455   |
| Part-time (b)—                                   |       |       |       |       |       |
| Lecturers .....                                  | 43    | 30    | 32    | 22    | 25    |
| Graduate assistants, tutors, demonstrators ..... | 384   | 355   | 468   | 490   | 505   |
| Adult education classes .....                    | ....  | ....  | 57    | 40    | 40    |
| NUMBER OF STUDENTS (a)                           |       |       |       |       |       |
| Internal, full-time .....                        | 3,362 | 3,796 | 4,079 | 4,407 | 4,966 |
| Internal, part-time .....                        | 1,814 | 1,926 | 2,178 | 2,430 | 2,511 |
| External .....                                   | 323   | 305   | 310   | 314   | 305   |
| Total .....                                      | 5,499 | 6,027 | 6,567 | 7,151 | 7,782 |
| Males .....                                      | 4,084 | 4,402 | 4,732 | 5,065 | 5,373 |
| Females .....                                    | 1,415 | 1,625 | 1,835 | 2,086 | 2,409 |
| Total .....                                      | 5,499 | 6,027 | 6,567 | 7,151 | 7,782 |
| DEGREES CONFERRED (c) AND DIPLOMAS GRANTED (d)   |       |       |       |       |       |
| Degrees conferred—                               |       |       |       |       |       |
| Agriculture .....                                | *26   | *25   | 31    | 20    | 42    |
| Architecture .....                               | ....  | ....  | ....  | 8     | 12    |
| Arts .....                                       | *217  | *256  | 262   | 282   | 295   |
| Commerce .....                                   | 20    | 24    | 31    | 41    | 50    |
| Dental Science .....                             | 11    | 13    | 9     | 22    | 14    |
| Economics .....                                  | 40    | 47    | 32    | 44    | 61    |
| Education .....                                  | *46   | *43   | 43    | 31    | 41    |
| Engineering .....                                | *39   | *37   | 41    | 95    | 66    |
| Law .....                                        | 26    | 36    | 23    | 38    | 37    |
| Medicine .....                                   | *39   | 39    | 45    | 53    | 53    |
| Music .....                                      | 2     | 3     | 2     | 1     | 3     |
| Psychology .....                                 | 11    | 13    | 7     | 24    | 26    |
| Science .....                                    | *160  | 168   | 179   | 204   | 214   |
| Total .....                                      | *637  | *704  | 705   | 863   | 914   |
| Diplomas granted—                                |       |       |       |       |       |
| Clinical Psychology .....                        | 1     | ....  | ....  | ....  | ....  |
| Child and Educational Psychology .....           | ....  | ....  | ....  | ....  | ....  |
| Education .....                                  | 79    | 66    | 102   | 102   | 96    |
| Social Work .....                                | ....  | 6     | 6     | 9     | 9     |
| Numerical Analysis and Automatic Computing ..... | 1     | 3     | 5     | 5     | 5     |
| Total .....                                      | 81    | 75    | 113   | 116   | 110   |

(a) Figures shown for the years 1966 to 1969 are as at 30 June, and those for 1970 at 30 April. (b) Figures represent units of 100 hours of teaching time per annum. (c) Excluding honorary degrees. (d) Figures for 1966 and 1967 are as at 31 July, those for 1968 to 1970 at 30 June.

\*Revised.

### Tuition

In addition to the normal lectures and tutorials for full-time students, courses for part-time students are offered in the Faculties of Arts, Education, and Economics and Commerce. Certain subjects may be taken at institutions affiliated with the University. These are The Western Australian Institute of Technology, the Secondary Teachers College, Claremont Teachers College, Graylands Teachers College, Mount Lawley Teachers College and Churchlands Training College.

Residents of Western Australia living outside the metropolitan area are able to enrol as external students in the Faculties of Arts, Education, and Economics and Commerce.

### Colleges and Hall of Residence

There are five residential colleges within the University. For men students, Saint George's College is conducted by the Church of England, Saint Thomas More College by the Roman Catholic Church and Kingswood College by the Methodist Church. Saint Catherine's College is an undenominational college for women students. A fifth college, Saint Columba, opened in 1971. It is conducted jointly by the Presbyterian Church and the Congregational Church for the accommodation of men and women students.

Currie Hall is an undenominational hall of residence for men and women students.

### Finance

The following table relates to the income and expenditure of the University of Western Australia in each year from 1966 to 1970. Information in greater detail is available in the publication *University Statistics: Part 3—Finance*, issued annually by the Commonwealth Statistician, Canberra.

UNIVERSITY OF WESTERN AUSTRALIA—FINANCE  
(\$'000)

| Particulars                               | 1966          | 1967          | 1968          | 1969          | 1970          |
|-------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>INCOME</b>                             |               |               |               |               |               |
| Income for specific capital purposes (a)— |               |               |               |               |               |
| Commonwealth Government grants            | 1,226         | 476           | 509           | 457           | 1,659         |
| State Government grants                   | 1,237         | 436           | 509           | 1,850         | 475           |
| <b>Total</b>                              | <b>2,463</b>  | <b>912</b>    | <b>1,018</b>  | <b>2,307</b>  | <b>2,134</b>  |
| Income for other purposes—                |               |               |               |               |               |
| Commonwealth Government grants            | 2,782         | 3,215         | 3,386         | 3,467         | 4,242         |
| State Government grants                   | 3,080         | 3,363         | 3,842         | 4,022         | 4,784         |
| Donations and endowments                  | 638           | 681           | 865           | 936           | 1,068         |
| Student fees (b)                          | 1,155         | 1,253         | 1,423         | 1,658         | 2,145         |
| Other                                     | 634           | 723           | 852           | 885           | 1,023         |
| <b>Total</b>                              | <b>8,288</b>  | <b>9,236</b>  | <b>10,368</b> | <b>10,968</b> | <b>13,262</b> |
| <b>TOTAL INCOME</b>                       | <b>10,751</b> | <b>10,148</b> | <b>11,386</b> | <b>13,276</b> | <b>15,396</b> |
| <b>EXPENDITURE</b>                        |               |               |               |               |               |
| Teaching and research                     | 5,528         | 6,303         | 6,693         | 7,184         | 8,849         |
| Administration and general overhead       | 626           | 702           | 806           | 881           | 1,154         |
| Libraries                                 | 402           | 416           | 480           | 554           | 663           |
| Buildings, premises, grounds              | 2,249         | 2,046         | 2,098         | 2,121         | 2,653         |
| Sundry auxiliary expenditure              | 765           | 790           | 992           | 1,007         | 1,034         |
| <b>TOTAL EXPENDITURE</b>                  | <b>9,571</b>  | <b>10,258</b> | <b>11,069</b> | <b>11,747</b> | <b>14,353</b> |

(a) Income received specifically for new buildings, major alterations and additions to buildings, installation of services, purchase of land and buildings and major equipment.

(b) Excludes fees collected on behalf of student organisations.

### Public Examinations Board

The Public Examinations Board, which is comprised of representatives of the University, the Education Department, and the non-government secondary schools, is constituted by University statute for the purpose of conducting the Junior and Leaving Examinations.

The Junior Examination is normally taken by pupils at the end of the third year of the secondary school course. (The Junior Examination is being replaced by an achievement system of assessment, to which reference is made on page 173.) The Leaving Examination is the final examination in the Western Australian secondary education system.

### **Adult Education and Extension Committee**

The Adult Education and Extension Committee was established by the Senate of the University in 1968 as a result of the reorganisation of the former Adult Education Board which had been created by the University in 1928. The policies of the Committee are implemented by the Director of Adult Education and by the Head of Extension. The headquarters of the organisation are at the University.

Adult Education classes are conducted at city premises in Perth as well as at the University, and various activities in the metropolitan and country areas are arranged. These are generally non-vocational in character. During the year several series of classes, lectures and discussions are conducted, and a Summer School is held at the University each year.

The Extension Service is responsible mainly for post-graduate and refresher courses as well as certain cultural activities. It works in close liaison with University departments and faculties. The Extension Service is engaged principally in conducting conferences, symposia and seminars. Members of its staff are also involved during the summer months in work connected with the annual Festival of Perth.

### **MURDOCH UNIVERSITY**

Since July 1970 a Planning Board has been working towards the establishment of a second university in Western Australia. The new university is to be named Murdoch University in honour of the late Professor Sir Walter Murdoch, K.C.M.G., C.B.E., M.A., Hon. D.Litt., Emeritus Professor of English in the University of Western Australia. Walter Logie Forbes Murdoch was one of the original professors when the University was opened in 1913. He retired from the Chair of English in 1939, and was Pro-Chancellor of the University from 1941 to 1943, and Chancellor from 1943 to 1948. He died at Perth on 30 July 1970 at the age of 95 years.

Murdoch University is to be established on a site of more than 400 acres south of the Swan River about eight miles from the Perth city centre and five miles from Fremantle. It is anticipated that it will open in 1975 and will provide for both graduate and undergraduate studies in the basic humanities and sciences. It is to have Schools of Education and Veterinary Studies as its first professional schools.

### **THE WESTERN AUSTRALIAN TERTIARY EDUCATION COMMISSION**

A Committee was appointed by the Western Australian Government in August 1966 to investigate the future needs of Western Australia in relation to tertiary education, the institutions necessary to meet those needs, the appropriate form of control and government of tertiary institutions, and the future role and development of these institutions. The Committee published its recommendations in September 1967.

As a result of these recommendations a Tertiary Education Commission was formed in February 1969 as a standing advisory commission. Subsequently the *Western Australian Tertiary Education Commission Act, 1970*, which came into operation on 23 April 1971, established the Commission as a statutory corporate body.

The Act provides that the Commission shall consist of nine members, comprising a Chairman appointed by the Governor on the recommendation of the Minister; the Director-General of Education; the Under Treasurer of the State; the chief executive officers of the University of Western Australia, Murdoch University, and The Western Australian Institute of Technology; and three persons appointed by the Governor on the recommendation of the Minister.



The principal functions of the Commission are to promote, develop and co-ordinate tertiary education, having regard to the needs of the State and the financial and other resources available to it; to consider and make recommendations on the future development of tertiary education institutions (including the acquisition and reservation of sites), the levels of financial support requested by such institutions, the terms and conditions of appointment and employment of staff, the fees to be charged by each institution, and proposals for the establishment of new tertiary education courses; to co-ordinate the criteria for entrance to tertiary education institutions; and to determine the minimum requirements for new academic awards.

The Act also provides that the Commission shall confer and collaborate on matters relevant to tertiary education with Commonwealth and State Government Departments, the Australian Universities Commission, the Commonwealth Advisory Committee on Advanced Education and other governmental bodies.

### STATE GOVERNMENT EXPENDITURE ON EDUCATION

The following table shows the amounts expended on education from State Government funds during the five-year period ended 30 June 1970.

Payments from the Consolidated Revenue Fund relate to recurrent expenditure on such items as departmental administration, teachers' salaries, transport of school children, scholarships and allowances, maintenance of buildings, assistance to private schools, and grants to the University of Western Australia.

Expenditure from the General Loan Fund is principally on capital works which include buildings at The Western Australian Institute of Technology, primary schools, high schools and technical schools. Purchases of furniture and equipment are also included.

#### STATE GOVERNMENT EXPENDITURE ON EDUCATION (\$'000)

| Classification                   | 1965-66       | 1966-67       | 1967-68       | 1968-69       | 1969-70       |
|----------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>CONSOLIDATED REVENUE FUND</b> |               |               |               |               |               |
| Administration and general       | 1,374         | 1,277         | 1,383         | 1,461         | 1,879         |
| Primary                          | 16,196        | 17,524        | 19,814        | 22,087        | 26,441        |
| Secondary                        | 9,386         | 10,166        | 12,055        | 14,314        | 18,229        |
| Technical                        | 4,594         | 5,230         | 5,933         | 7,094         | 8,655         |
| Agricultural                     | 284           | 339           | 406           | 417           | 135           |
| University                       | 3,385         | 3,445         | 4,038         | 4,095         | 5,065         |
| Training of teachers             | 2,268         | 2,506         | 2,901         | 3,565         | 4,698         |
| Transport of school children     | 2,673         | 3,044         | 3,156         | 3,299         | 3,547         |
| Other                            | 44            | 42            | 37            | 20            | 14            |
| <b>Total</b>                     | <b>40,203</b> | <b>43,573</b> | <b>49,722</b> | <b>56,352</b> | <b>68,664</b> |
| <b>GENERAL LOAN FUND</b>         |               |               |               |               |               |
| Primary                          | 3,347         | 3,425         | 3,946         | 5,713         | 6,968         |
| Secondary                        | 3,897         | 4,191         | 3,447         | 2,883         | 3,165         |
| Technical                        | 279           | 726           | 1,526         | *1,041        | 1,270         |
| Agricultural                     | 54            | 12            | 25            | 13            |               |
| University                       | 159           | 1,050         | 266           | 466           | 1,182         |
| Training of teachers             | 33            | ....          | ....          | 8             | 470           |
| Other                            | 318           | 450           | 580           | *508          | 741           |
| <b>Total</b>                     | <b>8,087</b>  | <b>9,854</b>  | <b>9,791</b>  | <b>10,632</b> | <b>13,796</b> |

\* Revised.

### COMMONWEALTH FINANCIAL ASSISTANCE FOR EDUCATION

Although education is primarily the responsibility of the States, the Commonwealth Government has instituted a number of measures of direct assistance to students and educational institutions.

## Scholarships and Awards

The Commonwealth Department of Education and Science administers five major scholarship schemes. The Postgraduate Award, University Scholarship and Advanced Education Scholarship schemes come within the authority of the Commonwealth Scholarships Board, which provides advice on the administration of the schemes and on policy matters connected with them. The Commonwealth Secondary Scholarship Scheme, which came into operation at the beginning of 1965, is administered by the Department of Education and Science, with the co-operation of the State education authorities in selection examination arrangements. The Commonwealth Technical Scholarship Scheme also came into operation at the beginning of 1965. Detailed information on these schemes is contained in the annual reports of the Commonwealth Scholarships Board and the Department of Education and Science.

### COMMONWEALTH SCHOLARSHIPS AND AWARDS WESTERN AUSTRALIA

| Scheme                         | Number of—           |       |       |                                  |       |       | Expenditure (\$'000) |         |         |
|--------------------------------|----------------------|-------|-------|----------------------------------|-------|-------|----------------------|---------|---------|
|                                | Scholarships awarded |       |       | Scholars in training at 30 June— |       |       |                      |         |         |
|                                | 1969                 | 1970  | 1971  | 1969                             | 1970  | 1971  | 1968-69              | 1969-70 | 1970-71 |
| Postgraduate—                  |                      |       |       |                                  |       |       |                      |         |         |
| Research Award                 | 29                   | 29    | 29    | 79                               | 89    | 88    | 111                  | 228     | 241     |
| Course Award                   |                      |       | 6     |                                  |       | 6     |                      |         |         |
| University Scholarship         | 638                  | 838   | 959   | 1,749                            | 2,045 | 2,259 | 1,110                | 1,323   | 1,614   |
| Advanced Education Scholarship | 126                  | 222   | 321   | 284                              | 399   | 565   | 108                  | 114     | 309     |
| Secondary Scholarship          | 745                  | 780   | 804   | 1,435                            | 1,475 | 1,545 | 459                  | 482     | 492     |
| Technical Scholarship          | 203                  | 227   | 184   | 266                              | 260   | 300   | 79                   | 73      | 78      |
| Total                          | 1,741                | 2,096 | 2,303 | 3,813                            | 4,268 | 4,763 | 1,867                | 2,220   | 2,734   |

## Universities

Following a report submitted by a committee of inquiry appointed to report on university finances and requirements, the Commonwealth, since 1951, has made grants to the States for recurrent expenditure on university purposes. Since 1958 the Commonwealth has also assisted with the capital needs of the universities for building projects and for equipment, and has provided grants for the building programmes of residential colleges affiliated with universities.

Commonwealth assistance to the States in respect of the recurrent expenditures of universities is provided on the basis of \$1 of Commonwealth money for every \$1.85 of income received by a university from fees and State grants. Grants in respect of capital expenditures are made on a \$1 for \$1 basis from the Commonwealth and the State.

In 1959, following the Report of the Committee on Australian Universities, the Commonwealth Government established the Australian Universities Commission under the *Australian Universities Commission Act 1959*. The principal function of the Commission is to advise on financial assistance for the maintenance and balanced development of Australian universities. Commonwealth financial assistance grants, based on the Commission's recommendations, have been authorised by a series of States Grants (Universities) Acts and Universities (Financial Assistance) Acts.

## Colleges of Advanced Education

Under the provisions of a series of States Grants (Advanced Education) Acts, the first of which was passed in 1965, the Commonwealth gives financial assistance to the States for the development of colleges of advanced education. These are institutions which provide mainly tertiary education and training with a vocational emphasis, as distinct from the academic education provided by the universities. The Commonwealth Advisory Committee on Advanced Education was established in 1965 to advise the Commonwealth Government on the development of the colleges.

Commonwealth assistance to the States in respect of recurrent expenditures is provided on the basis of \$1 of Commonwealth money for every \$1.85 of income received from fees and State grants. Grants in respect of capital expenditure are made on a \$1 for \$1 basis from the Commonwealth and the State.

### **Teachers Colleges**

Under the provisions of the *States Grants (Teachers Colleges) Act* 1967 grants were made to the States during the three years to 30 June 1970 by way of financial assistance for approved building projects in connection with teachers colleges. The *States Grants (Teachers Colleges) Act* 1970 provides for grants to the States during the period from 1 July 1970 to 30 June 1973. The total amount authorised by these Acts is \$54 million, of which Western Australia's share is \$5.7 million.

A condition of the grant to a State is that not less than 10 per cent of the student places attributable to the expenditure of the grant shall be available to 'private' students, *i.e.*, those who have not entered into an agreement or bond in relation to service with a State education authority for a period after completion of the course.

### **Pre-school Teachers Colleges**

The *States Grants (Pre-school Teachers Colleges) Act* 1968-1971 provides financial assistance to the States for the purposes of building projects in connection with pre-school teachers colleges. During the four-year period ending 31 December 1972 an amount not exceeding \$2.5 million is to be distributed among the States, Western Australia's share being \$175,000.

### **Science Laboratories and Equipment**

The *States Grants (Science Laboratories) Acts* authorise financial assistance for the provision of science laboratories and equipment for use in the teaching of science at secondary level in government and non-government schools.

### **School Libraries**

The *States Grants (Secondary Schools Libraries) Act* 1968 provides financial assistance to the States, during the period 1 January 1969 to 31 December 1971, for libraries at secondary schools and for the acquisition of library material and equipment for use in such libraries. The Act enables an amount not exceeding \$27 million to be distributed among the States, Western Australia's share being \$2,031,600.

Under the provisions of the *States Grants (Secondary School Libraries) Act* 1971 the period of assistance is extended for a further three years, from 1 January 1972 to 31 December 1974. The total amount authorised by the Act is \$30 million, of which Western Australia's share is \$2,047,917.

### **Technical Training**

Under the provisions of the *States Grants (Technical Training) Acts*, grants are made to the States as a contribution towards the cost of buildings and equipment for use in trade training and technical education in government institutions.

### **Recurrent Expenditure of Non-government Schools**

The *States Grants (Independent Schools) Act* 1969 provides moneys for the States to be paid to non-government schools as a contribution towards the recurrent (*i.e.* other than capital) expenditure incurred by those schools. Payment is made in the form of a subsidy of \$35 for each primary pupil and \$50 for each secondary pupil enrolled for full-time education at the schools census date in August of each year. The Act came into operation on 25 October 1969, and payments to Western Australia in the period to 30 June 1970 amounted to \$862,000.

## Research

The States Grants (Research) Acts authorise the provision of financial assistance to the States in support of research projects of particular merit, research being defined as 'systematic investigations in some branch of science or learning'. The Australian Research Grants Committee, established by the Commonwealth Government in 1965, evaluates research projects and makes recommendations concerning the selection of projects and the allocation of funds.

## Financial Summary

The following table shows the amounts received during the five years to 30 June 1971 in the form of Commonwealth financial assistance for education in Western Australia.

COMMONWEALTH FINANCIAL ASSISTANCE FOR EDUCATION  
WESTERN AUSTRALIA  
(\$'000)

| Purpose of assistance                    | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|------------------------------------------|---------|---------|---------|---------|---------|
| Universities—                            |         |         |         |         |         |
| For capital expenditure .....            | 1,160   | 567     | 734     | 2,048   | 384     |
| For recurrent expenditure .....          | 2,306   | 2,632   | 2,833   | 3,281   | 3,900   |
| Total .....                              | 3,466   | 3,219   | 3,567   | 5,329   | 4,284   |
| Colleges of advanced education—          |         |         |         |         |         |
| For capital expenditure .....            | 457     | 1,304   | 874     | 1,050   | 1,903   |
| For recurrent expenditure .....          | 363     | 776     | 912     | 1,929   | 2,333   |
| Total .....                              | 820     | 2,080   | 1,786   | 2,979   | 4,236   |
| Teachers colleges .....                  | ....    | 1,817   | 582     | 201     | 3       |
| Pre-school teachers colleges .....       | ....    | ....    | 14      | 161     | ....    |
| Science laboratories and equipment ..... | 899     | 912     | 921     | 921     | 921     |
| School libraries .....                   | ....    | ....    | 168     | 596     | 779     |
| Technical training .....                 | 551     | 1,323   | 437     | 957     | 804     |
| Non-government schools—                  |         |         |         |         |         |
| For recurrent expenditure .....          | ....    | ....    | ....    | 862     | 1,682   |
| Research .....                           | 155     | 257     | 276     | 323     | 296     |
| GRAND TOTAL .....                        | 5,891   | 9,608   | 7,751   | 12,329  | 13,005  |

## Chapter V—continued

## Part 2—Arts, Science and Recreation

## PUBLIC LIBRARIES

## The Library Board of Western Australia

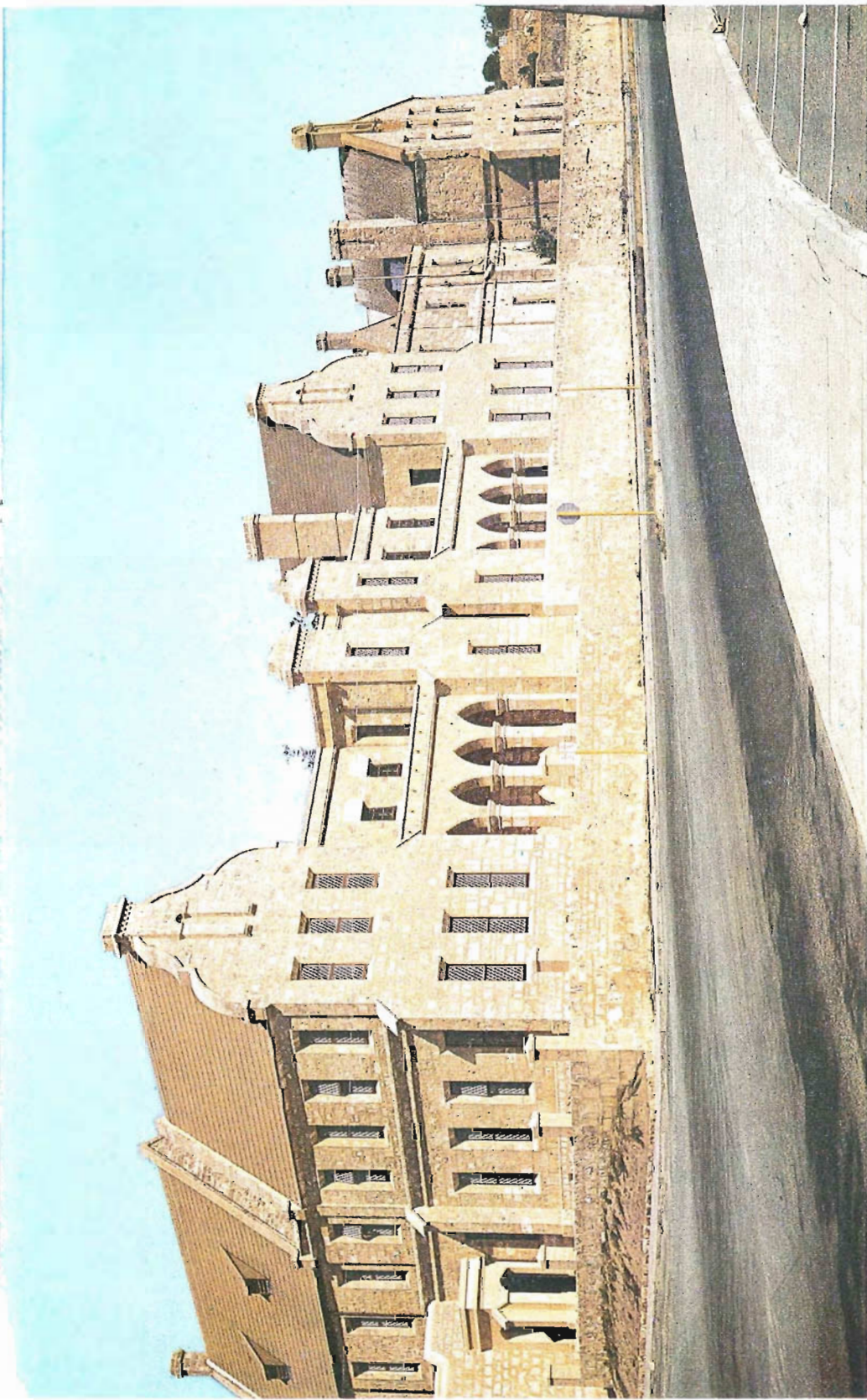
The Library Board of Western Australia, which is constituted under the provisions of the *Library Board of Western Australia Act, 1951-1965*, is responsible for all forms of public library services which are financed either wholly or in part from State funds. The Board consists of thirteen members. The Director-General of Education and the Director of Adult Education are *ex officio* members. Of the remaining eleven members, who are appointed by the Governor, five represent local government interests, five are nominated by the Minister for Education and one by the Library Association of Australia, Western Australian Branch.

The Board was set up as an independent statutory body in 1952. Its functions are to encourage and assist local authorities to establish public libraries and to co-ordinate those libraries into a State-wide system, to administer funds made available by the Government for this purpose, to provide for the training of librarians and library assistants and to advise the Minister for Education and participating bodies on matters of general policy relating to libraries. Under the provisions of the *Acts Amendment (Libraries) Act, 1955*, the administration of the Public Library of Western Australia was transferred to the Board on 1 December 1955 and its name changed to The State Library of Western Australia. The Central Music Library was inaugurated in 1965.

## THE LIBRARY BOARD OF WESTERN AUSTRALIA

| Particulars                                                                  | 1966-67           | 1967-68        | 1968-69        | 1969-70        | 1970-71          |
|------------------------------------------------------------------------------|-------------------|----------------|----------------|----------------|------------------|
| <b>Expenditure—</b>                                                          |                   |                |                |                |                  |
| Salaries and wages .....                                                     | \$ 256,914        | 274,556        | 305,595        | 353,303        | 440,417          |
| Books, periodicals and binding .....                                         | \$ 307,513        | 352,649        | 416,065        | 484,201        | 543,291          |
| Other .....                                                                  | \$ 49,792         | 65,003         | 67,359         | 110,863        | 118,310          |
| <b>Total .....</b>                                                           | <b>\$ 614,219</b> | <b>692,208</b> | <b>789,019</b> | <b>948,367</b> | <b>1,102,018</b> |
| <b>Number of—</b>                                                            |                   |                |                |                |                  |
| Full-time staff (a)—                                                         |                   |                |                |                |                  |
| Qualified librarians .....                                                   | 24                | 24             | 25             | 22             | 31               |
| Student librarians .....                                                     | 16                | 21             | 25             | 20             | 23               |
| Other .....                                                                  | 52                | 58             | 58             | 75             | 77               |
| <b>Total .....</b>                                                           | <b>92</b>         | <b>103</b>     | <b>108</b>     | <b>117</b>     | <b>131</b>       |
| Associated public libraries (a)—                                             |                   |                |                |                |                  |
| Perth Statistical Division .....                                             | 24                | 25             | 27             | 27             | 29               |
| Other Statistical Divisions .....                                            | 78                | 86             | 98             | 99             | 104              |
| <b>Total .....</b>                                                           | <b>102</b>        | <b>111</b>     | <b>125</b>     | <b>126</b>     | <b>133</b>       |
| <b>Books—</b>                                                                |                   |                |                |                |                  |
| Reference library stock—                                                     |                   |                |                |                |                  |
| Bound volumes (a) .....                                                      | 229,943           | 236,230        | 242,664        | 290,660        | 295,983          |
| Periodical and serial titles received .....                                  | 8,266             | 6,368          | 7,787          | 8,143          | 8,289            |
| Circulation library stock—                                                   |                   |                |                |                |                  |
| Books processed for circulation .....                                        | 74,420            | 100,816        | 103,276        | 102,366        | 111,927          |
| Net additions to stock .....                                                 | 40,325            | 69,622         | 57,204         | 46,054         | 51,478           |
| Stock at 30 June .....                                                       | 536,757           | 606,379        | 657,149        | 703,203        | 754,681          |
| Received and dispatched in the exchange programme with local libraries ..... | 207,352           | 223,864        | 270,862        | 298,322        | 310,020          |
| Inter-library requests received .....                                        | 36,914            | 45,306         | 55,441         | 61,047         | 62,880           |
| Central Music Library stock (a)—                                             |                   |                |                |                |                  |
| Number of—                                                                   |                   |                |                |                |                  |
| Books .....                                                                  | 3,200             | 3,665          | 3,900          | 4,175          | 4,386            |
| Musical scores .....                                                         | 11,032            | 12,723         | 11,999         | 12,731         | 13,239           |

(a) At 30 June.



*Block by courtesy of the Fremantle Port Authority*

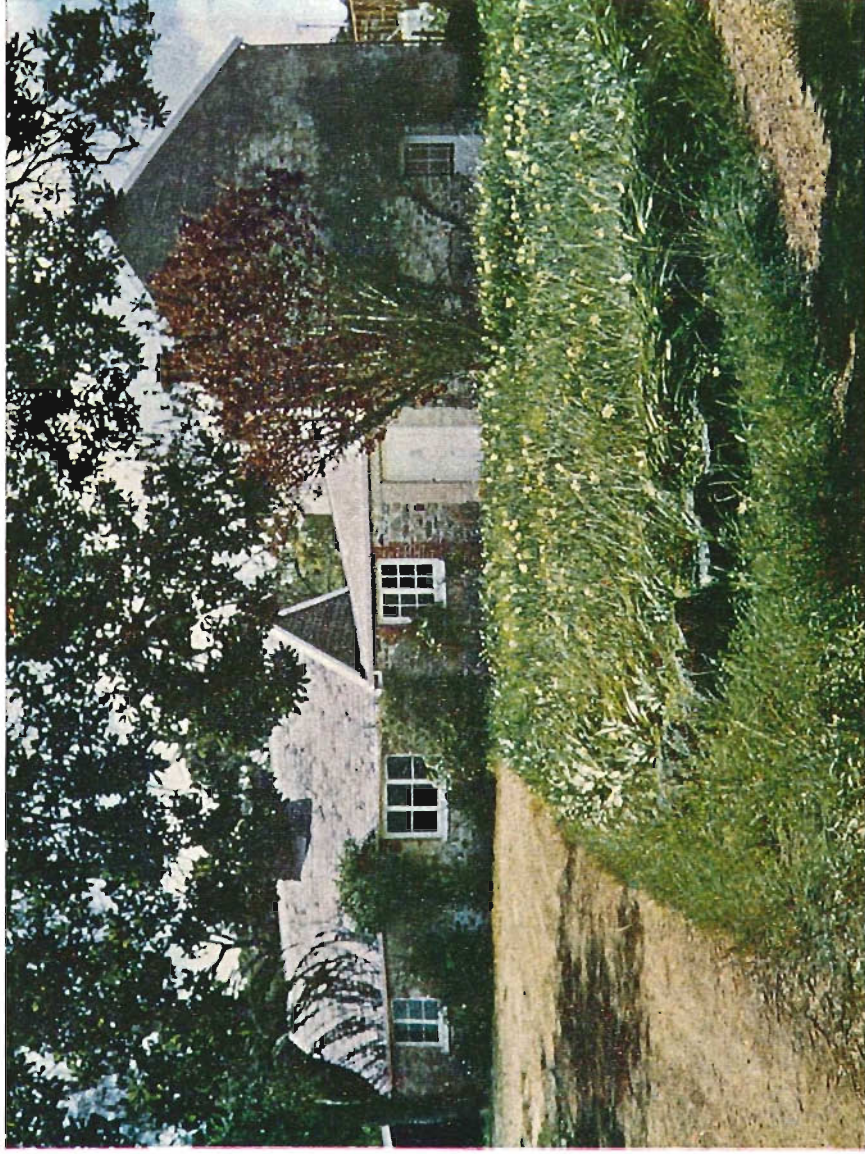
#### HISTORICAL AND MARITIME MUSEUM, FREMANTLE

This building is considered to be among the best examples of Colonial Gothic architecture in Australia. Originally a mental asylum, it was built by convict labour in 1855-1857. From 1909 until 1942 it was used as a home for aged women and in more recent years it was an annexe to John Curtin High School. The building has been restored and was officially opened by the Governor-General in October 1970 as a branch of The Western Australian Museum. It has two floors with twelve display rooms and galleries, which have been named after ships significant in the State's maritime history.



THE OLD FARM  
STRAWBERRY HILL  
ALBANY

A government farm established at King George Sound in 1827, the first property to be farmed in Western Australia, was sold to Captain Sir Richard Spencer, R.N., K.C.H., on his arrival in 1833 to become Government Resident at Albany. He built the present two-storey house at Strawberry Hill in 1836. The property was vested in the National Trust of Australia (W.A.) in 1963. It has been restored, furnished as a typical Western Australian colonial house, and opened to the public for inspection.



Block by courtesy of the  
Western Australian Tourist Development Authority

The books in all public libraries in the State are supplied by the Board and remain its property. A fixed proportion, depending on its size, of the stock of every library is exchanged at least every two months. All books are catalogued and fully prepared for use before being issued to public libraries and the Board maintains all the central stock records.

A catalogue in book-form of the books, arranged by subjects, in all libraries is published annually by the Board and supplied to all public libraries throughout the State. This facilitates access by library users to the whole stock of the Board, through any library. Inter-library loans both between public libraries and between other types of library in the State are organised through the Request and Information Service. The State Bibliographical Centre, housed in the State Library building, is also available to the public. It is equipped with catalogues of the State Library and all other libraries in the service, a union catalogue of books and serials in non-public libraries in the State and a world-wide range of printed bibliographies, indexes to periodicals and subject guides.

The library service of Western Australia thus consists of the State Library, which functions as the reference division of the service, the Central Music Library, and a number of independent public libraries which are jointly supported by local authorities and the Board.

### **The State Library of Western Australia**

The original Library was established in 1887 as the Victoria Public Library in commemoration of Queen Victoria's Golden Jubilee. It became known later as the Public Library of Western Australia and in 1955 as The State Library of Western Australia.

In addition to providing reference library facilities for the metropolitan area, its service extends throughout the State, through the agency of a local public library wherever possible but also by post direct to country inquirers not in contact with a local library.

It is divided into five specialist subject units, comprising four libraries and one centre. The J. S. Battye Library of West Australian History was developed from the former Archives Branch. All material relating to Western Australia, including the State archives, has been concentrated in this library. The other libraries are The Library of Business, Science and Technology, The Library of Social Sciences, Philosophy and Religion and The Library of Literature and the Arts. The Information Centre is equipped with current Australian and overseas telephone and trade directories, business guides, commercial publications and a wide variety of similar quick reference material. The Centre is designed principally to provide immediate answers to inquiries, mainly in the commercial field. Current newspapers, which include all those published in Western Australia, the main ones from other Australian States and a representative selection from overseas countries, are available for reference in the Information Centre.

The State Library is fully equipped with micro-film and photo-copy apparatus and copies of material are available on payment of an appropriate fee.

The Central Music Library, situated in the State Library building, lends musical scores to persons or bodies throughout the State but lends books on music only through other libraries. It also provides a reference service in the field of music.

### **Local Public Libraries**

At 30 June 1971 there were 133 local public libraries associated with the Library Board's service. The local government authorities conducting these libraries provide accommodation and staff, while the Library Board provides all the books and bibliographical services. The administrative independence of the local libraries is secured under the provisions of the *Library Board of Western Australia Act, 1951-1965*. Apart from exercising a statutory obligation in respect of the expenditure of State subsidies, the Board takes no direct part in the administration of local public libraries. If the Board's expenditure in respect of a local library exceeds that of the local authority, an amount to equalise the expenditure is payable to the Board by the local authority. Books are pro-



vided on a minimum basis of one volume per head of the population of the district concerned and all non-fiction books in public libraries throughout the State are made available on request to the Board at any library associated with its library service.

### THE WESTERN AUSTRALIAN MUSEUM

The Western Australian Museum has developed from two earlier collections. One of these, the museum of the Swan River Mechanics' Institute, was founded by public subscription in 1860, and the other, the Geological Museum at Fremantle, was started in 1881. In 1889 the contents of the Geological Museum were moved to the former Perth Gaol (which is still part of the Western Australian Museum) and a Curator was appointed in 1891. In the following year the museum of the Swan River Mechanics' Institute was purchased, and the collections combined to form the Public Museum which, in 1897, became known as the Western Australian Museum.

Under the provisions of the *Museum Act, 1969* The Western Australian Museum is governed by seven Trustees appointed by the Governor. The staff includes a Director, a Deputy Director, two Senior Curators, eleven Curators and other professional and technical staff, and is grouped functionally within Divisions of Natural Science and Human Studies and a small administrative and service unit.

The headquarters of The Western Australian Museum and its principal display galleries are situated in Perth. A branch of The Western Australian Museum containing maritime and historical displays was established at Fremantle in 1970. It is governed by a Committee of Management appointed by the Minister responsible for the Museum Act.

The work of the Museum relates mainly to natural sciences and human studies. It contains collections devoted to zoology, palaeontology, meteorites, archaeology, anthropology, history, technology and military exhibits. Emphasis in both display and research is on the fauna and the human population, past and present, of Western Australia. There is an extensive scientific library which also houses the library of the Royal Society of Western Australia. Research within the Division of Natural Sciences is related specifically to the marine fauna, mammals, birds, reptiles, insects and fossils of the State. The Division of Human Studies is concerned with prehistoric archaeology and art, Aboriginal material culture, colonial history, maritime history, underwater archaeology, industrial and agrarian technology, and arms and armour.

The *Museum Act, 1969* allows the trustees to assist in establishing and maintaining municipal museums. The Museum's role is mainly to assist by making available the expertise of its own staff in designing layout, advising on material and restoration problems, and lending showcases and material.

The Museum is an active educational instrument. Members of the scientific staff lecture in Adult Education programmes and in the University departments. Public lectures are held and there is also an extensive programme of nature study for children. A children's centre, staffed by a Museum teacher provided by the Education Department, is open during school holidays. Children voluntarily participate in general knowledge tests and other exercises designed for vacation activities. Regular classes are held during school terms, and special visits are made by children from schools not included in the regular series.

The Museum Act specifically vests in the Museum six ships wrecked off the Western Australian coast in the 17th and 18th centuries. It also makes provision for the vesting of any other ship abandoned, wrecked or stranded before 1900 and lying in territorial waters of the State, if the Director is of the opinion that the wreck is of historical, scientific, archaeological, educational or other special national or local interest. It is further provided that every meteorite situated on land vested in the Crown shall be the property of the Museum.

In connection with its work of education, research and conservation, the Museum is often called upon to act in an advisory capacity to Government departments. In particular, senior staff serve on committees formed for the purpose of protection of native fauna and the preservation of Aboriginal sites and artefacts. The Museum is assisted in certain fields by Honorary Museum Associates, some of whom serve on Advisory Committees.

## THE WESTERN AUSTRALIAN MUSEUM

| Particulars                                         | 1966-67    | 1967-68 | 1968-69 | 1969-70  | 1970-71 |
|-----------------------------------------------------|------------|---------|---------|----------|---------|
| Expenditure—                                        |            |         |         |          |         |
| Salaries and wages .....                            | \$ 137,701 | 159,318 | 184,820 | *225,059 | 353,109 |
| Other .....                                         | \$ 60,016  | 62,063  | 80,477  | *140,861 | 224,100 |
| Total .....                                         | \$ 197,717 | 221,381 | 265,297 | *365,920 | 577,209 |
| Square feet of—                                     |            |         |         |          |         |
| Display area (a) .....                              | 16,750     | 6,832   | 6,832   | 6,832    | 10,500  |
| Storage area (a) .....                              | 11,400     | 11,400  | 11,400  | 16,850   | 16,000  |
| Total .....                                         | 28,150     | 18,232  | 18,232  | 23,682   | 26,500  |
| Number of—                                          |            |         |         |          |         |
| Staff (a)—                                          |            |         |         |          |         |
| Full-time—                                          |            |         |         |          |         |
| Professional .....                                  | 11         | 11      | 11      | 21       | 33      |
| Administrative and clerical .....                   | 7          | 8       | 8       | 9        | 16      |
| Other .....                                         | 25         | 29      | 31      | 35       | 44      |
| Honorary .....                                      | .....      | 2       | 2       | 2        | 4       |
| Total .....                                         | 43         | 50      | 52      | 67       | 97      |
| Man-days spent on field work .....                  | 431        | 741     | 901     | 501      | 2,084   |
| Guide lectures to school parties .....              | 449        | 351     | 530     | 519      | 457     |
| Children attending lectures .....                   | 16,752     | 13,272  | 19,738  | 18,451   | 16,421  |
| Children's Centre school vacation attendances ..... | 35,779     | 32,846  | 36,883  | 40,881   | 25,037  |
| Total visitors' attendances (b) .....               | 136,372    | 143,377 | 124,416 | 141,998  | 232,734 |

(a) At 30 June.

(b) Including attendances of school children.

\*Revised.

## THE WESTERN AUSTRALIAN ART GALLERY

The Western Australian Art Gallery is under the control of a Board of five members appointed by the Governor under the provisions of the *Art Gallery Act, 1959-1968*.

## THE WESTERN AUSTRALIAN ART GALLERY

| Particulars                        | 1966-67    | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|------------------------------------|------------|---------|---------|---------|---------|
| Expenditure—                       |            |         |         |         |         |
| Salaries and wages .....           | \$ 44,129  | 50,195  | 50,715  | *68,564 | 88,201  |
| Acquisition of exhibits .....      | \$ 36,857  | 29,945  | 41,041  | 112,009 | 46,014  |
| Special exhibitions .....          | \$ 2,662   | 12,090  | 5,745   | 10,771  | 11,690  |
| Printing .....                     | \$ 9,697   | 11,784  | 6,384   | 8,324   | 7,380   |
| Other .....                        | \$ 15,078  | 18,639  | 23,029  | *23,951 | 21,537  |
| Total .....                        | \$ 108,423 | 122,653 | 126,914 | 223,619 | 174,822 |
| Number of—                         |            |         |         |         |         |
| Staff (a)—                         |            |         |         |         |         |
| Full-time—                         |            |         |         |         |         |
| Professional .....                 | 3          | 4       | 3       | 3       | 3       |
| Administrative and clerical .....  | 4          | 4       | 4       | 5       | 5       |
| Other .....                        | 7          | 7       | 10      | 12      | 10      |
| Honorary .....                     | 4          | 4       | 5       | 5       | 3       |
| Total .....                        | 18         | 19      | 22      | *25     | 21      |
| Exhibits for display (a)—          |            |         |         |         |         |
| Oil paintings .....                | 455        | 464     | 470     | 482     | 499     |
| Water colour paintings .....       | 194        | 194     | 196     | 206     | 207     |
| Drawings .....                     | 419        | 422     | 426     | 438     | 453     |
| Engravings, prints, woodcuts ..... | 1,124      | 1,148   | 1,176   | 1,300   | 1,354   |
| Sculptures .....                   | 46         | 51      | 56      | 57      | 67      |
| Ceramics .....                     | 405        | 405     | 427     | 427     | 430     |
| Jewellery, medallions, coins ..... | 800        | 804     | 827     | 831     | 834     |
| Other .....                        | 60         | 210     | 234     | 265     | 272     |
| Total .....                        | 3,503      | 3,698   | 3,812   | 4,006   | 4,116   |
| Special exhibitions .....          | 12         | 12      | 7       | 10      | 7       |
| Visitors' attendances .....        | 113,631    | 109,242 | 126,786 | 121,718 | 118,059 |

(a) At 30 June.

\*Revised.

The Gallery occupies part of a building shared with the Museum. The lower gallery is used mainly for lectures, art films and the display of interstate and overseas exhibitions. Works from the permanent collection are exhibited in the upper gallery, while the print

room is used to house and exhibit the collection of prints and drawings. Both displays are changed regularly. Important pieces of sculpture are on permanent display in both galleries and in an exterior courtyard designed for this purpose. Aboriginal grave and tribal posts, carvings and paintings are on permanent display in the upper gallery.

At 30 June 1971 the area available for display was 9,000 square feet, and for storage 6,100 square feet.

The Gallery has extended its services throughout the metropolitan area and country districts. Branch gallery facilities exist at the Cultural Centre in Derby where an exhibition of paintings from the permanent collection is displayed and changed each year. Reproductions of paintings are circulated by means of its loan service to various public institutions, and touring exhibitions from the permanent collection are taken to country districts at regular intervals.

These activities are supplemented by publications of various kinds, which are distributed to schools and other institutions or direct to the public. Reproductions of some works in the collection are also available.

The Art Gallery operates a general information service which is widely used and tours of the Gallery are conducted for organised groups of adults, students and school-children. Children's art classes, which are supervised by the Gallery's education officers, are held during school holidays.

Members of the professional staff are called upon to judge exhibitions, give public lectures, and sit on various planning and advisory committees.

### STATE GOVERNMENT OBSERVATORY

The Perth Observatory was established in 1896, on the site now occupied by an administrative office building of the Western Australian Government, facing the main entrance to King's Park.

The buildings of the present Perth Observatory, near Bickley in the Darling Range, were officially opened on 30 September 1966.

The astronomical instruments at the Observatory are a photographic refractor of thirteen inches aperture, the Hamburg Observatory's seven-inch meridian transit telescope, and the Lowell twenty-four inch reflector. A sixteen-inch reflector, constructed by the Physics Department of the University of Western Australia, is also in operation at the Observatory site.

The photographic reflector is used for investigations of stellar motions based on measurements of old (1900-1920) and recent photographs; the recovery of minor planets which have been unobserved for several years; positional observations of the brighter comets and investigations of comet orbits; and securing photographs, to a faint magnitude limit, of significant areas of the southern sky, for future use in determinations of stellar motions.

From late in 1967 to the end of 1971, a team of astronomers from the Hamburg (West Germany) Observatory carried out a programme of observations of the positions of fundamental stars in the southern hemisphere. Their fully-automated meridian transit telescope is to remain at Bickley for a few years and staff of the Perth Observatory will continue programmes in this field, which is basic to all work in positional astronomy.

The 24-inch reflecting telescope was installed at the beginning of April 1971. It is used for observations in the International Planetary Patrol Program, which is financed by the National Aeronautics and Space Administration of the United States of America and conducted by the Lowell Observatory, of Flagstaff, Arizona, U.S.A. This programme involves the photography, with identical cameras at seven observatories, well distributed in longitude, of the planets Venus, Mars and Jupiter. Each planet is photographed, through four standard colour filters, systematically throughout the period during which it is available. The purpose of this programme is to study temporal variations in the atmospheres and surface features of these planets.

The United States Naval Observatory, at Washington, D.C., plans to bring to Bickley a twin eight-inch telescope, with which a series of photographs covering the entire southern sky are to be obtained simultaneously on blue and yellow-sensitive plates. This survey, which is the follow-up to that of the Hamburg Observatory, will result in the determination of precise positions and (through comparison with older catalogues) motions of about 200,000 southern hemisphere stars. The telescope has recently been completed and is under test at Washington.

The Observatory maintains the time service for the State. It is open to visitors daily, except Saturdays, at 3 p.m. Night visits are arranged for groups with a specialised interest in astronomy.

### STATE GOVERNMENT CHEMICAL LABORATORIES

In 1922 the various chemical services of the State Government were amalgamated to form the Government Chemical Laboratories, primarily for the performance of chemical work required by Government departments. In addition, the Laboratories serve government instrumentalities and semi-government authorities and undertake some chemical work for the general public. The activities of the Laboratories are organised under six Divisions, the separate functions of which are described briefly in the following summary.

The *Agriculture Division* does analytical work, on soils, for basic research, the effect of fertilisers, cultivation methods and crop rotation; on plants, as fodders for livestock and also to assess the nutritional requirements of plants with particular reference to the use of fertilisers and the correction of trace element deficiencies; on fertilisers and manures generally; and on animal tissues for diagnostic purposes.

The *Engineering Chemistry Division* is concerned mainly with research into the utilisation of the State's natural resources, particularly fuel and mineral resources. Investigations are carried out on specific technological problems at the request of Government, industry, or individual sponsors, or are initiated from within the Division. Facilities are available for physical and chemical testing of coals and other fuels and for experimental work on most aspects of fuel utilisation, ore dressing, chemical engineering and metallurgical processing.

The *Food, Drugs, Toxicology and Industrial Hygiene Division* deals with the analysis of foods, including milk; drugs; police work, including human and animal toxicological examinations for poisons and analysis of blood and urine for alcohol concentration; industrial hygiene, including determinations relating to the amount of potentially harmful substances present in industrial and commercial materials or associated with working conditions; and industrial effluents and pollution surveys of river and ocean waters.

The *Industrial Chemistry Division* provides, for Government, industry and the public generally, a source of technical information and advice on matters relating to industry and its products. It also advises on the potential of new methods or improvements in existing processes, and undertakes related experimental investigations.

The *Mineralogy, Mineral Technology and Geochemistry Division* is basically concerned with minerals, their occurrence and identification, but it also carries out the testing of clays and of aggregates for cement and concrete work, as well as corrosion and other tests. Analyses are done for the Geological Survey Branch of the Department of Mines in connection with mineral surveys, notably those for copper and iron. This Division is also the reference laboratory for analyses of crushings of gold ores by the State Batteries. An important part of its work is the identification of mineral specimens forwarded by prospectors and others and the Division deals with many hundreds of such samples every year.

The *Water Division* analyses waters from all parts of the State for Government and the public and makes recommendations on their suitability for specific purposes. Most of the work is done on behalf of the Metropolitan Water Supply, Sewerage, and Drainage Board and the Department of Public Works, to ensure that water supplies under their control comply with the accepted standards of water for human consumption. The

Division also investigates problems associated with water distribution and industrial use, including cooling and heating waters and liquid wastes where corrosion, scaling or pollution are involved.

Details of the operations of the Government Chemical Laboratories are published in the Annual Report of the Director.

#### THE INSTITUTE OF AGRICULTURE, UNIVERSITY OF WESTERN AUSTRALIA

The Institute of Agriculture was established in 1938 within the University to provide research facilities and staff essential for the effective training of professional agricultural scientists at both undergraduate and graduate levels. It includes the teaching and examining Faculty of Agriculture, and the research staff associated with it. Although the Institute is financed to some extent from University funds, substantial research grants from producer organisations and other bodies and individuals interested in the promotion of agriculture have made possible most of the research that has been undertaken since its establishment.

During the first ten years of its existence, and despite the dislocation of the war years, it initiated research on plant and animal problems of the pastoral areas, commenced a series of fundamental studies related to the nutrition of ruminants, investigated factors affecting the baking quality and nutritive value of wheat and flour, elucidated factors affecting the fertility of sheep, and carried out a series of economic surveys of the sheep, wheat, dairying, pig, and poultry industries. The work of these years is summarised in the report of the Director, published in 1949.

Since 1948 the research programmes have been greatly increased and their scope widened. Plant breeding, selection and genetical research aimed at increasing the productivity and extending the climatic limits of crops and pasture legumes, especially subterranean clovers, medics and lupins, was strongly developed and fundamental studies initiated on the nutritional physiology and microbiology of the wool sheep with particular reference to the factors influencing the utilisation of protein, of urea and of low-quality roughages. The agronomic research has been expanded to include cereal genetics studies, and the animal research to include nutritional studies with beef cattle. In recent years studies in mineral metabolism, especially sulphur, phosphorus, cobalt and zinc, have been initiated.

More detailed economic surveys of the wheat-sheep farming industry and of the butterfat producing and whole-milk producing industries have been carried out, together with studies of the comparative advantages of forestry and agriculture in parts of the south-west of Western Australia, and studies of egg-marketing problems. In 1961 the John Thomson Agricultural Economics Centre was set up within the Institute with funds supplied by banks, business houses and other organisations. The research economists of this Centre have completed an economic appraisal of irrigation from the Gascoyne River, an inter-industry comparison of the economy of Western Australia, and an investigation of farm population and land development potential in Western Australia. In 1967 a Farm Management Service Laboratory was set up as a service to farmers.

In 1963 a Department of Soil Science and Plant Nutrition was established within the Institute with a very strong research group engaged in studies of soil physics, soil chemistry, soil microbiology and plant nutrition. The soil microbiology workers are mainly concerned with a continuation of earlier research into nodulation problems in legumes and the nitrogen-fixing process. The plant nutrition group has devoted particular attention to the uptake by crop and pasture plants of mineral nutrients, especially potassium, phosphorus, copper, zinc and manganese. The soil chemistry workers are specially concerned with the chemistry of soil organic matter, and the soil physics group with the role of the clay minerals in soil, with soil water, and the movement and retention of soil phosphorus and sulphur.

In 1966 a Department of Agronomy was established within the Institute. The research activities of the staff of this Department include the work in plant breeding mentioned previously and have been expanded to cover investigations into plant-water relations

and agricultural climatology. A Department of Agricultural Economics and a Department of Animal Science and Production were established within the Institute early in 1971.

This brief review of the very wide range of the research activities of the Institute of Agriculture, at both the fundamental and at the more applied level, illustrates the extent to which it contributes to the assistance and service of the rural industries, indirectly by its training of agricultural scientists and directly through its manifold research projects.

## COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION

Several Divisions of the Commonwealth Scientific and Industrial Research Organization are actively engaged in research work in Western Australia.

**Division of Soils.** The Division of Soils has in the past been concerned with soil-distribution studies in areas representative of the main types of agricultural land usage in Western Australia. Regional studies to build up a picture of the soil pattern of the whole State have also been made, and have been published as part of the *Atlas of Australian Soils*. More recently, field studies have been aimed at a better understanding of the whole soil environment as a basis for the investigation of specific problems. One such project involves the way in which the natural balance has been upset by agricultural development involving the replacement of deep-rooted, perennial shrubs and trees by shallow-rooted, annual crops and pastures. This change has frequently resulted in increased salinity of both soils and waters, and is of particular consequence where it affects catchments of reservoirs storing water for urban, industrial or agricultural purposes.

The Division is also concerned with the nutrition of a wide variety of crops, including cereals, pastures and forest trees. Yield responses of wheat to fertiliser treatments, over a wide range of soils and climatic conditions throughout the agricultural areas, are being investigated. The fertiliser requirements of annual pastures in higher-rainfall areas, and of exotic pines on both the lateritic soils of the Darling Range and the infertile sands of the Swan Coastal Plain, are also being investigated. Chemical analyses of the large number of both soil and plant samples, which are an essential part of these studies, have been facilitated by the development of automated laboratory facilities at the Western Australian Laboratories.

**Division of Plant Industry.** The Division of Plant Industry in Western Australia, while continuing work in animal production with emphasis changing towards meat production in sheep and cattle, has increased its efforts in crop research. There has also been an increase in the use of systems analysis for studying farming systems and farming practices.

The environmental limitations to production of a variety of crop plants and to pastures is being studied in the high rainfall areas of the South-West. Also, limitations in animal production due to nutrient deficiencies, or imbalances, and to toxicities in both pastures and crop residues are being examined.

In pastoral agronomy the conversion of plant material into animal products is being studied with the aim of increasing the efficiency of animal production. In ley agronomy, problems of crop production are being studied in addition, and relative to, the pastoral agronomy aim of increasing animal production. Research in both pastoral agronomy and ley agronomy is orientated towards the better understanding of all the factors involved in pasture, crop and animal production and of their relative importance in agricultural systems. Mathematical models of components of agricultural systems and of a ley farming system are being developed.

A special feature of the Division's programme in Western Australia is the research on the deep sands of the Swan Coastal Plain. At present much of this area of some 3 million acres has a low level of agricultural production, but there are large volumes of underground water available and a programme of irrigation research has been undertaken.

Initial results with both crops and pastures indicate a very high potential productivity. Emphasis is now being given, however, in both dryland and irrigation research, to crop production.

**Division of Entomology.** Biological control of two serious pasture pests, the red-legged earth mite and the lucerne flea, is the aim of a long-term study of the ecology and population dynamics of these pests which was commenced in 1952. The work has led to an understanding of the process involved in regulating numbers and has revealed the likely occurrence of agents for biological control. Two useful predatory mites were discovered in Europe and North Africa, and attempts to establish them in Western Australia (and also in South Africa) are now being made. Detailed taxonomic studies of the families Bdellidae and Anystidae, to which these mites belong, as well as the host family Sminthuridae, have been necessary, and this is in progress.

Jarrah is a most important source of timber in Western Australia. The foliage of this tree is attacked by the jarrah leaf miner, the larva of a small moth. The extent and intensity of this infestation seems to have increased in recent years, and in 1967 a detailed ecological study was commenced. Special attention is being paid to the possible effects on the environment of various silvicultural methods, including controlled burning and its influence on the natural control of the leaf miner by parasites and predators.

A programme of research into the pest insects of pome fruit orchards was started in 1968. The programme is designed to gather data for comparison with results obtained in eastern Australian orchards, and to provide a detailed understanding of the life system of San Jose scale.

In 1969-70 a large-scale field test of a granulosus virus of potato tuber moth was carried out in the lower south-west. The test was successful and the study has been expanded to give data relating to the epidemiology of the virus, the ecology of potato tuber moth, and the role and status of other pests of potatoes.

**Division of Mathematical Statistics.** Officers of the Division of Mathematical Statistics are concerned with the application of statistical methods to special problems of local interest in the fields of the applied and biological sciences. In addition, they act in an advisory capacity to other research workers in the State on matters relating to the design of experiments and the analysis and interpretation of data.

**Division of Computing Research.** The Division of Computing Research provides a computing service for research workers in other Divisions. Computing equipment installed includes key punch machines and a remote Batch computer terminal.

**Division of Mineralogy.** The Division of Mineralogy is concerned mainly with research having a bearing on the mineral industry. The main theme of the laboratory work of the Division is concerned with the elucidation of the chemical and physical nature of the geological processes of mineral formation and alteration. This work is directed towards helping to meet the special challenge of mineral exploration in inland areas, where rock outcrop is scarce and so much of the geology is obscured by the ubiquitous soil cover. Studies are in progress on processes of ore genesis, on the haloes of alteration around ore bodies and on possible methods of recognising indicators of ore bodies that can survive the process of weathering.

The laboratory, in addition, is acting as a link between manufacturing industry in Western Australia and physical, chemical and metallurgical divisions of the Commonwealth Scientific and Industrial Research Organization.

**Division of Wildlife Research.** The Division of Wildlife Research, located at Helena Valley, is concerned with investigations on the higher vertebrates (more particularly mammals and birds) and these cover not only species of economic importance but the native fauna generally. The Division played a part, in association with the Department of Agriculture, in the control of rabbits by the introduction of the disease myxomatosis, and carried out a basic research project on the control of the Euro (a species of kangaroo) in the Pilbara district.

Among birds, studies of the ecology of the Emu, the Wedge-tailed Eagle in the pastoral zone, the White-tailed Black Cockatoo, the Noisy Scrub-bird, and the Galah are proceeding. Other current projects include experimental and field studies on the factors controlling breeding seasons of birds under Western Australian conditions. The Division organises the Australian Bird-Banding Scheme.

**Division of Fisheries and Oceanography.** The Division of Fisheries and Oceanography has supplied the project leader for the Western Fisheries Research Project set up co-operatively by the Commonwealth Scientific and Industrial Research Organization, the Department of Primary Industry, the State fisheries authorities of Western Australia and South Australia, the Zoology Department of the University of Western Australia, and The Western Australian Museum. At present, the research includes work on rock lobsters (crayfish), marron, prawns, scallops, tuna, whiting, trout and whales, and also on marine sedimentation and Haliotids (abalone). Officers of the Division are stationed at Perth to participate in the research on rock lobsters. Using a naval frigate and a research vessel of the Western Australian Department of Fisheries and Fauna, the Division is continuing work on the physico-chemical and biological oceanography of the eastern Indian Ocean. The Division has helped to equip and staff a fisheries research laboratory built by the Government of Western Australia on the coast near Perth and opened in October 1968.

**Division of Applied Geomechanics.** With the increase in the number and size of buildings constructed in the central area of Perth, the problems of foundation design have been accentuated. At the invitation of the Western Australia group of the Australian Geomechanics Society, the Division established an office in Perth in 1969 to carry out a geo-technical survey of the occurrence and foundation characteristics of the soils of the Perth metropolitan area and to co-ordinate the presentation of relevant data.

All available bore-hole data for the city centre area have been gathered, collated and published in a report. It is planned that this survey will be extended to cover the whole area of metropolitan Perth.

Many of the new buildings in Perth are, or will be, founded on reinforced concrete rafts. Due to the soil conditions and the uncertain effects of earthquake shocks on foundations, adequate design data are often not available. The Division has therefore undertaken a project to provide data on the performance of the rafts for two large buildings in the city area, the Reserve Bank building and the St Martin's City Centre. Measurements are being made of the contact stresses at the soil-raft interface, pore water pressures, total settlement and deflected shape of the raft, vertical and lateral soil movement, column loads imposed on the rafts and the stresses and strains within the rafts.

**Division of Food Research.** The Meat Research Laboratory of the Division of Food Research has an extension officer located in the laboratories of the Western Australian Department of Agriculture at South Perth. The officer is a member of the Meat Laboratory's Industry Section. This Section is responsible for service, investigation, liaison and extension work in meat works and meat processing establishments, to ensure that the results of investigations made by the Commonwealth Scientific and Industrial Research Organization are known and applied. The officer located in Perth will serve the works in Western Australia and in the Northern Territory.

**Division of Animal Health.** The Parkville (Victoria) Laboratory of the Division of Animal Health is concerned mainly with research into diseases of farm animals. A Branch of the Laboratory has been set up in the Institute of Agriculture at the University of Western Australia to investigate reproductive losses in sheep in Western Australia, with particular reference to pathological aspects of clover disease and possible infectious causes of infertility.

**Other Activities.** Besides the research work being conducted at Perth and associated field stations, various co-operative programmes are under way in University departments and in the Western Australian Department of Agriculture. The Commonwealth Scientific



and Industrial Research Organization and the Western Australian Department of Agriculture jointly operate at the Kimberley Research Station, where crop and pasture problems of the northern areas are under investigation.

## DEPARTMENT OF AGRICULTURE

Reference to the scientific work of the Department of Agriculture appears in the section *The Department of Agriculture* in Chapter VIII, Part 1—*Primary Production*, and also in Chapter VII, Parts 1 and 2.

## BOTANIC GARDEN

The Botanic Garden was established in The King's Park in 1962 and is under the control of the King's Park Board (see following section *Public Parks and Reserves*). The Botanic Garden is the counterpart of The Western Australian Museum in the botanical field, maintaining collections of living plants for scientific and educational purposes. Its official objects are to foster public interest in the conservation and cultivation of the Western Australian flora; to contribute to public education in this field; to become a centre for botanical and horticultural research in the flora of Western Australia; to provide a major tourist attraction; and to foster public interest in botany and horticulture.

The Garden, which was officially opened in October 1965, extends over eighty-four acres, made up of the Western Australian collection (forty-two acres), Californian, South African and Mediterranean collections (seven acres), and an arboretum of Western Australian native trees (thirty-five acres). The indigenous flora of the State is represented in the Western Australian collection by approximately 1,200 species which have been successfully brought to maturity. Trees native to the southern half of the State are grown as specimens in the arboretum.

Parties from the Botanic Garden are regularly in the field for the collection of propagating material, and contribute to the botanical exploration of the State. Special attention is devoted to locating rare species or species threatened with extinction. Seed of native plants collected is distributed from surplus stocks to botanical institutions throughout the world and sold to private growers and to nurserymen. A seed list, which normally offers from 1,000 to 1,300 species, is published annually, and about 15,000 packets of seed are distributed each year.

Experimental work in propagation of native plants is carried out and information acquired is passed on to growers through State branches of the Society for Growing Australian Plants, using the medium of the Society's Journal. Within Western Australia, members of the staff lecture and demonstrate and the nursery is opened to conducted parties at intervals. A Wildflower Exhibition is held in the Park each spring. Facilities are provided for the employment and training of students enrolled in the three-year course for the Certificate of Horticulture and Park Administration, which is conducted by the Technical Education Division of the Education Department.

## PUBLIC PARKS AND RESERVES

It is within the power of the Governor to dispose of, in any manner which serves the public interest, lands which are vested in the Crown and, in terms of this authority, Crown land is frequently reserved by order of the Governor for a variety of public purposes. Some of this land is reserved for public recreation and amusement, national and other public parks, or flora and fauna sanctuaries and the reserves are controlled by statutory bodies, the more important of which are dealt with in this section.

The *National Parks Board of Western Australia* controlled thirty-two National Parks and a number of other reserves at 30 June 1971, totalling in all about 3.6 million acres in area. Flora and fauna are protected and firearms prohibited in all National Parks and Reserves controlled by the Board. Picnic, recreational, camping and caravan facilities are available in certain parks and reserves.

NATIONAL PARKS BOARD OF WESTERN AUSTRALIA  
PARKS AND RESERVES VESTED IN THE BOARD AT 30 JUNE 1971

| National Park or Reserve                        | Area      | National Park or Reserve                  | Area      |
|-------------------------------------------------|-----------|-------------------------------------------|-----------|
|                                                 | acres     |                                           | acres     |
| Albany Boronia Reserve .....                    | 112       | Nambung .....                             | 39,991    |
| Alexander Morrison .....                        | 21,014    | Nowergup Lake Fauna Sanctuary .....       | 288       |
| Araluen-Canning Dam Reserve .....               | 50        | Neerabup .....                            | 2,785     |
| Avon Valley .....                               | 10,754    | Penguin Island Reserve .....              | 31        |
| Cape Arid .....                                 | 642,000   | Porongurup .....                          | 5,531     |
| Cape Le Grand .....                             | 54,876    | Serpentine .....                          | 1,571     |
| Cape Range .....                                | 33,171    | Sir James Mitchell .....                  | 2,702     |
| Chichester Range .....                          | 372,163   | Stirling Range .....                      | 285,874   |
| Cowaramup Bay Reserve .....                     | 167       | Tammin Flora Reserve .....                | 1,441     |
| East Perth Cemetery Reserve .....               | 12        | Tathra .....                              | 10,761    |
| Frank Hann .....                                | 64,480    | Torndirrup .....                          | 8,905     |
| Geikie Gorge .....                              | 7,750     | Walpole Flora Reserve .....               | 228       |
| Gooseberry Hill .....                           | 81        | Walpole-Nornalup .....                    | 33,007    |
| Greenmount .....                                | 127       | Walyunga .....                            | 4,320     |
| Haddleton Flora Reserve .....                   | 406       | Watheroo .....                            | 76,646    |
| Hamelin Bay Reserve .....                       | 2,063     | William Bay .....                         | 4,644     |
| Hamersley Range .....                           | 1,458,430 | Wolf Creek Meteorite Crater Reserve ..... | 3,607     |
| John Forrest .....                              | 3,903     | Yalgorup .....                            | 9,891     |
| Kalamunda .....                                 | 919       | Yallingup Reserves .....                  | 4,659     |
| Kalbarri .....                                  | 365,145   | Yanchep .....                             | 6,894     |
| Lesmurdie Falls .....                           | 86        | Yanchep Flora Reserves .....              | 439       |
| Matilda Bay Reserve .....                       | 57        | National Park near Porongurup             |           |
| Moore River .....                               | 26,030    | Range (a) .....                           | 150       |
|                                                 |           | National Park south-east of Stirling      |           |
|                                                 |           | Range National Park (a) .....             | 3,161     |
| Total area of National Parks and Reserves ..... |           |                                           | 3,571,369 |
|                                                 |           |                                           | (b)       |

(a) Not officially named at 31 December 1971.

(b) Excludes a number of small reserves, totalling 46 acres, not listed above.

The *Emu Point (Albany) Reserve Board* controls a reserve containing an area of approximately 1,108 acres at Emu Point near Albany, which has been developed for recreation, camping and residential purposes. A hostel, two camping and caravan parks and a motel provide accommodation. Pen facilities are available for small boats and mooring areas are provided for professional fishing boats.

The *King's Park Board* administers an area of almost 1,000 acres close to the centre of Perth. Part of this area was dedicated in 1872 'for the purpose of a public park and recreation ground' and was enlarged in 1890. Beautification commenced in 1896 under the presidency of Sir John Forrest, and the name was changed in 1901 from Perth Park to The King's Park in honour of the accession of King Edward VII. In addition to its original function as park and recreation ground, The King's Park has over the years gradually developed two other important functions, as a National Shrine and as a Botanical Reserve. In the former case it houses the State's most important monuments and commemorative features of a military and historical nature. A memorial to the South African war was built in 1901, and the State War Memorial to the fallen of both world wars was erected on a commanding position on Mount Eliza in 1929 and extended in 1952. 'Honour Avenues' of trees dedicated to individual fallen servicemen were planted in 1919 and later, and another avenue commemorates the State Centenary of 1929. There are smaller memorials erected by individual regiments or other military units, and a number of monuments to important historical personages.

The concept of the botanical reserve grew from the fact that four-fifths of the Park's area remained undeveloped under a natural bushland which contained many native wildflowers. Increasing urbanisation and the loss of natural sites in and close to Perth made the retention of this bushland area a matter of scientific and aesthetic value. This function

was strengthened from 1962 onwards by the establishment in the Park of a botanic garden and arboretum of eighty-four acres for the cultivation and display of Western Australian native plants. (See preceding section *Botanic Garden*.)

Recent developments have continued to contribute to the Park's aesthetic and recreational functions. Facilities exist for playing tennis, bowls and hockey. A fully-equipped modern restaurant was erected in 1956, close to which are tourist attractions including a floral clock, a wishing well and a giant Karri log. There are several public barbecue sites and many miles of pedestrian paths and tracks. The original fifty acres of lawns and shrubberies have been materially extended by the Botanic Garden development. Four new lawns have been added within the Garden, one of which encircles a landscaped water garden with four pools, two cascades and a waterfall, one pool featuring an illuminated fountain dedicated to the pioneer women of the State. In addition to this, a new picnic lawn and children's nature playground have been established around an artificial lake at the western end of the park and linked to older-developed areas by a mile-long vista dominated by a steel viewing tower of unusual design.

The *Zoological Gardens Board* administers the Zoological Gardens at South Perth, an area of forty-four acres of animal enclosures, cages, lawns and gardens. The Zoological Gardens were established in October 1898 for the collection and display of mammals, birds, reptiles and fish from all parts of the world, but specialising in Australian, and particularly Western Australian, fauna. The Zoo is open to the public every day of the year. During the year ended 30 June 1971, 84 species of mammals, 223 species of birds and 39 species of reptiles were exhibited. In this period 423,520 people paid for admission and, in addition, 4,014 disadvantaged children and adults were admitted free.

The *Rottnest Island Board* administers as a tourist and holiday resort a reserve comprising almost the whole of Rottnest Island, which is situated about eleven miles west of Fremantle. The settlement at Thompsons Bay contains cottages and bungalows to let, a hotel, lodge, camping area and all services. Recreational facilities include a golf course, tennis courts, bowling green and a riding school. The coastline is ringed by a road system with access to the various swimming and fishing areas. There is a land-backed wharf and three jetties in Thompsons Bay and jetties at Geordie Bay and Green Island. Special features of the island include the marsupial known as the Quokka and the Rottnest Island Daisy. The island is served regularly by air and sea transport.

*Caves Reserves.* Extensive limestone caves have been discovered at several places in the south-west part of the State. Some of them, between Cape Naturaliste and Cape Leeuwin and at Yanchep, have been developed for public inspection and certain areas of the surrounding land have been reserved, notably at Yanchep, Yallingup, Margaret River and Augusta.

*Local Government Reserves.* Many local authorities hold land for recreational purposes, the areas having been either Crown land vested in the Council, acquired by way of purchase, or received under private bequest. Included in these local government reserves are areas required to be surrendered to the Crown by private owners, when subdividing land into residential lots in order to provide recreation areas for the holders of lots in the subdivision. The reserves are frequently developed as public parks or to provide facilities for sports or camping.

The *State National Fitness Council* controls reserves, used principally as camp sites by youth and sporting groups, at Point Peron on the coast south of Fremantle, at Sorrento (under development) to the north, at Bickley in the Darling Range, and at Guildford about seven miles north-east of Perth.

## *Chapter V—continued*

### **Part 3—Health Services, Hospitals, and Care of the Aged and Disabled**

#### **HEALTH SERVICES**

The Commonwealth and State Government health authorities, together with Boards of Health under local government administration, co-operate in maintaining health services and in the prevention and control of infectious diseases in Western Australia.

#### **Commonwealth Government Services**

The Department of Health is administered, subject to the Minister, by a Director-General of Health. In each State there is a Director of Health responsible to the Director-General. Among the principal functions of the Department are the management of the National Health Services provided under the National Health Act and the administration of the Quarantine Act.

**National Health Services.** National Health Services financed from the National Welfare Fund, to which reference is made on page 236, include hospital and nursing home benefits; medical benefits; pharmaceutical benefits; handicapped children's benefits; the free supply of milk for school children; and the payment of tuberculosis allowances and other forms of assistance in tuberculosis control. (For rates and conditions applying to payment of these benefits see letterpress *National Health Services* on pages 245-50.) Additional expenditure from the National Welfare Fund in relation to health services includes the cost of district health laboratory services, the free supply of certain prophylactic materials and biological products (*e.g.* poliomyelitis vaccine), the supply and maintenance of hearing aids for children, subsidies to various voluntary organisations conducting home-nursing services that are assisted by the State Governments or local government authorities, the supply of artificially produced radio-active isotopes to private medical practitioners and hospitals for medical treatment purposes, and expenses in connection with the blood fractionation plant of the Commonwealth Serum Laboratories.

**Quarantine.** The *Quarantine Act* 1908-1969 provides for the quarantine of humans, animals and plants. Human quarantine is concerned primarily with the procedures necessary to exclude quarantinable diseases, namely smallpox, plague, cholera, yellow fever, typhus fever, leprosy, and such other diseases as may be declared under the Quarantine Act. Animal quarantine regulates the importation of animals and animal products from overseas, and plant quarantine the importation of all plants and plant products, with the object of excluding plant diseases, insect pests and weeds. In respect of interstate movements of animals and plants, the Quarantine Act becomes operative only when it is considered that Commonwealth action is necessary for the protection of any State or States, and in general the control of interstate movements of animals and plants is the responsibility of State Governments.

#### **State Government Services**

The principal Statute relating to the provision and regulation of health services in Western Australia is the *Health Act, 1911-1970*, which is administered, subject to the control of the Minister, by a Commissioner of Public Health. The Act is comprehensive in scope and confers on the Commissioner the powers necessary for the prevention and control of infectious diseases; the enforcement of sanitation, building and pure foods

standards; the control of nuisances and offensive trades; the regulation of the sale of pesticides and the manufacture of therapeutic substances; and the registration of private hospitals and the licensing of maternity homes. Other Acts under Public Health administration are the Anatomy Act, the Clean Air Act, the Cremation Act, the Poisons Act and the Radioactive Substances Act.

The Public Health Department maintains a health laboratory service which provides diagnostic medical laboratory services for a major metropolitan general hospital (Sir Charles Gairdner Hospital), for all those areas of Western Australia not otherwise served by medical laboratories, for government and charitable institutions and for pensioners. A public health epidemiological service is also provided for the State; nutritional, health and other surveys are undertaken; and forensic laboratory work is done for the Police Department and the Crown Law Department. A new central laboratory building is under construction at the Perth Medical Centre being established at Hollywood under the provisions of the *Perth Medical Centre Act, 1966*.

The Health Education Council is established as a statutory body under the provisions of the *Health Education Council Act, 1958-1961*. The Council conducts publicity campaigns and public lectures on matters affecting public health, including home accidents, handling of poisons, poliomyelitis and diphtheria immunisation and the control of flies and mosquitoes.

The Cancer Council of Western Australia is constituted under the provisions of the *Cancer Council of Western Australia Act, 1958-1964* as a statutory body with the functions of co-ordinating, promoting and subsidising research into the cause, diagnosis, prevention and treatment of cancer.

### Infectious Diseases

The *Health Act, 1911-1970* provides for the compulsory notification of infectious diseases and for the application of preventive measures. For the purposes of the Act, infectious diseases are those which are specified in the Act, as well as any other diseases which may, from time to time, be declared. The occupier of premises where such a disease occurs is required to notify the local authority forthwith. The medical practitioner who attends a person suffering from an infectious disease must, on the day on which he becomes aware of the nature of the disease, notify the occupier and also the local authority and the Commissioner of Public Health.

On the appearance of any epidemic, endemic or contagious disease, the local authority is required to notify the Commissioner immediately and to report periodically on the disease. The Act provides for the disinfection and cleansing of premises and for the disinfection and destruction of bedding, clothing or other articles which have been exposed to infection. The Commissioner may require any person suspected to be suffering from, or to be a carrier of, an infectious disease to submit to medical examination.

NOTIFIABLE DISEASES (a)—NUMBER OF CASES NOTIFIED (b)

| Disease                   | 1966 | 1967 | 1968 | 1969 | 1970 |
|---------------------------|------|------|------|------|------|
| Brucellosis ....          | 3    | 2    | 1    | 2    | 2    |
| Diphtheria ....           | 2    | .... | 1    | .... | 2    |
| Infectious hepatitis .... | 28   | 190  | 147  | 146  | 166  |
| Leprosy (c) ....          | 13   | 12   | 26   | * 39 | 28   |
| Leptospirosis ....        | 7    | 2    | 1    | .... | .... |
| Paratyphoid fever ....    | 1    | 1    | 1    | .... | .... |
| Poliomyelitis ....        | .... | .... | 2    | .... | .... |
| Tetanus ....              | 2    | .... | 2    | 1    | .... |
| Tuberculosis ....         | 173  | 171  | 178  | *187 | 178  |
| Typhoid fever ....        | 2    | 1    | 2    | 3    | 1    |
| Typhus (all forms) ....   | .... | 2    | .... | .... | .... |

(a) See letterpress immediately preceding table.

(b) Figures exclude cases where the original diagnosis was subsequently disproved. No cases of cholera, plague, smallpox or yellow fever were notified during the period.

\*Revised.

(c) Aborigines account for practically all of these cases.

The previous table shows, for Western Australia, the number of cases notified during the years 1966 to 1970 for those diseases notifiable in all, or nearly all, States and Territories of Australia. In May 1965 the National Health and Medical Research Council at its

Fifty-ninth Session proposed a basic list of diseases to be notifiable in each State and Territory and this table is based upon that proposal. The table does not include all diseases which are notifiable in Western Australia.

Leprosy and trachoma are endemic among the Aborigines of the Kimberley Division in the far north of the State, and cases are, with few exceptions, confined to the Aboriginal population. The Department of Public Health and the Northern Territory Medical Service co-operate in the control of these diseases.

The Commissioner of Public Health may compel any person believed to be suffering from venereal disease to undergo examination by a medical practitioner. Any person who is aware or suspects that he is suffering from venereal disease is required to consult a medical practitioner and, if found to be infected, must continue treatment until a certificate of cure is issued. Free treatment is available at public hospitals. In 1970, 1,186 cases of gonorrhoea and 167 of syphilis were notified to the Department.

A joint campaign of tuberculosis control is conducted by the Commonwealth and State Governments. Under the provisions of the *Tuberculosis Act* 1948, the Commonwealth reimburses the State for capital expenditure incurred after 1 July 1948, and for net maintenance expenditure in excess of that of the base year 1947-48. In addition, the Commonwealth Government pays allowances to tuberculosis sufferers and their dependants, as set out in Part 5 of this Chapter. Western Australia, like the other States, carries out the actual work of diagnosis and treatment. Under the *Health Act, 1911-1970* (State), all persons in Western Australia may be required to undergo X-ray examinations, which are conducted by mobile units of the Tuberculosis Control Branch and at its Perth and Fremantle Chest Clinics.

### Special Health Services for Children

In addition to measures provided for immunisation against poliomyelitis, diphtheria and other infectious diseases, Child Health Services and School Medical and Dental Services assist in maintaining the general health of children in Western Australia.

### INFANT HEALTH SERVICES

| Particulars                                  | 1966       | 1967    | 1968    | 1969     | 1970    |
|----------------------------------------------|------------|---------|---------|----------|---------|
| Expenditure (a)—                             |            |         |         |          |         |
| Salaries and wages .....                     | \$'000 262 | 260     | 275     | 305      | 344     |
| Other .....                                  | \$'000 56  | 59      | 60      | 63       | 73      |
| Total .....                                  | \$'000 318 | 319     | 335     | 368      | 417     |
| Number of—                                   |            |         |         |          |         |
| Staff (b)—                                   |            |         |         |          |         |
| Medical officers .....                       | 2          | 2       | 2       | 2        | 2       |
| Nurses .....                                 | 86         | 84      | 85      | 84       | 84      |
| Total .....                                  | 88         | 86      | 87      | 86       | 86      |
| Infant health centres (b)—                   |            |         |         |          |         |
| Perth Statistical Division....               | 39         | 39      | 44      | 44       | 46      |
| Other Statistical Divisions .....            | 28         | 28      | 28      | 32       | 32      |
| Mobile clinics .....                         | 4          | 4       | 4       | 3        | 4       |
| Total .....                                  | 71         | 71      | 76      | 79       | 82      |
| Attendances at centres—                      |            |         |         |          |         |
| Individual infants .....                     | 35,550     | 33,907  | 36,773  | * 38,407 | 40,020  |
| Total attendances .....                      | 240,401    | 240,513 | 256,129 | *256,304 | 273,368 |
| Infants examined at pre-school centres ..... | 5,392      | 5,414   | 6,235   | 6,491    | n.a.    |
| Home visits by nurses .....                  | 27,312     | 26,400  | 27,210  | * 27,778 | 31,375  |

n.a. denotes 'not available'.

(a) Year ended 30 June.

(b) At 31 December.

\*Revised.

Infant Health Centres have been established throughout the State to advise mothers concerning the care of infants. Expectant mothers are also assisted in this way and country mothers who are unable to attend a Centre may receive advice by letter under a Correspondence Nursing Scheme. It is estimated that three out of every four infants

in the State are taken to a Centre at least once in the first year of life. Infant Health Sisters also visit remote areas of the State and interview mothers who are normally dependent on advice given by correspondence.

The School Medical Services provide for the examination of each child twice during his school life. In addition, a teacher who at any time observes symptoms of illness in a child may refer the matter for attention by a medical practitioner. Parents are notified of physical defects found during medical examinations and, where home supervision is needed, are advised of the action required. Dental defects, ear, nose and throat affections and defective vision are the conditions most frequently reported.

The Dental Health Service operates mainly in country areas where private practitioner dental services are not available. Dental examinations of primary school children are conducted in conjunction with the Child Health Service. Parents are advised of dental disease requiring treatment. The cost of work done as a consequence by private dentists may in some cases be subsidised from government funds.

### Royal Flying Doctor Service of Australia

The Royal Flying Doctor Service of Australia is a non-profit organisation financed by grants from the Commonwealth and State Governments and by private donations. The principal function of the Service is to provide aerial medical services for residents in remote areas. Isolated townships, mining centres and sheep and cattle stations are usually equipped with two-way radio sets and, by this means, are linked with bases where doctors are available for radio consultation in the event of sickness or accident. In serious cases a doctor flies to the patient, who may then be flown to hospital for treatment. The Service provides, through the Commonwealth Department of Health, standard medical chests with directions for the use of the drugs and medical supplies which they contain.

The radio network of the Royal Flying Doctor Service is regularly used in the work of Schools of the Air conducted by the Education Department, and also for the transmission and receipt of telegrams. In addition, it may be used, as the need arises, in connection with flood relief, in searching for lost parties and in co-ordinating movements of livestock.

The following table shows particulars concerning the operations of the Western Australian Section of the Service during the five years ended June 1971.

ROYAL FLYING DOCTOR SERVICE OF AUSTRALIA  
OPERATIONS OF WESTERN AUSTRALIAN SECTION

| Particulars                       | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------|---------|---------|---------|---------|---------|
| Expenditure .... \$'000           | 140     | 154     | 178     | 245     | 285     |
| Number of—                        |         |         |         |         |         |
| Medical flights .....             | 625     | 749     | 841     | 1,041   | 1,161   |
| Miles flown .....                 | 243,863 | 315,083 | 423,065 | 516,690 | 602,702 |
| Patients transported .....        | 646     | 776     | 946     | 1,412   | 1,717   |
| Patients attended .....           | 3,564   | 6,131   | 5,124   | 6,558   | 9,345   |
| Radio and telephone consultations | 1,093   | 1,589   | 2,201   | 2,520   | 2,547   |

### HOSPITALS OTHER THAN MENTAL HOSPITALS

#### Commonwealth Government Hospitals

The Repatriation General Hospital at Hollywood and the Edward Millen Hospital at Victoria Park provide free medical treatment for ex-servicemen and ex-servicewomen in respect of disabilities which have been accepted as due to war service. With certain exceptions, ex-servicemen or ex-servicewomen who are totally and permanently incapacitated as a result of war service, or who receive war pensions at the intermediate rate, or at the maximum general rate (see letterpress *War Pensions* on page 243) and service pensioners are entitled also to free treatment for disabilities not caused by war service. Widows and children of deceased ex-servicemen whose deaths are accepted as due to war

service may also receive free treatment. If the deceased serviceman was unmarried, his widowed mother may receive free treatment if widowed prior to his death or within three years after his death.

### State Government and Government-assisted Hospitals

The *Hospitals Act, 1927-1969* is administered, subject to the direction of the Minister for Health, by the Medical Department. For administrative purposes, a hospital under the direct control of the Medical Department is classified as 'departmental' and is financed from State funds. A hospital classified as a 'Board' hospital has its own board of management and is subsidised by the State Government.

The principal government and government-assisted hospitals are the Royal Perth Hospital, Fremantle Hospital, Sir Charles Gairdner Hospital, King Edward Memorial Hospital for Women, Princess Margaret Hospital for Children, the Home of Peace for the Chronic Sick, the Perth Dental Hospital, and Mount Henry Infirmary and Sunset Infirmary for geriatric patients.

Departmental and Board hospitals collect fees from patients able to pay for treatment, and receive Commonwealth hospital benefit payments provided under Part V of the *National Health Act 1953-1971* (see letterpress *Hospital and Nursing Home Benefits* on pages 245-6), but are financed mainly from State Government funds.

The following table gives details of the activities of departmental and Board hospitals during the five years ended 30 June 1970.

DEPARTMENTAL AND BOARD HOSPITALS (a)

| Particulars                       | 1965-66       | 1966-67       | 1967-68       | 1968-69       | 1969-70       |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Expenditure—</b>               |               |               |               |               |               |
| Capital funds.... \$'000          | 5,950         | 5,628         | 5,568         | 6,707         | 8,548         |
| Salaries and wages.... \$'000     | 15,396        | 18,700        | 20,779        | 23,576        | 28,958        |
| Other.... \$'000                  | 11,307        | 13,067        | 15,631        | 17,785        | 19,915        |
| <b>Total.... \$'000</b>           | <b>32,653</b> | <b>37,395</b> | <b>41,978</b> | <b>48,068</b> | <b>57,421</b> |
| <b>Number of—</b>                 |               |               |               |               |               |
| <b>Hospitals (b)—</b>             |               |               |               |               |               |
| Departmental....                  | 40            | 42            | 43            | 46            | 46            |
| Board....                         | 57            | 55            | 52            | 52            | 53            |
| <b>Total....</b>                  | <b>97</b>     | <b>97</b>     | <b>95</b>     | <b>98</b>     | <b>99</b>     |
| <b>Beds (c)—</b>                  |               |               |               |               |               |
| Departmental....                  | 2,137         | 3,257         | 3,223         | 3,274         | 3,073         |
| Board....                         | 3,354         | 3,442         | 3,449         | 3,583         | 4,009         |
| <b>Total....</b>                  | <b>5,491</b>  | <b>6,699</b>  | <b>6,672</b>  | <b>6,857</b>  | <b>7,082</b>  |
| <b>Staff (b)—</b>                 |               |               |               |               |               |
| Medical....                       | 228           | 210           | 205           | 264           | 306           |
| Nursing....                       | 3,827         | 4,352         | 4,656         | 4,651         | 5,003         |
| Other....                         | 4,191         | 4,655         | 4,896         | 5,097         | 5,518         |
| <b>Total....</b>                  | <b>8,246</b>  | <b>9,217</b>  | <b>9,757</b>  | <b>10,012</b> | <b>10,827</b> |
| <b>In-patients—</b>               |               |               |               |               |               |
| At beginning of year....          | 3,571         | *4,654        | *4,631        | *4,769        | 5,034         |
| Admissions....                    | *120,430      | *123,614      | *131,518      | 140,985       | 150,278       |
| Discharges....                    | *117,499      | *120,543      | *128,321      | 137,507       | 146,896       |
| Deaths....                        | 2,625         | 3,094         | 3,059         | 3,213         | 3,234         |
| At end of year....                | 3,877         | *4,631        | *4,769        | *5,034        | 5,182         |
| Average daily number resident.... | 3,588         | 4,534         | 4,648         | 4,873         | 4,922         |
| <b>Out-patients—</b>              |               |               |               |               |               |
| Individuals....                   | 218,200       | 253,502       | 279,555       | 339,644       | 378,538       |
| Treatments....                    | 729,120       | 769,233       | 786,293       | 861,384       | 807,748       |

(a) Includes Perth Dental Hospital. From 1966-67 the statistics shown include particulars of Mount Henry Infirmary and Sunset Infirmary for geriatric patients. (b) At 30 June. (c) At 31 July.  
\*Revised.

As previously indicated, the control of tuberculosis is chiefly a State Government activity, supported by Commonwealth subsidies and carried out under the direction of the Commissioner of Public Health. The principal institution for the treatment of tuber-



culosis is the Sir Charles Gairdner Hospital at Hollywood which was opened in 1958 as the Perth Chest Hospital.

Leprosy, which is confined almost entirely to the far north of the State, is treated at a leprosarium at Derby in the Kimberley Division.

### Private Hospitals and Nursing Homes

In addition to the government hospitals there are a number of private general and maternity hospitals, which are registered and inspected by the Department of Public Health. The principal private hospitals are those established by religious bodies in the metropolitan area and the main country towns. These include the Hospitals of Saint John of God at Subiaco, Belmont, Bunbury, Geraldton, Kalgoorlie and Northam; Saint Anne's, Mount Lawley; the Mount Hospital, Perth; Bethesda Hospital, Claremont and the Hillcrest Maternity Hospital, North Fremantle.

Private hospitals collect fees from patients and receive Commonwealth hospital benefit payments provided under Part V of the *National Health Act* 1953-1971. At 30 June 1971 there were 113 private hospitals and nursing homes in Western Australia approved for payment of hospital benefits and nursing home benefits under the Act. These hospitals and homes had a total bed capacity of 4,178 at that date.

## MENTAL HEALTH SERVICES

The *Mental Health Act, 1962-1968*, which consolidates and amends the law relating to the treatment of mental disorders, came into operation on 1 July 1966. The Mental Health Services established under the Act are administered, subject to the control of the Minister for Health, by the Director of Mental Health Services. The Director must be a psychiatrist and is appointed by the Governor. Institutions authorised by the Act include hospitals for the treatment of mental illness, reception homes, out-patient and child guidance clinics, day hospitals, training centres, geriatric centres, hostels, and sheltered workshop units.

The Act provides for the admission of patients to hospitals approved for the purpose, either on referral by a medical practitioner or by order of a Justice of the Peace supported by the referral of a medical practitioner. A person so received into a hospital must be examined within seventy-two hours by the superintendent or another psychiatrist, and admission as a patient is dependent upon the result of the examination. Unless found to be in need of treatment, the person is required to leave the hospital. Special provisions exist for the detention for observation or treatment of persons admitted by order of a court or from a prison. The Act also provides for voluntary admissions. A person not less than eighteen years of age may be granted admission on his own request. Younger persons may be admitted on the application of a parent or guardian.

Except in the case of a person admitted by order of a court or from a prison, a patient may be released on leave or discharged by the hospital superintendent. A Board of Visitors or the Supreme Court of Western Australia may also, after due consideration, order the release of a patient. Where application for the discharge of a voluntary patient is made either by the patient himself or, in the case of a patient under the age of eighteen years, by the parent or guardian at whose request the patient was admitted, he must be discharged within seventy-two hours.

The principal institution of the Mental Health Services is the Claremont Hospital. Other institutions include the Nathaniel Harper Homes for Children, Heathcote Hospital, Lemnos Hospital, Whitby Falls Hostel, Greenplace Hostel, Nedlands Hostel, the Selby Community Clinic, the Havelock Out-patient Clinic, the Fremantle Out-patient Clinic, the Kalgoorlie Out-patient Clinic, the Mildred Creak Centre for Autistic Children, the Child Guidance Clinic, the Forensic Division, the Irrabeen Referral Centre, the Industrial Rehabilitation Unit and the sheltered workshop at North Fremantle. There is the Pyrron Training Centre for the intellectually handicapped at Bassendean and Mental Deficiency Division Hostels at Bassendean, Belmont, Scarborough and Subiaco.

The following table shows particulars concerning the mental health service units operated by the Mental Health Services authority during the year ended 30 June 1970.

MENTAL HEALTH SERVICES—YEAR ENDED 30 JUNE 1970

| Particulars                                    | Approved hospitals | Rehabilitation units | Hostels    | Training centres | Out-patient clinics |
|------------------------------------------------|--------------------|----------------------|------------|------------------|---------------------|
| <b>Expenditure—</b>                            |                    |                      |            |                  |                     |
| Salaries and wages .... \$'000                 | 3,153              | 119                  | 135        | 582              | 597                 |
| Other .... \$'000                              | 1,212              | 6                    | 94         | 186              | 144                 |
| <b>Total .... \$'000</b>                       | <b>4,365</b>       | <b>125</b>           | <b>230</b> | <b>769</b>       | <b>741</b>          |
| <b>Number of (a)—</b>                          |                    |                      |            |                  |                     |
| Units ....                                     | 3                  | 3                    | 7          | 2                | 7                   |
| Beds ....                                      | 1,357              | ....                 | 225        | 182              | ....                |
| <b>Staff—</b>                                  |                    |                      |            |                  |                     |
| Medical ....                                   | 26                 | ....                 | ....       | 1                | 16                  |
| Nursing and attendants ....                    | 483                | ....                 | 46         | 134              | 37                  |
| Other ....                                     | 420                | 33                   | 23         | 86               | 78                  |
| <b>Total ....</b>                              | <b>929</b>         | <b>33</b>            | <b>69</b>  | <b>221</b>       | <b>131</b>          |
| Patients on register at beginning of year .... | 2,011              | 305                  | 156        | 116              | n.a.                |
| Admissions ....                                | 2,534              | 190                  | 152        | 267              | (b) 37,267          |
| Discharges (c) ....                            | 2,367              | 132                  | 147        | 267              | n.a.                |
| Patients on register at end of year ....       | 2,178              | 363                  | 161        | 116              | (d) 11,185          |

n.a. denotes 'not applicable'.

(a) At 30 June. (b) Number of out-patient attendances. (c) Includes deaths and, in the case of 'approved hospitals', includes patients discharged from hospitals for after care. (d) Patients treated during the year.

The Commonwealth Government provides financial assistance to the States for or in connection with the building or equipment of mental health institutions. Payments are made from the Consolidated Revenue Fund. Grants provided for under the *States Grants (Mental Health Institutions) Act 1964-1970* are equal to one-third of a State's capital expenditure on mental health institutions.

## CARE OF AGED AND DISABLED PERSONS

Part 5 of this Chapter gives particulars of pensions, allowances and some other benefits available to aged and disabled persons under the provisions of the Social Services Act, the Repatriation Act, the National Health Act and the Tuberculosis Act. Forms of assistance extended to such persons by other Commonwealth Acts are dealt with below.

### Aged Persons Homes Act

Under the provisions of the *Aged Persons Homes Act 1954-1969* the Commonwealth Government extends financial assistance to religious, charitable and other organisations in providing accommodation for the aged. The Act is administered, subject to any directions of the Minister, by the Director-General of Social Services.

Grants are made to organisations 'to encourage and assist the provision of suitable homes for aged persons, and in particular homes at which aged persons may reside in conditions approaching as nearly as possible normal domestic life . . .'. For the purposes of the Act, the term 'aged person' means a man aged sixty-five years or over or a woman aged sixty years or over and includes the spouse of the aged person. The Act authorises grants to eligible organisations to be applied towards the cost of erecting or purchasing approved homes to be used permanently for the accommodation of aged persons. To be eligible for assistance an organisation must be one which is carried on otherwise than for the purpose of profit or gain to its individual members, and may be a religious, charitable or benevolent organisation, an organisation of former members of the defence forces, an organisation approved by the Governor-General, or a local governing body. An organisation conducted or controlled by the Government of the Commonwealth or of a State is not eligible for assistance.

When the original Act commenced on 16 December 1954 the grant was made on the basis of \$1 for each \$1 raised by the organisation excluding borrowed money and money received from a governmental body. An amending Act, operative from 22 October 1957, increased the Commonwealth contribution to \$2 for each \$1 raised by the organisation. Grants are made from moneys appropriated by the Parliament from the Consolidated Revenue Fund.

From the inception of the scheme to 30 June 1971, 184 grants aggregating \$14.1 million had been made to organisations in Western Australia to provide accommodation for 4,361 persons.

A supplementary grant may be approved in a year subsequent to the year when the original grant was approved. In the following table each supplementary grant has been included in the year in which the additional amount was actually approved.

#### AGED PERSONS HOMES GRANTS—WESTERN AUSTRALIA

| Particulars                         | 1966-67    | 1967-68    | 1968-69      | 1969-70      | 1970-71      | From inception to 30 June 1971 |
|-------------------------------------|------------|------------|--------------|--------------|--------------|--------------------------------|
| Number of grants ....               | 13         | 14         | 24           | 18           | 25           | 184                            |
| Number of persons accommodated .... | 258        | 237        | 496          | 508          | 766          | 4,361                          |
| Amount of grants approved ....      | \$'000 888 | \$'000 833 | \$'000 1,855 | \$'000 2,019 | \$'000 3,335 | \$'000 14,137                  |

**Personal Care Subsidy.** An amendment to the Act operative from 10 October 1969 provides for payment of a Personal Care Subsidy to approved homes. Homes eligible for the subsidy are those where residents are provided with all meals and where staff is employed to assist residents who need help with bathing, dressing, personal laundry and the cleaning of their rooms, and those who need help with medication.

The subsidy is \$5 per week in respect of each person aged eighty years or over residing in the approved accommodation. Payments are made from the National Welfare Fund, and expenditure in Western Australia in the period to 30 June 1971 amounted to \$212,280.

#### Delivered Meals Subsidy Act

The *Delivered Meals Subsidy Act* 1970 came into operation on 15 April 1970. The Act is administered, subject to any directions of the Minister, by the Director-General of Social Services. Its purpose is to enable help to be given to organisations to establish, maintain, expand and improve services for the delivery of meals to aged and invalid persons. To qualify for approval, an organisation must conduct a regular service delivering meals wholly or mainly to aged or invalid persons in their homes.

The subsidy is at the rate of \$1 for every ten meals provided by an approved organisation. Payments are made from the National Welfare Fund, and expenditure in Western Australia in the period to 30 June 1971 amounted to \$49,350.

#### Sheltered Employment (Assistance) Act

The *Sheltered Employment (Assistance) Act* 1967 (Commonwealth), which came into operation on 30 June 1967, repealed the *Disabled Persons Accommodation Act* 1963 but incorporated and expanded the provisions of the repealed Act relating to assistance by the Commonwealth towards the provision of sheltered employment and accommodation for certain disabled persons. The Act is administered, subject to any directions of the Minister, by the Director-General of Social Services.

The Act provides that grants may be made to eligible organisations, deemed by the Minister to provide employment for disabled persons, as assistance towards meeting the cost of the purchase, construction or alteration of approved premises or the purchase of land for the provision of sheltered employment; the purchase or construction of approved residential accommodation for persons engaged in sheltered employment; rent payable

in respect of approved premises ; and the purchase of approved equipment. An amendment to the Act, operative from 26 October 1970, allows the payment of subsidy in respect of residential accommodation to be extended to include accommodation for disabled persons able to engage in normal employment ; authorises the payment to organisations of a ' training fee ' for each person who, after being employed for six months or longer in a sheltered workshop, has spent at least twelve months in normal employment ; and provides for assistance towards the payment of salaries of certain staff associated with the training and accommodation of disabled persons.

Details of grants made in the first four years of operation of the Act are given in the following table.

#### SHELTERED WORKSHOPS GRANTS—WESTERN AUSTRALIA

| Grants approved for—    | 1967-68 |        | 1968-69 |         | 1969-70 |         | 1970-71 |         |
|-------------------------|---------|--------|---------|---------|---------|---------|---------|---------|
|                         | Number  | Amount | Number  | Amount  | Number  | Amount  | Number  | Amount  |
|                         |         | \$     |         | \$      |         | \$      |         | \$      |
| Workshop premises ....  | 1       | 25,948 | 3       | 225,520 | 1       | 74,279  | 1       | 21,933  |
| Workshop equipment .... | 8       | 18,173 | 9       | 25,853  | 19      | 27,244  | 38      | 60,566  |
| Workshop rental ....    | 1       | 333    | 2       | 2,552   | 1       | 2,686   | 1       | 3,062   |
| Residential units ....  | ....    | ....   | 1       | 152,567 | 2       | 82,001  | 1       | 9,323   |
| Training fees ....      | ....    | ....   | ....    | ....    | ....    | ....    | 1       | 500     |
| Salary subsidy ....     | ....    | ....   | ....    | ....    | ....    | ....    | 30      | 30,020  |
| Total ....              | 10      | 44,454 | 15      | 406,492 | 23      | 186,210 | 72      | 125,404 |

#### Sheltered Employment Allowances

During 1967, an amendment was made to the Social Services Act to permit invalid pensioners and certain other disabled persons to earn an income from sheltered employment, and at the same time to be eligible to receive a special allowance which, in the case of an invalid pensioner, replaces the pension. The maximum rate of the sheltered employment allowance is the same as the maximum rate of invalid pension (see *letterpress Age and Invalid Pensions* in Part 5 of this Chapter). In addition, the recipient of an allowance who pays rent may receive supplementary assistance up to a maximum of \$2 per week, subject to a means test. The purpose of the sheltered employment allowance is to provide an incentive for disabled persons, whether in receipt of an invalid pension or not, to engage in gainful employment.

Provision is made in the Act for the maximum amount which may be earned from sheltered employment without affecting the special allowance and for reduction of the allowance where earnings exceed the prescribed amount.

Payments of allowances are met from the National Welfare Fund and commenced on 6 July 1967. During the period to 30 June 1971 expenditure in Western Australia amounted to \$189,928.

#### Handicapped Children (Assistance) Act

The *Handicapped Children (Assistance) Act* 1970, which came into operation on 17 June 1970, provides for subsidies to be paid by the Commonwealth to eligible organisations towards the capital cost of premises to be used for the training of handicapped children; the cost of equipment to be used for or in connection with such training; and the capital cost of residential accommodation for handicapped children receiving training. For the purposes of the Act a handicapped child is a person suffering from a physical or mental disability who is aged under twenty-one years, or has attained the age of twenty-one years but continues to receive approved training which was commenced before attaining that age. The Act is administered, subject to any directions of the Minister, by the Director-General of Social Services.

Grants towards the capital cost of premises or equipment are limited to two-thirds of the capital cost, or twice the sum which the organisation contributes from its own funds, whichever is the less.

The general purpose of the scheme is to help organisations to provide special facilities to enable training and accommodation to be provided for handicapped children. In many cases it is expected that the training will result in the children eventually engaging fully in the social and economic life of the community. Some will be helped to prepare for entry to sheltered employment, and to that extent the scheme may be regarded as complementary to the assistance programme for sheltered workshops. Other children will be assisted to achieve a greater measure of personal independence than would otherwise have been possible.

In the period to 30 June 1971, four training centres were approved in Western Australia and one grant amounting to \$80,071 was made.

### **Other Commonwealth Assistance**

Under a set of Acts passed in 1969 the Commonwealth Government extends financial assistance to the States for the development of a range of home care services, senior citizens' centres and nursing homes, mainly for the aged, and the construction of self-contained dwelling units for certain single aged pensioners. These Acts, all of which provide assistance commencing with the financial year 1969-70, are the *States Grants (Home Care) Act 1969*, the *States Grants (Paramedical Services) Act 1969*, the *States Grants (Nursing Homes) Act 1969* and the *States Grants (Dwellings for Aged Pensioners) Act 1969*.

Under the *States Grants (Home Care) Act* the Commonwealth shares with a State on a \$1 for \$1 basis the cost of approved housekeeping or other domestic services provided wholly or mainly for aged persons in their homes. The Commonwealth also shares with a State on a \$1 for \$1 basis up to a maximum of one-third of the capital cost of approved senior citizens' centres, as well as paying half the salary of a welfare officer engaged in the co-ordination of home care services and associated with a senior citizens' centre. Grants to Western Australia were first made in the year 1970-71, when an amount of \$3,500 was received in respect of home care services.

The *States Grants (Paramedical Services) Act* authorises the Commonwealth to share with a State on a \$1 for \$1 basis the cost of approved paramedical services, such as chiropody, occupational therapy, physiotherapy and speech therapy, provided wholly or mainly for aged persons in their homes. Payments are made from the Consolidated Revenue Fund and the maximum annual expenditure authorised by the Act is \$250,000, of which \$19,000 is payable to Western Australia. In the period to 30 June 1971, schemes had been approved in some States but no grants had been made.

The *States Grants (Nursing Homes) Act* provides for the Commonwealth to share with a State on a \$1 for \$1 basis the capital costs of approved nursing homes wholly or mainly for aged persons of limited means. The Act stipulates that the Commonwealth's contribution during the five-year period ending 30 June 1974 shall not exceed \$5 million, Western Australia's share being a maximum of \$381,000. Grants are made from the Consolidated Revenue Fund. Payments to Western Australia commenced in 1970-71, when an amount of \$337,000 was received.

The *States Grants (Dwellings for Aged Pensioners) Act* authorises the Commonwealth to share with a State on a \$1 for \$1 basis the cost of providing self-contained dwellings for certain recipients of an age pension payable under the Social Services Act or a service pension under the Repatriation Act. Commonwealth expenditure during the five-year period to 30 June 1974 is limited to \$25 million, Western Australia's share being \$1.75 million. Payments are made from the Consolidated Revenue Fund. The first grant to Western Australia, amounting to \$700,000, was made in 1970-71.

*Chapter V—continued*

**Part 4—Housing and Building**

**HOUSING AND THE CENSUS**

*NOTE. Dwellings occupied solely by full-blood Aborigines are excluded from all tables in this Part which contain information derived from the Census of Population and Housing. Such dwellings were excluded from the Census tabulations in accordance with the requirements of section 127 (now repealed) of the Australian Constitution; see letterpress Aborigines on page 129.*

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The definitions given below are relevant when considering data derived from the Census of Population and Housing.

**OCCUPIED DWELLING.** For the purpose of the Census of Population and Housing an occupied dwelling is any habitation occupied by a household group living together as a domestic unit, and may comprise the whole of a building or only part of it. The term has therefore a very wide reference and includes, in addition to houses and flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution.

**UNOCCUPIED DWELLINGS** include vacant dwellings available for sale or renting; dwellings such as week-enders or holiday homes and seasonal workers' quarters which were not occupied on Census night; dwellings normally occupied but whose occupants were temporarily absent on the night of the Census; newly-completed dwellings whose owners or tenants had not entered into occupation on Census night; and dwellings described as 'to be demolished', 'condemned', 'exhibition home', etc. The total number of unoccupied dwellings does not, therefore, represent the number of vacant houses and flats available for sale or renting.

**PRIVATE DWELLINGS** comprise the following classes:

**PRIVATE HOUSE**, which includes semi-detached houses; terrace houses; and shared private houses for which only one Householder's Schedule was received.

**SHARE OF PRIVATE HOUSE.** A share of a private house is a portion of a shared private house which is occupied separately and for which portion a separate Householder's Schedule was furnished.

**SELF-CONTAINED FLAT.** A self-contained flat is part of a house or other building which can be completely closed off and which has its own cooking and bathing facilities. Home units are included in this class.

**SHARE OF SELF-CONTAINED FLAT** is that portion of a shared self-contained flat for which a separate Householder's Schedule was furnished.

**SHED, HUT, TENT, ETC.** includes sheds, huts, tents, garages, caravans and boats which are used for dwelling purposes.

**OTHER PRIVATE DWELLINGS** include flats (not self-contained) and dwellings such as rooms, apartments, etc. which are parts of buildings but are not self-contained units.

## Dwellings at Censuses from 1901

The following table shows the numbers of occupied and unoccupied dwellings recorded in Western Australia at each Census from 1901 to 1966.

DWELLINGS—CENSUSES, 1901 TO 1966

| Census date   | Occupied dwellings |                           |             |         | Unoccupied dwellings |
|---------------|--------------------|---------------------------|-------------|---------|----------------------|
|               | Private            |                           | Non-private | Total   |                      |
|               | Number             | Average number of inmates |             |         |                      |
| 1901—31 March | (a) 46,436         | (b) 3·35                  | 2,070       | 48,506  | 2,263                |
| 1911— 3 April | (c) 66,553         | (d) 3·68                  | 2,317       | 68,870  | 3,158                |
| 1921— 4 April | 70,185             | 4·11                      | 3,363       | 73,548  | 3,274                |
| 1933—30 June  | 100,441            | 3·95                      | 3,137       | 103,578 | 4,029                |
| 1947—30 June  | 122,078            | 3·73                      | (e) 2,689   | 124,767 | 2,606                |
| 1954—30 June  | 159,496            | 3·64                      | (e) 3,327   | 162,823 | 6,614                |
| 1961—30 June  | 191,616            | 3·59                      | (e) 2,701   | 194,317 | 13,705               |
| 1966—30 June  | 221,444            | 3·52                      | (e) 3,219   | 224,663 | 17,965               |

(a) Comprises 17,702 dwellings of calico, canvas, and hessian, with an average of 2·10 inmates, and 28,734 other dwellings with an average of 4·12 inmates.  
 (b) See note (a). (c) Comprises 14,216 dwellings of calico, canvas, and hessian, with an average of 1·93 inmates, and 52,337 other dwellings with an average of 4·16 inmates.  
 (d) See note (c). (e) For further details see next table.

## Class of Dwelling

The following table shows the number of occupied dwellings in Western Australia according to class of dwelling at each Census from 1947 to 1966. Private houses constituted 90·7 per cent of all occupied private dwellings in 1966 compared with 91·6 per cent in 1961. The proportion of self-contained flats to total occupied private dwellings increased from 4·53 per cent in 1961 to 6·36 per cent in 1966.

DWELLINGS ACCORDING TO CLASS  
CENSUSES, 1947 TO 1966

| Class of dwelling            | Census, 30 June— |         |         |         |
|------------------------------|------------------|---------|---------|---------|
|                              | 1947             | 1954    | 1961    | 1966    |
| Occupied dwellings—          |                  |         |         |         |
| Private dwellings—           |                  |         |         |         |
| Private house                | (a) 110,576      | 140,383 | 175,495 | 200,900 |
| Share of private house       | 5,969            | 7,487   | 2,788   | 844     |
| Self-contained flat          | 4,021            | 5,257   | 8,672   | 14,074  |
| Share of self-contained flat | (b) 1,512        | 4,480   | 3,641   | 3,439   |
| Shed, hut, tent, etc.        | 1,889            | 1,889   | 1,020   | 2,169   |
| Other private dwellings      | 122,078          | 159,496 | 191,616 | 221,444 |
| Total, Private dwellings     | 122,078          | 159,496 | 191,616 | 221,444 |
| Non-private dwellings—       |                  |         |         |         |
| Caretaker's quarters         | 124              | 156     | (c) 451 | (c) 456 |
| Licensed hotel               | 454              | 445     | 6       | 43      |
| Motel                        | 1,581            | 1,594   | 1,083   | 904     |
| Boarding house, etc.         | 106              | 127     | (d) 70  | 55      |
| Educational institution      | 11               | 20      | (d) 100 | 125     |
| Religious institution        | 47               | 69      | 55      | 55      |
| Charitable institution       | 143              | 138     | 151     | 188     |
| Hospital                     | 223              | 778     | 630     | *1,266  |
| Staff barracks               |                  |         | 155     | * 127   |
| Other non-private dwellings  | 2,689            | 3,327   | 2,701   | 3,219   |
| Total, Non-private dwellings | 2,689            | 3,327   | 2,701   | 3,219   |
| Total, Occupied dwellings    | 124,767          | 162,823 | 194,317 | 224,663 |
| Unoccupied dwellings         | 2,606            | 6,614   | 13,705  | 17,965  |

(a) Includes 'shed, hut, tent, etc.' (b) Not recorded separately; included with 'private house'.  
 (c) Classified to 'private dwellings'. (d) Certain institutions previously classified as 'Educational' were classified as 'Religious'.  
 \*Revised.

The following table gives particulars of the number of dwellings in each class at the Censuses of 1961 and 1966, together with the total numbers of persons enumerated in each class. Of the total of 832,181 persons enumerated in private and non-private dwellings in Western Australia at the Census of 30 June 1966, 88·7 per cent were in private houses (including shared houses), 3·58 per cent in self-contained flats (including shared flats), and 6·31 per cent in non-private dwellings. The corresponding percentages in 1961 were 90·0, 2·59, and 5·98.

**CLASS OF DWELLING AND PERSONS ENUMERATED  
CENSUSES, 1961 AND 1966**

| Particulars                     | Census, 30 June 1961 |                      | Census, 30 June 1966             |                    |         |                      |                                       |          |
|---------------------------------|----------------------|----------------------|----------------------------------|--------------------|---------|----------------------|---------------------------------------|----------|
|                                 | Total                | Per cent<br>of total | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Per cent<br>of total | Increase or decrease(a)<br>since 1961 |          |
|                                 |                      |                      |                                  |                    |         |                      | Number                                | Per cent |
| NUMBER OF DWELLINGS             |                      |                      |                                  |                    |         |                      |                                       |          |
| Occupied dwellings—             |                      |                      |                                  |                    |         |                      |                                       |          |
| Private dwellings—              |                      |                      |                                  |                    |         |                      |                                       |          |
| Private house ....              | 175,495              | 90·31                | 139,049                          | 61,851             | 200,900 | 89·42                | 25,405                                | 14·48    |
| Share of private house ....     | 2,788                | 1·43                 | 707                              | 137                | 844     | 0·38                 | —1,944                                | —69·73   |
| Self-contained flat....         | 8,672                | 4·46                 | 12,072                           | 2,002              | 14,074  | 6·26                 | 5,420                                 | 62·50    |
| Share of self-contained flat(b) | 3,641                | 1·87                 | 290                              | .....              | 18      | 0·01                 | —202                                  | 5·55     |
| Shed, hut, tent, etc. ....      | 1,020                | 0·52                 | 1,751                            | 3,149              | 3,439   | 1·53                 | 1,149                                 | 112·65   |
| Other private dwellings ....    |                      |                      |                                  | 418                | 2,169   | 0·97                 |                                       |          |
| Total, Private dwellings        | 191,616              | 98·61                | 153,887                          | 67,557             | 221,444 | 98·57                | 29,828                                | 15·57    |
| Non-private dwellings ....      | 2,701                | 1·39                 | 1,098                            | 2,121              | 3,219   | 1·43                 | 518                                   | 19·18    |
| Total, Occupied dwellings       | 194,317              | 100·00               | 154,985                          | 69,678             | 224,663 | 100·00               | 30,346                                | 15·62    |
| Unoccupied dwellings ....       | 13,705               | ....                 | 8,211                            | 9,754              | 17,965  | ....                 | 4,260                                 | 31·08    |
| PERSONS ENUMERATED (c)          |                      |                      |                                  |                    |         |                      |                                       |          |
| Persons enumerated in—          |                      |                      |                                  |                    |         |                      |                                       |          |
| Private dwellings—              |                      |                      |                                  |                    |         |                      |                                       |          |
| Private house ....              | 652,070              | 88·52                | 500,599                          | 235,032            | 735,631 | 87·92                | 83,561                                | 12·81    |
| Share of private house ....     | 6,909                | 0·94                 | 1,756                            | 464                | 2,220   | 0·27                 | —4,689                                | —67·87   |
| Self-contained flat             | 18,977               | 2·58                 | 24,843                           | 4,953              | 29,796  | 3·56                 | 10,840                                | 57·12    |
| Share of self-contained flat(b) | 8,598                | 1·17                 | 21                               | .....              | 21      | 0·00                 | —180                                  | —2·09    |
| Shed, hut, tent, etc. ....      | 1,853                | 0·25                 | 680                              | 7,738              | 8,418   | 1·01                 | 1,719                                 | 92·77    |
| Other private dwellings ....    |                      |                      | 2,797                            | 775                | 3,572   | 0·43                 |                                       |          |
| Total, Private dwellings        | 688,407              | 93·45                | 530,696                          | 248,962            | 779,658 | 93·19                | 91,251                                | 13·26    |
| Non-private dwellings ....      | 43,755               | 5·94                 | 27,987                           | 24,536             | 52,523  | 6·28                 | 8,768                                 | 20·04    |
| Total, Occupied dwellings       | 732,162              | 99·39                | 558,683                          | 273,498            | 832,181 | 99·47                | 100,019                               | 13·66    |
| Persons enumerated elsewhere—   |                      |                      |                                  |                    |         |                      |                                       |          |
| Campers-out ....                | 1,450                | 0·20                 | 138                              | 1,316              | 1,454   | 0·17                 | 4                                     | 0·28     |
| Migratory population (d) ....   | 3,017                | 0·41                 | ....                             | 3,038              | 3,038   | 0·36                 | 21                                    | 0·70     |
| Total population ....           | 736,629              | 100·00               | 558,821                          | 277,852            | 836,673 | 100·00               | 100,044                               | 13·58    |

(a) Minus sign (—) denotes decrease. (b) At the 1961 Census, 'Share of self-contained flat' was not tabulated as a separate class; where two or more household groups were occupying a self-contained flat they were counted as one household group occupying a self-contained flat. (c) Excludes full-blood Aborigines; see letterpress *Aborigines* on page 129. (d) Comprises persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left an Australian port before Census night for a next port of call in Western Australia. It includes also persons enumerated on long-distance trains, motor coaches or aircraft.

### Number of Inmates

At the 1966 Census, 85·1 per cent of occupied private houses in Western Australia had less than six inmates, compared with 84·7 per cent in 1961. In 1966, 89·1 per cent of occupied self-contained flats had less than four inmates, compared with 87·2 per cent in 1961.



### OCCUPIED PRIVATE HOUSES AND SELF-CONTAINED FLATS NUMBER OF INMATES (a): CENSUSES, 1961 AND 1966

| Number of inmates (a)<br>per house or flat | Private house               |                                  |                    |         | Self-contained flat                 |                                  |                    |        |
|--------------------------------------------|-----------------------------|----------------------------------|--------------------|---------|-------------------------------------|----------------------------------|--------------------|--------|
|                                            | Census, 30 June—            |                                  |                    |         | Census, 30 June—                    |                                  |                    |        |
|                                            | 1961                        | 1966                             |                    |         | 1961                                | 1966                             |                    |        |
|                                            | Total,<br>private<br>houses | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Total,<br>self-con-<br>tained flats | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| 1                                          | 13,958                      | 12,023                           | 5,565              | 17,588  | 2,629                               | 3,870                            | 554                | 4,424  |
| 2                                          | 38,547                      | 32,700                           | 13,088             | 45,788  | 3,630                               | 5,374                            | 687                | 6,061  |
| 3                                          | 32,174                      | 25,498                           | 10,956             | 36,454  | 1,302                               | 1,701                            | 354                | 2,055  |
| 4                                          | 36,762                      | 29,175                           | 11,526             | 40,701  | 633                                 | 743                              | 207                | 950    |
| 5                                          | 27,155                      | 20,897                           | 9,492              | 30,389  | 309                                 | 237                              | 118                | 355    |
| 6                                          | 15,182                      | 11,078                           | 5,989              | 17,067  | 105                                 | 93                               | 45                 | 138    |
| 7                                          | 6,744                       | 4,592                            | 2,874              | 7,466   | 44                                  | 34                               | 25                 | 59     |
| 8                                          | 3,022                       | 1,854                            | 1,403              | 3,257   | 15                                  | 13                               | 8                  | 21     |
| 9                                          | 1,062                       | 703                              | 514                | 1,217   | 4                                   | 5                                | 4                  | 9      |
| 10 and over                                | 889                         | 529                              | 444                | 973     | 1                                   | 2                                | ...                | 2      |
| Total houses, flats                        | 175,495                     | 139,049                          | 61,851             | 200,900 | 8,672                               | 12,072                           | 2,002              | 14,074 |
| Total inmates                              | 652,070                     | 500,599                          | 235,032            | 735,631 | 18,977                              | 24,843                           | 4,953              | 29,796 |
| Average number of inmates                  | 3.72                        | 3.60                             | 3.80               | 3.66    | 2.19                                | 2.06                             | 2.47               | 2.12   |

(a) Excludes full-blood Aborigines; see letterpress *Aborigines* on page 129.

### Number of Rooms

Occupied private houses containing five rooms were the most numerous group in Western Australia at both the 1961 and 1966 Censuses, comprising respectively 40.2 per cent and 42.9 per cent of the total. In 1966, 85.5 per cent of occupied self-contained flats had less than five rooms, compared with 79.5 per cent in 1961.

### OCCUPIED PRIVATE HOUSES AND SELF-CONTAINED FLATS NUMBER OF ROOMS: CENSUSES, 1961 AND 1966

| Number of rooms (a)<br>per house or flat | Private house               |                                  |                    |         | Self-contained flat                 |                                  |                    |        |
|------------------------------------------|-----------------------------|----------------------------------|--------------------|---------|-------------------------------------|----------------------------------|--------------------|--------|
|                                          | Census, 30 June—            |                                  |                    |         | Census, 30 June—                    |                                  |                    |        |
|                                          | 1961                        | 1966                             |                    |         | 1961                                | 1966                             |                    |        |
|                                          | Total,<br>private<br>houses | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Total,<br>self-con-<br>tained flats | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| 1                                        | 108                         | 61                               | 124                | 185     | 93                                  | 239                              | 43                 | 282    |
| 2                                        | 1,523                       | 854                              | 714                | 1,568   | 1,147                               | 2,527                            | 342                | 2,869  |
| 3                                        | 5,815                       | 3,388                            | 2,531              | 5,919   | 2,764                               | 4,170                            | 665                | 4,835  |
| 4                                        | 37,176                      | 23,495                           | 11,270             | 34,765  | 2,891                               | 3,567                            | 487                | 4,054  |
| 5                                        | 70,491                      | 62,508                           | 23,581             | 86,089  | 1,143                               | 1,113                            | 277                | 1,390  |
| 6                                        | 40,173                      | 31,706                           | 13,382             | 45,088  | 403                                 | 303                              | 101                | 404    |
| 7                                        | 13,122                      | 11,528                           | 6,194              | 17,722  | 107                                 | 94                               | 47                 | 141    |
| 8                                        | 4,314                       | 3,681                            | 2,388              | 6,069   | 50                                  | 36                               | 25                 | 61     |
| 9                                        | 1,486                       | 1,084                            | 902                | 1,986   | 29                                  | 9                                | 5                  | 14     |
| 10 and over                              | 1,101                       | 744                              | 765                | 1,509   | 4                                   | 14                               | 10                 | 24     |
| Not stated                               | 186                         | (b)                              | (b)                | (b)     | 41                                  | (b)                              | (b)                | (b)    |
| Total houses, flats                      | 175,495                     | 139,049                          | 61,851             | 200,900 | 8,672                               | 12,072                           | 2,002              | 14,074 |
| Average number of rooms                  | 5.22                        | 5.30                             | 5.36               | 5.32    | 3.69                                | 3.37                             | 3.67               | 3.41   |

(a) Includes kitchen and permanently enclosed sleep-out, but does not include bathroom, toilet, pantry, laundry or store-room.  
(b) In the small number of cases where the number of rooms was not stated, a number was selected during processing of the 1966 Census schedules.

### Material of Outer Walls

Brick and brick veneer predominated as materials of outer walls of occupied private dwellings in Western Australia at both the 1961 and 1966 Censuses, representing 42.7 per cent of private houses and 75.9 per cent of self-contained flats in 1961, and 49.9 per cent and 80.3 per cent in 1966. Fibro-cement was next in importance, being used in 31.7 per cent of private houses in 1961 and 30.5 per cent in 1966. The proportion of private houses with outer walls of wood declined from 16.9 per cent in 1961 to 13.1 per cent in 1966.

OCCUPIED PRIVATE HOUSES AND SELF-CONTAINED FLATS  
MATERIAL OF OUTER WALLS: CENSUSES, 1961 AND 1966

| Material of<br>outer walls | Private house               |                                  |                    |         | Self-contained flat                    |                                  |                    |        |
|----------------------------|-----------------------------|----------------------------------|--------------------|---------|----------------------------------------|----------------------------------|--------------------|--------|
|                            | Census, 30 June—            |                                  |                    |         | Census, 30 June—                       |                                  |                    |        |
|                            | 1961                        | 1966                             |                    |         | 1961                                   | 1966                             |                    |        |
|                            | Total,<br>private<br>houses | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Total,<br>self-con-<br>tained<br>flats | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| Brick .....                | 74,939                      | 81,812                           | 7,554              | 89,366  | 6,579                                  | 10,382                           | 688                | 11,070 |
| Brick veneer (a) .....     | 3,303                       | 9,451                            | 1,487              | 10,938  | 191                                    | 40                               | 231                | 231    |
| Stone .....                | 4,815                       | 1,562                            | 1,518              | 3,080   | 238                                    | 194                              | 49                 | 243    |
| Concrete .....             | 29,744                      | 2,174                            | 2,487              | 4,661   | 156                                    | 366                              | 46                 | 412    |
| Wood .....                 | 5,330                       | 12,440                           | 13,802             | 26,242  | 474                                    | 287                              | 281                | 568    |
| Iron, tin .....            | 55,637                      | 386                              | 3,702              | 4,088   | 153                                    | 15                               | 166                | 181    |
| Fibro-cement .....         | 1,615                       | 31,083                           | 30,204             | 61,287  | 1,043                                  | 629                              | 729                | 1,358  |
| Other .....                | 112                         | 141                              | 1,097              | 1,238   | 19                                     | 8                                | 3                  | 11     |
| Not stated .....           |                             | (b)                              | (b)                | (b)     | 10                                     | (b)                              | (b)                | (b)    |
| Total .....                | 175,495                     | 139,049                          | 61,851             | 200,900 | 8,672                                  | 12,072                           | 2,002              | 14,074 |

(a) So described in individual Census schedules.

(b) In the small number of cases where material of outer walls was not stated a material was selected during processing of the 1966 Census schedules.

### Nature of Occupancy

At the 1961 Census, 73.8 per cent of private houses in Western Australia were occupied by owners including purchasers by instalments, compared with 74.9 per cent in 1966. In the same period the proportion of private houses occupied by tenants, including tenants of government-owned houses, declined from 23.8 per cent to 22.8 per cent. Of the total number of occupied self-contained flats at the 1961 Census, 84.4 per cent were occupied by tenants and 12.7 per cent by owners. At the 1966 Census the proportions were 83.9 per cent and 13.4 per cent.

OCCUPIED PRIVATE HOUSES AND SELF-CONTAINED FLATS  
NATURE OF OCCUPANCY: CENSUSES, 1961 AND 1966

| Nature of<br>occupancy | Private house               |                                  |                    |         | Self-contained flat                    |                                  |                    |        |
|------------------------|-----------------------------|----------------------------------|--------------------|---------|----------------------------------------|----------------------------------|--------------------|--------|
|                        | Census, 30 June—            |                                  |                    |         | Census, 30 June—                       |                                  |                    |        |
|                        | 1961                        | 1966                             |                    |         | 1961                                   | 1966                             |                    |        |
|                        | Total,<br>private<br>houses | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Total,<br>self-con-<br>tained<br>flats | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| Owner (a) .....        | 129,583                     | 109,647                          | 40,864             | 150,511 | 1,100                                  | 1,573                            | 306                | 1,879  |
| Tenant .....           | 41,710                      | 27,734                           | 17,986             | 45,720  | 7,315                                  | 10,261                           | 1,548              | 11,809 |
| Caretaker .....        | 1,784                       | 946                              | 1,256              | 2,202   | 163                                    | 163                              | 61                 | 224    |
| Other .....            | 1,867                       | 416                              | 1,221              | 1,637   | 72                                     | 35                               | 50                 | 85     |
| Not stated .....       | 551                         | 306                              | 524                | 830     | 22                                     | 40                               | 37                 | 77     |
| Total .....            | 175,495                     | 139,049                          | 61,851             | 200,900 | 8,672                                  | 12,072                           | 2,002              | 14,074 |

(a) Including purchaser by instalments.

## Weekly Rents

The following table shows the numbers of unfurnished private houses and self-contained flats in each of the Statistical Divisions of Western Australia at the Census of 30 June 1966, classified according to weekly rent (unfurnished).

**OCCUPIED PRIVATE TENANTED HOUSES AND SELF-CONTAINED FLATS (a)**  
**WEEKLY RENT (UNFURNISHED): CENSUS, 30 JUNE 1966**

| Weekly rent<br>(unfurnished)             | Statistical Division |                |                               |                              |                               |                            |         |                |         |                | Western<br>Australia |
|------------------------------------------|----------------------|----------------|-------------------------------|------------------------------|-------------------------------|----------------------------|---------|----------------|---------|----------------|----------------------|
|                                          | Perth                | South-<br>West | Southern<br>Agricul-<br>tural | Central<br>Agricul-<br>tural | Northern<br>Agricul-<br>tural | Eastern<br>Gold-<br>fields | Central | North-<br>West | Pilbara | Kim-<br>berley |                      |
| NUMBER OF PRIVATE HOUSES                 |                      |                |                               |                              |                               |                            |         |                |         |                |                      |
| Under \$2.00 .....                       | 819                  | 509            | 188                           | 304                          | 204                           | 191                        | 49      | 12             | 23      | 39             | 2,338                |
| \$2.00- \$3.99 .....                     | 1,320                | 885            | 217                           | 399                          | 208                           | 442                        | 59      | 16             | 19      | 31             | 3,596                |
| \$4.00- \$5.99 .....                     | 2,731                | 847            | 365                           | 668                          | 325                           | 504                        | 50      | 40             | 17      | 17             | 5,564                |
| \$6.00- \$7.99 .....                     | 6,025                | 1,160          | 611                           | 926                          | 453                           | 236                        | 34      | 57             | 127     | 26             | 9,655                |
| \$8.00- \$9.99 .....                     | 5,539                | 697            | 417                           | 646                          | 493                           | 114                        | 4       | 94             | 48      | 31             | 8,083                |
| \$10.00-\$11.99 .....                    | 2,955                | 212            | 171                           | 186                          | 163                           | 69                         | 4       | 57             | 31      | 30             | 3,878                |
| \$12.00-\$13.99 .....                    | 1,990                | 89             | 59                            | 59                           | 74                            | 24                         | 1       | 11             | 22      | 90             | 2,419                |
| \$14.00-\$15.99 .....                    | 904                  | 24             | 20                            | 27                           | 20                            | 8                          | .....   | 2              | 11      | 9              | 1,025                |
| \$16.00-\$17.99 .....                    | 420                  | 13             | 11                            | 11                           | 12                            | 6                          | .....   | 18             | 1       | 3              | 495                  |
| \$18.00-\$19.99 .....                    | 126                  | 3              | 2                             | 2                            | 3                             | .....                      | .....   | 3              | 1       | 2              | 142                  |
| \$20.00 and over .....                   | 332                  | 18             | 4                             | 8                            | 9                             | 4                          | .....   | 4              | 2       | 5              | 386                  |
| Not stated ....                          | 1,302                | 349            | 281                           | 619                          | 375                           | 223                        | 34      | 75             | 45      | 71             | 3,374                |
| Total private ten-<br>anted houses ..... | 24,463               | 4,806          | 2,346                         | 3,855                        | 2,339                         | 1,821                      | 235     | 389            | 347     | 354            | 40,955               |
| Average rent .....                       | \$ 8.37              | \$ 5.69        | \$ 6.49                       | \$ 6.13                      | \$ 6.61                       | \$ 4.72                    | \$ 3.68 | \$ 8.57        | \$ 7.46 | \$ 8.54        | \$ 7.48              |
| NUMBER OF SELF-CONTAINED FLATS           |                      |                |                               |                              |                               |                            |         |                |         |                |                      |
| Under \$2.00 .....                       | 193                  | 21             | 15                            | 15                           | 3                             | 12                         | 2       | 3              | 1       | .....          | 265                  |
| \$2.00- \$3.99 .....                     | 264                  | 22             | 18                            | 33                           | 16                            | 51                         | 1       | .....          | .....   | 1              | 406                  |
| \$4.00- \$5.99 .....                     | 235                  | 30             | 17                            | 31                           | 18                            | 43                         | .....   | .....          | 1       | 2              | 377                  |
| \$6.00- \$7.99 .....                     | 487                  | 45             | 26                            | 65                           | 17                            | 12                         | .....   | 5              | 1       | 5              | 663                  |
| \$8.00- \$9.99 .....                     | 565                  | 19             | 26                            | 17                           | 12                            | 4                          | .....   | 2              | 2       | 8              | 655                  |
| \$10.00-\$11.99 .....                    | 1,047                | 43             | 24                            | 11                           | 17                            | 4                          | .....   | .....          | .....   | 5              | 1,151                |
| \$12.00-\$13.99 .....                    | 1,783                | 23             | 14                            | 6                            | 13                            | 7                          | .....   | 1              | 1       | 1              | 1,849                |
| \$14.00-\$15.99 .....                    | 1,009                | 7              | 10                            | 4                            | 2                             | 3                          | .....   | .....          | 1       | .....          | 1,036                |
| \$16.00-\$17.99 .....                    | 359                  | 1              | 2                             | .....                        | 8                             | 1                          | .....   | .....          | .....   | .....          | 371                  |
| \$18.00-\$19.99 .....                    | 119                  | 4              | .....                         | .....                        | 1                             | 3                          | .....   | .....          | .....   | .....          | 127                  |
| \$20.00 and over .....                   | 185                  | 2              | 2                             | 4                            | .....                         | 3                          | .....   | 1              | .....   | .....          | 197                  |
| Not stated ....                          | 527                  | 24             | 11                            | 20                           | 17                            | 11                         | 2       | 6              | 2       | 4              | 624                  |
| Total private ten-<br>anted flats .....  | 6,773                | 241            | 165                           | 206                          | 124                           | 154                        | 5       | 18             | 9       | 26             | 7,721                |
| Average rent .....                       | \$ 11.45             | \$ 7.69        | \$ 7.84                       | \$ 6.40                      | \$ 8.11                       | \$ 5.57                    | \$ 0.67 | \$ 7.13        | \$ 7.81 | \$ 8.47        | \$ 10.93             |

(a) Includes dwellings occupied by tenants of The State Housing Commission of Western Australia.

At the 1966 Census, of the tenanted private houses for which rent (unfurnished) was stated, 77.79 per cent had rentals below \$10 per week, while the corresponding proportion for tenanted flats was 33.34 per cent. The average weekly rent of private houses (\$7.48) was considerably lower than the figure for flats (\$10.93).

More than one-half (59.73 per cent) of the tenanted private houses and 87.72 per cent of the tenanted flats in Western Australia were situated in the Perth Statistical Division.

Compared with other Statistical Divisions and Western Australia as a whole, average weekly rentals were highest for private houses in the North-West Statistical Division, while the Perth Statistical Division had the highest average rentals for tenanted flats. The Central Statistical Division showed the lowest average rentals for both dwelling types.

### Facilities

At the 1961 Census the question on facilities (gas, electricity, television set) was answered in relation to 190,457 private dwellings in Western Australia. Of this total, 61·3 per cent had electricity only, 33·5 per cent had both electricity and gas, and 4·99 per cent had neither electricity nor gas. At the 1966 Census, when replies were furnished in relation to 220,620 private dwellings, the proportions were 60·8 per cent with electricity only, 37·1 per cent with both electricity and gas, and 1·64 per cent with neither electricity nor gas. At the 1961 Census, 37·5 per cent of occupied private dwellings were stated to have a television set, compared with 68·6 per cent in 1966.

In the following table similar information is shown for private houses and self-contained flats at the Censuses of 1961 and 1966.

**OCCUPIED PRIVATE HOUSES AND SELF-CONTAINED FLATS  
FACILITIES: CENSUSES, 1961 AND 1966**

| Facilities                        | Private house                      |                                  |                    |         | Self-contained flat                |                                  |                    |        |
|-----------------------------------|------------------------------------|----------------------------------|--------------------|---------|------------------------------------|----------------------------------|--------------------|--------|
|                                   | Census, 30 June—                   |                                  |                    |         | Census, 30 June—                   |                                  |                    |        |
|                                   | 1961                               | 1966                             |                    |         | 1961                               | 1966                             |                    |        |
|                                   | Total,<br>private<br>houses<br>(a) | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Total,<br>self-<br>contained flats | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| Gas only .....                    | 419                                | 118                              | 613                | 731     | 7                                  | 8                                | 14                 | 22     |
| Electricity only .....            | 112,086                            | 85,220                           | 41,422             | 126,642 | 2,948                              | 3,887                            | 1,371              | 5,258  |
| Gas and electricity .....         | 56,101                             | 53,192                           | 17,224             | 70,416  | 5,667                              | 8,148                            | 585                | 8,733  |
| Neither gas nor electricity ..... | 9,401                              | 404                              | 2,246              | 2,650   | 33                                 | 5                                | 15                 | 20     |
| Not stated .....                  | 1,129                              | 115                              | 346                | 461     | 17                                 | 24                               | 17                 | 41     |
| Total .....                       | (a)179,136                         | 139,049                          | 61,851             | 200,900 | 8,672                              | 12,072                           | 2,002              | 14,074 |
| Television set .....              | 68,424                             | 118,066                          | 24,482             | 142,548 | 2,514                              | 7,653                            | 473                | 8,126  |

(a) Includes sheds, huts, etc. See second table on page 216.

### Motor Vehicles

The question concerning motor vehicles used by members of households (see footnote to following table) was included in the census schedule in 1966 for the first time. Of the total of 198,100 occupied private houses in Western Australia for which replies were received, 17·8 per cent had no vehicle, 53·7 per cent had one vehicle, 20·9 per cent had two vehicles, 5·37 per cent had three vehicles, and 2·19 per cent had four or more vehicles. The corresponding proportions for self-contained flats were 35·6 per cent, 53·5 per cent, 9·24 per cent, 1·31 per cent, and 0·32 per cent.

**OCCUPIED PRIVATE HOUSES AND SELF-CONTAINED FLATS  
NUMBER OF MOTOR VEHICLES (a): CENSUS, 30 JUNE 1966**

| Number of<br>motor vehicles<br>(a) | Private house                    |                    |         | Self-contained flat              |                    |        |
|------------------------------------|----------------------------------|--------------------|---------|----------------------------------|--------------------|--------|
|                                    | Perth<br>Statistical<br>Division | Other<br>Divisions | Total   | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| No vehicle .....                   | 27,465                           | 7,872              | 35,337  | 4,372                            | 499                | 4,871  |
| 1 vehicle .....                    | 75,935                           | 30,483             | 106,418 | 6,241                            | 1,085              | 7,326  |
| 2 vehicles .....                   | 27,719                           | 13,657             | 41,376  | 1,008                            | 257                | 1,265  |
| 3 vehicles .....                   | 5,092                            | 5,544              | 10,636  | 131                              | 48                 | 179    |
| 4 or more vehicles .....           | 1,100                            | 3,233              | 4,333   | 26                               | 18                 | 44     |
| Not stated .....                   | 1,738                            | 1,062              | 2,800   | 294                              | 95                 | 389    |
| Total houses, flats .....          | 139,049                          | 61,851             | 200,900 | 12,072                           | 2,002              | 14,074 |
| Total vehicles (a) .....           | 151,394                          | 89,203             | 240,597 | 8,783                            | 1,827              | 10,610 |

(a) Householders were asked to state 'the number of Motor Vehicles (excluding Motor Cycles and Scooters) used by members of this household that were garaged or parked at or near this dwelling for the night of Thursday, 30th June'.

### Unoccupied Dwellings

For dwellings not occupied on the night of the Census, collectors were required to determine as many particulars as possible and, where the information was available, to enter on the Census schedule the reason why the dwelling was unoccupied. That this information could not be ascertained in a high proportion of cases is evident from the numbers shown in the following table in the category 'Other and not stated', equivalent to 17·1 per cent of all unoccupied private dwellings in 1961 and 34·1 per cent in 1966.

UNOCCUPIED PRIVATE DWELLINGS—CENSUSES, 1961 AND 1966

| Reason for being unoccupied                               | Census, 30 June—                             |                                  |                    |        |
|-----------------------------------------------------------|----------------------------------------------|----------------------------------|--------------------|--------|
|                                                           | 1961                                         | 1966                             |                    |        |
|                                                           | Total,<br>unoccupied<br>private<br>dwellings | Perth<br>Statistical<br>Division | Other<br>Divisions | Total  |
| For sale or for renting ....                              | 2,487                                        | 1,593                            | 1,192              | 2,785  |
| Holiday home, week-ender, seasonal workers' quarters .... | 4,771                                        | 2,266                            | 2,852              | 5,118  |
| Occupants temporarily absent ....                         | 3,463                                        | 1,828                            | 1,390              | 3,218  |
| To be demolished, condemned ....                          | 296                                          | 187                              | 197                | 384    |
| Other and not stated ....                                 | 2,273                                        | 2,309                            | 3,653              | 5,962  |
| Total ....                                                | 13,290                                       | 8,183                            | 9,284              | 17,467 |

### Geographical Distribution of Dwellings

**Statistical Divisions.** The following tables show the numbers and proportions of occupied dwellings in each of the Statistical Divisions of Western Australia at each Census from 1911 to 1966, and a dissection according to class of dwelling at the Censuses of 1961 and 1966.

Between the Censuses of 1961 and 1966, the number of occupied private houses in the Perth Statistical Division increased by 18·4 per cent compared with an increase of 6·46 per cent in the rest of the State. The number of occupied self-contained flats rose by 65·7 per cent in the Perth Statistical Division and 44·5 per cent in the rest of the State. The total number of occupied private dwellings in the Perth Statistical Division rose by 19·9 per cent. Other Divisions showing an increase were North-West, 75·6 per cent; Kimberley, 63·1 per cent; Pilbara, 59·7 per cent; Northern Agricultural, 11·1 per cent; Southern Agricultural, 8·19 per cent; South-West, 5·07 per cent; and Central Agricultural, 2·58 per cent. Divisions in which a decrease was recorded were Central, 11·4 per cent, and Eastern Goldfields, 2·28 per cent.

OCCUPIED DWELLINGS IN STATISTICAL DIVISIONS—CENSUSES, 1911 TO 1966  
(Figures compiled on the basis of the 1966 boundaries)

| Statistical Division<br>(a)     | Census date     |                 |                 |                 |                 |                 |                 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                 | 1911<br>3 April | 1921<br>4 April | 1933<br>30 June | 1947<br>30 June | 1954<br>30 June | 1961<br>30 June | 1966<br>30 June |
| Perth Statistical Division .... | 24,358          | 35,190          | 53,394          | 74,478          | 102,745         | 129,488         | 154,985         |
| Other Divisions—                |                 |                 |                 |                 |                 |                 |                 |
| South-West ....                 | 7,381           | 8,319           | 12,544          | 13,611          | 17,336          | 18,714          | 19,703          |
| Southern Agricultural ....      | 3,903           | 4,654           | 6,410           | 6,522           | 9,159           | 10,775          | 11,688          |
| Central Agricultural ....       | 8,115           | 9,026           | 12,352          | 10,872          | 13,378          | 14,097          | 14,540          |
| Northern Agricultural ....      | 2,953           | 3,846           | 5,963           | 5,691           | 7,403           | 8,338           | 9,345           |
| Eastern Goldfields ....         | 17,058          | 9,808           | 9,271           | 10,614          | 9,607           | 9,389           | 9,257           |
| Central ....                    | 3,261           | 1,344           | 2,247           | 1,628           | 1,205           | 1,015           | 926             |
| North-West ....                 | 416             | 389             | 526             | 506             | 749             | 922             | 1,624           |
| Pilbara ....                    | 856             | 414             | 323             | 322             | 564             | 643             | 1,047           |
| Kimberley ....                  | 569             | 558             | 548             | 523             | 677             | 936             | 1,548           |
| Total ....                      | 44,512          | 38,358          | 50,184          | 50,289          | 60,078          | 64,829          | 69,678          |
| WESTERN AUSTRALIA ....          | 68,870          | 73,548          | 103,578         | 124,767         | 162,823         | 194,317         | 224,663         |

(a) For component local government areas, see map at back of Year Book.

OCCUPIED DWELLINGS IN STATISTICAL DIVISIONS—CENSUSES, 1911 TO 1966  
PERCENTAGE DISTRIBUTION

(Figures compiled on the basis of the 1966 boundaries)

| Statistical Division<br>(a) | Census date     |                 |                 |                 |                 |                 |                 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                             | 1911<br>3 April | 1921<br>4 April | 1933<br>30 June | 1947<br>30 June | 1954<br>30 June | 1961<br>30 June | 1966<br>30 June |
| Perth Statistical Division  | 35·37           | 47·85           | 51·55           | 59·69           | 63·10           | 66·64           | 68·99           |
| Other Divisions—            |                 |                 |                 |                 |                 |                 |                 |
| South-West                  | 10·72           | 11·31           | 12·11           | 10·91           | 10·65           | 9·63            | 8·77            |
| Southern Agricultural       | 5·67            | 6·33            | 6·19            | 5·23            | 5·63            | 5·55            | 5·20            |
| Central Agricultural        | 11·78           | 12·27           | 11·93           | 8·71            | 8·22            | 7·25            | 6·47            |
| Northern Agricultural       | 4·29            | 5·23            | 5·76            | 4·56            | 4·55            | 4·29            | 4·16            |
| Eastern Goldfields          | 24·77           | 13·34           | 8·95            | 8·51            | 5·90            | 4·83            | 4·12            |
| Central                     | 4·74            | 1·83            | 2·17            | 1·30            | 0·74            | 0·52            | 0·41            |
| North-West                  | 0·60            | 0·53            | 0·51            | 0·41            | 0·46            | 0·47            | 0·72            |
| Pilbara                     | 1·24            | 0·56            | 0·31            | 0·26            | 0·35            | 0·33            | 0·47            |
| Kimberley                   | 0·83            | 0·76            | 0·53            | 0·42            | 0·42            | 0·48            | 0·69            |
| Total                       | 64·63           | 52·15           | 48·45           | 40·31           | 36·90           | 33·36           | 31·01           |
| WESTERN AUSTRALIA           | 100·00          | 100·00          | 100·00          | 100·00          | 100·00          | 100·00          | 100·00          |

(a) For component local government areas, see map at back of Year Book.

OCCUPIED DWELLINGS IN STATISTICAL DIVISIONS—CLASS OF DWELLING  
CENSUSES, 1961 AND 1966

| Statistical Division<br>(a) | Private dwellings |                              |                             |                                         |                                |       | Total,<br>private<br>dwellings | Non-<br>private<br>dwellings | Total,<br>occupied<br>dwellings |
|-----------------------------|-------------------|------------------------------|-----------------------------|-----------------------------------------|--------------------------------|-------|--------------------------------|------------------------------|---------------------------------|
|                             | Private<br>house  | Share of<br>private<br>house | Self-con-<br>tained<br>flat | Share of<br>self-con-<br>tained<br>flat | Shed,<br>hut,<br>tent,<br>etc. | Other |                                |                              |                                 |
| Perth Statistical Division  | 117,397           | 2,258                        | 7,287                       |                                         |                                | 544   | 815                            | 128,301                      | 1,187                           |
| Other Divisions—            |                   |                              |                             |                                         |                                |       |                                |                              |                                 |
| South-West                  | 17,292            | 167                          | 419                         |                                         |                                | 544   | 44                             | 18,466                       | 248                             |
| Southern Agricultural       | 9,716             | 72                           | 205                         |                                         |                                | 568   | 20                             | 10,581                       | 194                             |
| Central Agricultural        | 12,902            | 146                          | 183                         |                                         |                                | 577   | 22                             | 13,830                       | 267                             |
| Northern Agricultural       | 7,415             | 77                           | 149                         |                                         |                                | 449   | 28                             | 8,118                        | 220                             |
| Eastern Goldfields          | 8,112             | 50                           | 372                         |                                         |                                | 555   | 74                             | 9,163                        | 226                             |
| Central                     | 778               |                              | 7                           |                                         |                                | 147   |                                | 932                          | 83                              |
| North-West                  | 720               | 4                            | 22                          |                                         |                                | 81    | 8                              | 835                          | 87                              |
| Pilbara                     | 487               | 6                            | 12                          |                                         |                                | 62    | 1                              | 568                          | 75                              |
| Kimberley                   | 676               | 8                            | 16                          |                                         |                                | 114   | 8                              | 822                          | 114                             |
| Total                       | 58,098            | 530                          | 1,385                       |                                         |                                | 3,097 | 205                            | 63,315                       | 1,514                           |
| WESTERN AUSTRALIA           | 175,495           | 2,788                        | 8,672                       |                                         |                                | 3,641 | 1,020                          | 191,616                      | (c) 2,701                       |

CENSUS, 30 JUNE 1961

|                            |         |       |       |     |  |       |       |         |           |
|----------------------------|---------|-------|-------|-----|--|-------|-------|---------|-----------|
|                            |         |       |       | (b) |  |       |       |         |           |
| Perth Statistical Division | 117,397 | 2,258 | 7,287 |     |  | 544   | 815   | 128,301 | 1,187     |
| Other Divisions—           |         |       |       |     |  |       |       |         |           |
| South-West                 | 17,292  | 167   | 419   |     |  | 544   | 44    | 18,466  | 248       |
| Southern Agricultural      | 9,716   | 72    | 205   |     |  | 568   | 20    | 10,581  | 194       |
| Central Agricultural       | 12,902  | 146   | 183   |     |  | 577   | 22    | 13,830  | 267       |
| Northern Agricultural      | 7,415   | 77    | 149   |     |  | 449   | 28    | 8,118   | 220       |
| Eastern Goldfields         | 8,112   | 50    | 372   |     |  | 555   | 74    | 9,163   | 226       |
| Central                    | 778     |       | 7     |     |  | 147   |       | 932     | 83        |
| North-West                 | 720     | 4     | 22    |     |  | 81    | 8     | 835     | 87        |
| Pilbara                    | 487     | 6     | 12    |     |  | 62    | 1     | 568     | 75        |
| Kimberley                  | 676     | 8     | 16    |     |  | 114   | 8     | 822     | 114       |
| Total                      | 58,098  | 530   | 1,385 |     |  | 3,097 | 205   | 63,315  | 1,514     |
| WESTERN AUSTRALIA          | 175,495 | 2,788 | 8,672 |     |  | 3,641 | 1,020 | 191,616 | (c) 2,701 |

CENSUS, 30 JUNE 1966

|                            |         |     |        |    |       |       |         |           |         |
|----------------------------|---------|-----|--------|----|-------|-------|---------|-----------|---------|
| Perth Statistical Division | 139,049 | 707 | 12,072 | 18 | 290   | 1,751 | 153,887 | 1,098     | 154,985 |
| Other Divisions—           |         |     |        |    |       |       |         |           |         |
| South-West                 | 18,398  | 34  | 561    |    | 308   | 102   | 19,403  | 300       | 19,703  |
| Southern Agricultural      | 10,672  | 13  | 291    |    | 417   | 55    | 11,448  | 240       | 11,688  |
| Central Agricultural       | 13,378  | 23  | 325    |    | 409   | 52    | 14,187  | 353       | 14,540  |
| Northern Agricultural      | 8,251   | 16  | 271    |    | 417   | 68    | 9,023   | 322       | 9,345   |
| Eastern Goldfields         | 7,848   | 32  | 405    |    | 556   | 114   | 8,955   | 302       | 9,257   |
| Central                    | 686     | 3   | 11     |    | 123   | 3     | 826     | 100       | 926     |
| North-West                 | 966     | 6   | 50     |    | 431   | 13    | 1,466   | 158       | 1,624   |
| Pilbara                    | 645     | 2   | 30     |    | 226   | 5     | 908     | 139       | 1,047   |
| Kimberley                  | 1,007   | 8   | 58     |    | 262   | 6     | 1,341   | 207       | 1,548   |
| Total                      | 61,851  | 137 | 2,002  |    | 3,149 | 418   | 67,557  | 2,121     | 69,678  |
| WESTERN AUSTRALIA          | 200,900 | 844 | 14,074 | 18 | 3,439 | 2,169 | 221,444 | (c) 3,219 | 224,663 |

(a) For component local government areas, see map at back of Year Book. (b) Not tabulated separately; where two or more household groups were occupying a self-contained flat they were counted as one household group occupying a self-contained flat. (c) For dissection according to class of dwelling see second table on page 216.

**Australian States.** The following table gives a dissection according to class of dwellings recorded in each of the Australian States and in Australia as a whole at the Census of 30 June 1966.

DWELLINGS ACCORDING TO CLASS—AUSTRALIAN STATES  
CENSUS, 30 JUNE 1966

| Class of dwelling                  | N.S.W.    | Vic.    | Qld     | S.A.    | W.A.    | Tas.   | Australia<br>(a) |
|------------------------------------|-----------|---------|---------|---------|---------|--------|------------------|
| Occupied dwellings—                |           |         |         |         |         |        |                  |
| Private dwellings—                 |           |         |         |         |         |        |                  |
| Private house .....                | 961,077   | 752,776 | 381,681 | 271,045 | 200,900 | 88,780 | 2,681,725        |
| Share of private house .....       | 11,496    | 9,166   | 1,586   | 2,140   | 844     | 469    | 25,914           |
| Self-contained flat .....          | 164,380   | 92,166  | 43,069  | 20,802  | 14,074  | 7,036  | 345,585          |
| Share of self-contained flat ..... | 666       | 277     | 104     | 61      | 18      | 22     | 1,168            |
| Shed, hut, tent, etc. ....         | 12,309    | 3,725   | 7,952   | 1,938   | 3,439   | 882    | 31,056           |
| Other private dwellings .....      | 28,194    | 23,338  | 7,759   | 3,644   | 2,169   | 1,093  | 66,478           |
| Total, Private dwellings ....      | 1,178,122 | 881,448 | 442,151 | 299,630 | 221,444 | 98,282 | 3,151,926        |
| Non-private dwellings .....        | 11,417    | 7,536   | 7,018   | 2,684   | 3,219   | 1,084  | 33,730           |
| Total, Occupied dwellings ....     | 1,189,539 | 888,984 | 449,169 | 302,314 | 224,663 | 99,366 | 3,185,656        |
| Unoccupied dwellings .....         | 101,546   | 64,757  | 41,818  | 25,110  | 17,965  | 10,800 | 263,873          |

(a) Includes Northern Territory (7,499 occupied private dwellings and 568 occupied non-private dwellings) and Australian Capital Territory (23,350 occupied private dwellings and 204 occupied non-private dwellings).

In the following table occupied dwellings recorded in each State and Territory at the 1966 Census are classified as *Metropolitan Urban*, *Other Urban* or *Rural* in accordance with the criteria outlined on page 136.

OCCUPIED DWELLINGS (a)—METROPOLITAN, OTHER URBAN, AND RURAL (b)  
STATES AND TERRITORIES: CENSUS, 30 JUNE 1966

| State or Territory           | Urban        |         |           | Rural   | Total     |
|------------------------------|--------------|---------|-----------|---------|-----------|
|                              | Metropolitan | Other   | Total     |         |           |
| NUMBER OF DWELLINGS          |              |         |           |         |           |
| New South Wales              | 706,595      | 334,201 | 1,040,796 | 148,743 | 1,189,539 |
| Victoria                     | 593,408      | 174,555 | 767,963   | 121,021 | 888,984   |
| Queensland                   | 200,239      | 150,935 | 351,174   | 97,995  | 449,169   |
| South Australia              | 205,457      | 46,926  | 252,383   | 49,931  | 302,314   |
| Western Australia            | 139,509      | 36,906  | 176,415   | 48,248  | 224,663   |
| Tasmania                     | 32,371       | 38,155  | 70,526    | 28,840  | 99,366    |
| Northern Territory           |              | 6,503   | 6,503     | 1,564   | 8,067     |
| Australian Capital Territory | 22,763       |         | 22,763    | 791     | 23,554    |
| AUSTRALIA                    | 1,900,342    | 788,181 | 2,688,523 | 497,133 | 3,185,656 |
| PERCENTAGE DISTRIBUTION      |              |         |           |         |           |
| New South Wales              | 59.40        | 28.10   | 87.50     | 12.50   | 100.00    |
| Victoria                     | 66.75        | 19.64   | 86.39     | 13.61   | 100.00    |
| Queensland                   | 44.58        | 33.60   | 78.18     | 21.81   | 100.00    |
| South Australia              | 67.96        | 15.52   | 83.48     | 16.52   | 100.00    |
| Western Australia            | 62.10        | 16.43   | 78.52     | 21.48   | 100.00    |
| Tasmania                     | 32.58        | 38.40   | 70.98     | 29.02   | 100.00    |
| Northern Territory           |              | 80.61   | 80.61     | 19.39   | 100.00    |
| Australian Capital Territory | 96.64        |         | 96.64     | 3.36    | 100.00    |
| AUSTRALIA                    | 59.65        | 24.74   | 84.39     | 15.61   | 100.00    |

(a) Private and non-private.

(b) See page 136 for definitions of *Metropolitan*, *Other Urban*, and *Rural*.

## GOVERNMENT AND GOVERNMENT-SPONSORED HOUSING

### The State Housing Commission

The State Housing Commission was established in January 1947 under the State Housing Act of 1946 to replace the Workers' Homes Board which had been created in 1912 to 'erect and dispose of workers' dwellings, and to make advances to people of

limited means to provide homes for themselves'. The Act confers on the Commission the legal authority formerly vested in the Board and has as its objects 'the improvement of existing housing conditions' and 'the provision of adequate and suitable housing accommodation for persons of limited means and certain other persons not otherwise adequately housed'. The legislation is comprehensive in scope, providing for the erection of homes for workers, the making of advances to workers for the purchase of homes, the erection of homes for letting on a weekly rental basis, the acquisition and development of land, the clearing of slums, the erection of hostels and the planning of community facilities.

The Commission consists of seven members of whom one must be the person occupying the office of General Manager of the Commission, one an officer of the State Public Service, one a representative of the building trades unions, one a registered builder (or a person qualified to be so registered), one a woman, one a discharged member of the Forces, and one a person with a wide knowledge of and experience in housing conditions in the State. The functions of the Commission include the State-wide provision of low-cost housing for purchase or rental by families of low and moderate income, under the authority of the State Housing Act and of the Commonwealth and State Housing Agreements; the administration of the Building Societies Act and the Housing Loan Guarantee Act; the administration of the War Service Homes Act (Commonwealth) as it applies to Western Australia; and the construction and maintenance of dwellings on behalf of the Government Employees' Housing Authority. Tables showing the operations of the Commission are shown on pages 227-8.

**State Housing Act.** Under the authority of the *State Housing Act, 1946-1969*, the State Housing Commission uses funds provided by the State Government to build dwellings for sale and to lend money for home building. Eligibility for assistance is restricted to persons with income below a prescribed amount, which varies according to movements in the State basic wage, but north of 26°S. latitude the Minister may allow assistance to a family having a higher income. Loans of up to \$8,000 (or more, in some cases) may be made on a minimum deposit of \$200 including the ingoing fees (or less, at the discretion of the Commission), the maximum period of repayment being forty-five years. The rate of interest (31 December 1971) is 5½ per cent per annum reducible.

Various forms of assistance have been granted to encourage home ownership, including loans secured by mortgage, advances made under contract of sale, advances for acquiring homes under leasehold conditions, second mortgage loans and loans for the completion of partly-built dwellings.

**Commonwealth and State Housing Agreements.** The final draft of an agreement on housing between the Commonwealth and State Governments was prepared at the Conference of Premiers in August 1945 and was later ratified by Commonwealth and State legislation. The Commonwealth and State Housing Agreement Act, passed by the State Parliament in 1945, enabled Western Australia to participate in the Agreement, the purpose of which was to provide homes quickly, primarily for persons at the lower income levels, by standardisation of design and erection in large groups. The Agreement provided a broad basis of collaboration between the Commonwealth and the State with the Commonwealth providing advances of money, general direction on policy and co-ordination of effort and the State undertaking the actual site acquisition and planning, the construction of the dwellings, the selection of tenants and the detailed administrative work.

Further details of the 1945 Agreement are given on page 203 of the *Western Australian Year Book*, No. 8—1969 and in earlier issues.

With the expiry of the 1945 Agreement, the Commonwealth Parliament in 1956 passed the Housing Agreement Act providing 'financial assistance to the States for the purpose of housing' for a period of five years ending on 30 June 1961. The complementary State legislation authorising the State Government to enter into the Agreement is the Commonwealth and State Housing Agreement Act of 1956.



The 1956 Agreement required that, for the first two years of its operation, at least 20 per cent of the money allocated to the State was to be advanced to building societies and other approved institutions for lending to private persons for the building or purchase of homes, the proportion to be increased to not less than 30 per cent during the remainder of the period. The balance of the allocation was to be used by the State for the erection of houses for either rental or sale. The Commonwealth was entitled to specify that of this balance a portion not exceeding 5 per cent in any one year should be set aside for the erection of houses for serving members of the defence forces. The Commonwealth provided supplementary advances to the State equal to the amounts set aside for this purpose.

On the introduction of the 1956 Agreement, the State Housing Commission adopted the policy of offering for sale before occupancy one-half of the total number of houses built, the remainder being made available on a rental basis. The proportion has since been varied several times.

Under the provisions of Commonwealth and State legislation passed in 1961 the period of operation of the Commonwealth and State Housing Agreement was extended for a further five years to 30 June 1966. The 1961 Agreement incorporated all the main features of the earlier arrangement, with only minor modifications.

In terms of the *Housing Agreement Act 1966* (Commonwealth) and the *Commonwealth and State Housing Agreement Act, 1966* (State) the operation of the Agreement, with minor amendments, was extended until 30 June 1971.

Although Agreements subsequent to that of 1945, and which were effective until 30 June 1971, made no provision for rebates to tenants unable to pay the full rental, the State Government continued the system during the period and the cost of rental rebates was \$592,116 in 1970-71.

**States Grants (Housing) Act.** The Commonwealth and State Housing Agreement was not renewed and from 1 July 1971 new arrangements will operate, under the authority of the *States Grants (Housing) Act 1971*, which has considerably altered the principles of the previous Agreements.

Under the new legislation the States will continue to determine the amount from their annual Loan Council borrowing programmes which is to be allocated to housing. Instead, however, of this amount being advanced to the States at a concessional rate of interest (as was the case under previous Agreements), the Commonwealth will make cash grants of \$2·75 million a year payable for thirty years in respect of each year's housing programme over the period 1971-72 to 1975-76. There will thus be a total payment to the States of \$82·5 million in respect of 1971-72 housing activity and the same practice will apply regarding each of the succeeding four years. The total amount of assistance provided by the Commonwealth will therefore be \$412·5 million spread over thirty-four years.

Certain conditions are attached to payment of the grants which are shared among the States in proportions specified in the Act. Western Australia's share is 11·4 per cent or \$313,500 per annum over the period nominated.

In addition to this basic housing grant, the legislation also provides for payment of a rental assistance grant to help the States meet the cost to them of reducing the rents of housing authority dwellings for families considered to have insufficient means to pay the rents ordinarily required by the authority. The grant of \$1·25 million is payable to the States in each of the five years 1971-72 to 1975-76, a total of \$6·25 million. Payment is in specified proportions, Western Australia's share being 11·5 per cent or \$143,750 per annum.

A separate agreement is to be entered into covering the provision of housing for serving members of the armed forces. Under the Commonwealth proposals, which have been accepted in principle by the States, the Commonwealth will provide by way of repayable advances all the funds required and the States will no longer be required to set aside part of their housing allocation for this purpose.

**States Grants (Dwellings for Aged Pensioners) Act.** Under the provisions of the *States Grants (Dwellings for Aged Pensioners) Act* 1969 the Commonwealth has made available to the States a grant totalling \$25 million over a period of five years for the construction of self-contained dwellings for single aged pensioners. Western Australia will receive a total of \$1.75 million over the period and under this scheme the Commission built twenty-eight units in 1969-70 and seventy-six units in 1970-71.

**Other Functions.** The State Housing Commission conducts certain other housing schemes and has completed, or is currently engaged on, other specific projects on behalf of the State Government. Under a 'Departmental Homes' scheme, which commenced in 1952-53, 1,814 houses were built in the period to 30 June 1971 for Government Departments and semi-government authorities. A Government Employees' Housing Scheme was introduced in 1958-59 and, up to 30 June 1971, had provided 522 rental houses in country areas. (See also the section *Government Employees' Housing Authority* on page 228.) The Commission has also undertaken the erection of flats for occupation by widows and by aged women pensioners, as well as cottage flats for aged married couples. Design and supervision services have been made available free of cost to several private charitable organisations which are developing pensioner housing schemes financed jointly by these organisations and the Commonwealth Government under the *Aged Persons Homes Act* 1954-1969 (Commonwealth). The Commission has also been made responsible from time to time for special housing schemes for industry or major developmental projects.

### Operations of The State Housing Commission

In this section, a summary of the activities of The State Housing Commission is given. The first table on page 228 shows the number of housing units completed by the Commission in various categories during each year from 1966-67 to 1970-71. It also shows the numbers of housing units in connection with which the Commission provided design and supervisory services free of cost to private charitable organisations.

THE STATE HOUSING COMMISSION  
REVENUE, EXPENDITURE AND FUNDS EMPLOYED  
(\$'000)

| Particulars                              | 1966-67        | 1967-68        | 1968-69        | 1969-70        | 1970-71        |
|------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Revenue—</b>                          |                |                |                |                |                |
| Rentals .....                            | 6,334          | 6,629          | 7,000          | 7,448          | 8,701          |
| Profit on sale of—                       |                |                |                |                |                |
| Houses and land .....                    | 2,375          | 5,830          | 3,820          | 3,643          | 5,356          |
| Sundry assets .....                      | 3              | 7              | 3              | 6              | 5              |
| Interest—                                |                |                |                |                |                |
| Home purchase .....                      | 4,252          | 4,731          | 5,319          | 5,787          | 6,120          |
| Other .....                              | 5              | 8              | 15             | 21             | 32             |
| Recoup of management expenses .....      | 1,167          | 1,270          | 1,396          | 1,665          | 2,039          |
| Fees and miscellaneous .....             | 449            | 337            | 408            | 473            | 558            |
| <b>Total Revenue .....</b>               | <b>14,585</b>  | <b>18,812</b>  | <b>17,961</b>  | <b>19,043</b>  | <b>22,811</b>  |
| <b>Expenditure—</b>                      |                |                |                |                |                |
| Interest—                                |                |                |                |                |                |
| Loan capital .....                       | 5,338          | 5,662          | 6,078          | 6,644          | 7,999          |
| Debentures .....                         | 381            | 502            | 592            | 681            | 837            |
| Loan repayment .....                     | 741            | 789            | 832            | 902            | 989            |
| Management expenses .....                | 2,331          | 2,410          | 2,730          | 3,167          | 3,946          |
| Rental outgoings .....                   | 1,995          | 2,267          | 2,579          | 2,919          | 2,558          |
| Other .....                              | 108            | 89             | 58             | 66             | 75             |
| <b>Total Expenditure .....</b>           | <b>10,894</b>  | <b>11,719</b>  | <b>12,869</b>  | <b>14,379</b>  | <b>16,404</b>  |
| <b>Surplus .....</b>                     | <b>3,691</b>   | <b>7,093</b>   | <b>5,092</b>   | <b>4,664</b>   | <b>6,407</b>   |
| <b>Funds employed at 30 June—</b>        |                |                |                |                |                |
| Loan indebtedness—                       |                |                |                |                |                |
| Government advances .....                | 153,496        | 165,414        | 179,592        | 193,043        | 210,243        |
| Debenture issues .....                   | 8,087          | 9,920          | 11,502         | 13,335         | 15,581         |
| Commonwealth special grants .....        | 3,824          | 5,047          | 4,986          | 4,924          | 5,563          |
| Accumulated surpluses and reserves ..... | 13,858         | 21,087         | 26,343         | 31,167         | 37,840         |
| <b>Total Funds employed .....</b>        | <b>179,265</b> | <b>201,468</b> | <b>222,423</b> | <b>242,469</b> | <b>269,227</b> |

## THE STATE HOUSING COMMISSION—DWELLINGS CONSTRUCTION

| Category                                       | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|------------------------------------------------|---------|---------|---------|---------|---------|
| Housing units (a) completed—                   |         |         |         |         |         |
| State Housing Act ....                         | 560     | 390     | 539     | *736    | 602     |
| Commonwealth and State Housing Agreements .... | 698     | 824     | 936     | *1,088  | 2,368   |
| Departmental Homes—                            |         |         |         |         |         |
| Native Welfare Department ....                 | 82      | 73      | 60      | 84      | 61      |
| Other Departments ....                         | 113     | 74      | 128     | 114     | 131     |
| Government Employees' Housing                  | 49      | 34      | 52      | 119     | 96      |
| Shire Building Scheme (b) ....                 |         |         | 2       | 31      | 25      |
| War Service Homes ....                         | 143     | 141     | 138     | 77      | 129     |
| Dwellings for Aged Pensioners (c) ....         |         |         |         | 28      | 76      |
| Other (d) ....                                 | 111     | 8       |         | 21      | 7       |
| Total ....                                     | 1,756   | 1,544   | 1,855   | 2,298   | 3,495   |
| Other activities (e) ....                      | 20      | 13      | 8       | 62      | 4       |

(a) Comprises houses and individual flat units. (b) For local government employees. (c) Constructed under the provisions of the *States Grants (Dwellings for Aged Pensioners) Act 1969*. (d) Comprises houses built by the Commission in terms of the *Laporte Industrial Factory Agreement Act, 1961-1965*, the *Broken Hill Proprietary Company's Integrated Steel Works Agreement Act, 1960*, the *Exmouth Development Scheme and Project Development (Special Agreements Scheme)*. (e) The figures shown represent housing units built by charitable organisations in connection with which the Commission provided design and supervisory services. \* Revised.

## Government Employees' Housing Authority

The Government Employees' Housing Authority is established under the provisions of the *Government Employees' Housing Act, 1964* to provide adequate and suitable housing accommodation for employees of State Government Departments to which the Act applies.

The Authority is empowered to enter into an agreement with the State Housing Commission whereby the Commission shall act as its agent upon such terms as may be mutually agreed upon by the Authority and the Commission.

## War Service Homes

Under the *War Service Homes Act 1918-1971* the Commonwealth Government provides assistance in acquiring a home to persons who satisfy the eligibility conditions set out in the Act. Persons eligible for assistance include members of the Australian Forces and nursing services enlisted or appointed for or employed on active service outside Australia or on a ship of war during the first and second World Wars, or who served in the war-like operations in Korea or Malaya, or who have served on 'special service' as defined in the *Repatriation (Special Overseas Service) Act 1962-1968* (e.g. South Vietnam). The categories of eligible persons also include the widow of an eligible person and, in certain circumstances, the widowed mother of a deceased eligible person and members of the mercantile marine service. The maximum amount of loan was, on 10 December 1971, increased from \$8,000 to \$9,000, the rate of interest remaining unchanged at 3½ per cent.

The State Housing Commission acts as the representative in Western Australia of the Director of War Service Homes.

## WAR SERVICE HOMES SCHEME—OPERATIONS IN WESTERN AUSTRALIA

| Year         | Homes provided during year |             |                          |       | Total homes provided from inception to end of year | Annual expenditure | Installments paid | Loans repaid |
|--------------|----------------------------|-------------|--------------------------|-------|----------------------------------------------------|--------------------|-------------------|--------------|
|              | By erection                | By purchase | By discharge of mortgage | Total |                                                    |                    |                   |              |
|              | No.                        | No.         | No.                      | No.   | No.                                                | \$'000             | \$'000            | No.          |
| 1966-67 .... | 144                        | 359         | 112                      | 615   | 26,916                                             | 4,509              | 7,512             | 632          |
| 1967-68 .... | 142                        | 262         | 83                       | 487   | 27,403                                             | 3,520              | 7,561             | 571          |
| 1968-69 .... | 138                        | 240         | 108                      | 486   | 27,889                                             | 3,750              | 8,280             | 727          |
| 1969-70 .... | 77                         | 234         | 151                      | 462   | 28,351                                             | 4,100              | 8,041             | 677          |
| 1970-71 .... | 129                        | 240         | 136                      | 505   | 28,856                                             | 4,675              | 7,376             | 480          |

**State Housing Death Benefit Scheme Act.** The *State Housing Death Benefit Scheme Act, 1965* establishes, with effect from 20 February 1965, a scheme to provide benefits for the families of purchasers of dwellings who die leaving unpaid the whole or part of a liability to the State Housing Commission under a contract of sale or mortgage. The benefit is applied to the credit of the deceased purchaser's account, and the instalments payable during the unexpired term of the loan are reduced accordingly.

From the inception of the scheme in 1965-66 to 30 June 1971, 169 claims have been admitted and a total of \$160,707 paid in the form of assistance to purchasers.

Additional details of the scheme are given on page 204 of the *Western Australian Year Book*, No. 8—1969 and in earlier issues.

### **Housing Loan Guarantee Act**

The purposes of the *Housing Loan Guarantee Act, 1957-1968* are to encourage, through provisions for guarantees and indemnities, the building and the purchasing of new houses. Under this Act, the Government provides guarantees to lenders of funds to building societies and other approved financial organisations making advances to persons desiring to purchase or build their own home on low deposits.

The maximum rate of interest which an approved institution may charge on a loan to a borrower is  $7\frac{1}{2}$  per cent (31 December 1971). In the metropolitan region loans may be made up to 95 per cent of the value of the house and land provided that the value of the house alone does not exceed \$10,000, the maximum loan being \$10,000. Outside the metropolitan region and south of the 26th parallel, loans may be made up to 95 per cent of the value of the house and land provided that the value of the house alone does not exceed \$11,000, with a maximum loan of \$10,000. North of the 26th parallel, loans may be made up to 95 per cent of the value of the house and land provided that the value of the house alone does not exceed \$17,500. The maximum loan permitted is \$13,000.

Complementary action has been taken by the Commonwealth in establishing the Housing Loans Insurance Corporation to foster high-ratio loans (see following section).

### **Housing Loans Insurance Scheme**

The Housing Loans Insurance Corporation was established by the *Housing Loans Insurance Act 1965* (Commonwealth) to insure approved lenders against losses arising from the making of housing loans. The Corporation consists of a chairman (who is also managing director) and a deputy chairman, who are full-time members, and three part-time members, all of whom are appointed by the Governor-General. The main purpose of the activities of the Housing Loans Insurance Corporation is to assist people to obtain, as a single loan and at a reasonable rate of interest, the money they need and can afford to borrow to obtain a home suited to their requirements.

To encourage the making of high-ratio loans the Corporation will insure loans up to 95 per cent of valuation for houses, or 90 per cent for home units with the maximum amount of loan being \$30,000. A once-and-for-all premium of  $1\frac{1}{2}$  per cent of the amount of the loan is charged by the Corporation for loans of from 90 per cent to 95 per cent of valuation. For loans below 90 per cent of valuation, lesser premium rates apply. The premium is payable by the borrower, but lenders may agree to add it to the amount of the loan for repayment by the borrower over the duration of the loan. The maximum rate of interest that may be charged on insured loans (31 December 1971) is  $8\frac{1}{4}$  per cent per annum and the maximum period for repayment is forty years for houses, or thirty-five years for home units. The maximum rate of interest is kept under continuing review and may be varied by the Corporation, with the concurrence of the Minister for Housing, whenever changes appear to be warranted by movements in interest rates generally.

The Housing Loans Insurance Corporation insures loans that are made for a wide range of purposes in addition to the purchase or construction of a dwelling. The other purposes include alterations, extensions or improvements to a dwelling, and the provision

or improvement of roads, kerbing and footpaths. An insured loan may be made only by an approved lender. Approved lenders are appointed by the Corporation from within approved classes of lenders specified by the Minister for Housing. The approved classes include banks, building societies, co-operative housing societies, friendly societies, life insurance companies, general insurance companies, trustee companies, and solicitors' and superannuation funds. The Housing Loans Insurance Corporation commenced its insurance operations in November 1965 and to 30 June 1971 had insured loans in Western Australia amounting to \$106.6 million (net).

#### HOUSING LOANS INSURANCE CORPORATION LOANS INSURED IN WESTERN AUSTRALIA

| Purpose of loan                                                   | 1966-67 |        | 1967-68 |        | 1968-69 |        | 1969-70 |        | 1970-71 |        |
|-------------------------------------------------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
|                                                                   | Number  | \$'000 | Number  | \$'000 | Number  | \$'000 | Number  | \$'000 | Number  | \$'000 |
| Houses—                                                           |         |        |         |        |         |        |         |        |         |        |
| For building a new house ....                                     | 57      | 589    | 162     | 1,828  | 334     | 4,181  | 513     | 7,000  | 813     | 10,760 |
| For purchase of a new house .....                                 | 61      | 585    | 286     | 2,963  | 588     | 7,356  | 1,085   | 14,416 | 1,273   | 16,782 |
| For purchase of a used house .....                                | 107     | 911    | 281     | 2,658  | 448     | 5,033  | 728     | 9,433  | 954     | 11,823 |
| For discharge of mortgage .....                                   | 7       | 46     | 17      | 199    | 13      | 141    | 48      | 649    | 80      | 953    |
| Home units—                                                       |         |        |         |        |         |        |         |        |         |        |
| For purchase of a new or used unit or discharge of mortgage ..... | ....    | ....   | 11      | 108    | 62      | 652    | 174     | 2,019  | 335     | 3,721  |
| Other ....                                                        | ....    | ....   | 15      | 184    | 38      | 482    | 59      | 542    | 76      | 433    |
| Total ....                                                        | 232     | 2,130  | 772     | 7,940  | 1,483   | 17,845 | 2,607   | 34,059 | 3,531   | 44,472 |

#### Homes Savings Grants

The *Homes Savings Grant Act* 1964-1971 (Commonwealth), which came into operation on 28 May 1964, is designed to 'assist young married persons, and young widowed and divorced persons with dependent children, to purchase or build their own homes'. The Act is administered, subject to any directions of the Minister, by the Secretary to the Department of Housing.

The Act provides for the payment to eligible persons of a grant of \$1 for every \$3 saved for a home by one or both of the marriage partners. The grant takes the form of a gift free of tax and is payable in respect of a house, a home unit or a flat. The maximum benefit is \$500 payable on savings of \$1,500 which must be 'acceptable' savings within the meaning of the Act.

To qualify for the grant a person must be married or a widowed or divorced person with one or more dependent children; must have lived and saved in Australia for at least three years or was an Australian citizen throughout that period; must have entered into a contract to buy a home or to have a home built, or have begun to build a home; must be under thirty-six years of age at the date of marriage and at the date of entering into a contract to buy or build the home or at the date on which building began; must not have already received a grant and must not be, nor previously have been, married to a person who has received a grant during the marriage. An undischarged bankrupt or a person serving a term of imprisonment may not receive a grant.

The grant is not payable in respect of a home where the cost, including the cost of land, exceeds \$17,500.

Grants are financed from the National Welfare Fund and the first payments were made during the year ended 30 June 1965. Expenditure on grants in Western Australia amounted to \$589,778 in 1969-70 and \$690,999 in 1970-71.

#### CONTROL OF BUILDING

Each of the local government authorities as constituted under the provisions of the *Local Government Act, 1960-1971* has power to exercise general control over the erection of buildings in its own district. The powers of local government authorities to control building derive from the Town Planning and Development Act and the Local Government Act.

The *Town Planning and Development Act, 1928-1970* gives local authorities the right to make by-laws covering such aspects of town planning as the purchase or reservation of land for thoroughfares, the density of dwelling accommodation per acre, the classification of areas for residential, commercial, industrial and recreational use, the prescription of building standards, and the general planning of new subdivisions. Town planning measures proposed by a local authority are subject to the approval of the Minister for Town Planning, who has the advice of a Town Planning Commissioner and a Town Planning Board.

The *Local Government Act, 1960-1971* contains provisions for the control of building which are compatible with those exercised under the Town Planning and Development Act but are in a more detailed form. Many local government authorities have applied the Uniform Building By-laws, and the erection of all buildings must be carried out in compliance with these by-laws. The Local Government Act provides that no new building or the alteration of an existing building may be begun before the plans have been approved by the local authority. The Governor may by Order, at the request of a local authority, suspend the operation of this provision in its district. Generally, in remote parts of the State prior approval of plans is required only in the case of building in town-site areas. Where any local authority refuses to approve plans, the Act provides that an appeal may be made to the Minister for Local Government, who has the power to modify or reverse the decision of the local authority. The order of the Minister is final and not subject to appeal. Other appeals or matters in dispute in relation to the control of building may be determined only by two referees, one of whom is appointed by the Governor and the other by the local authority concerned.

## BUILDING OPERATIONS

Since the end of the second World War, the Australian Statisticians have undertaken a quarterly collection of statistics of building operations. The first of these collections in Western Australia related to the quarter ended 30 September 1945.

VALUE OF NEW BUILDINGS COMPLETED: TYPE OF BUILDING (a)  
(\$'000)

| Type of building                     | 1966-67        | 1967-68        | 1968-69        | 1969-70        | 1970-71        |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Houses—</b>                       |                |                |                |                |                |
| Material of outer walls—             |                |                |                |                |                |
| Brick, brick veneer, concrete, stone | 61,942         | 79,812         | 110,796        | 130,842        | 130,148        |
| Wood (weatherboard, etc.)            | 107            | 115            | 69             | 355            | 1,684          |
| Asbestos-cement                      | 14,985         | 17,147         | 21,865         | 19,797         | 17,397         |
| Other                                | 1,044          | 295            | 546            | 307            | 442            |
| <b>Total, Houses</b>                 | <b>78,078</b>  | <b>97,370</b>  | <b>133,276</b> | <b>151,300</b> | <b>149,671</b> |
| <b>Flats</b>                         | <b>9,322</b>   | <b>12,577</b>  | <b>22,406</b>  | <b>40,519</b>  | <b>39,964</b>  |
| <b>Total, Houses and flats</b>       | <b>87,400</b>  | <b>109,947</b> | <b>155,682</b> | <b>191,819</b> | <b>189,636</b> |
| <b>Other new buildings—</b>          |                |                |                |                |                |
| Hotels, hostels, etc.                | 4,990          | 8,759          | 11,417         | 14,815         | 17,054         |
| Shops                                | 7,692          | 5,079          | 4,052          | 7,501          | 11,270         |
| Factories                            | 9,841          | 15,061         | 15,845         | 16,615         | 18,006         |
| Office premises                      | 7,093          | 14,608         | 10,885         | 14,294         | 39,736         |
| Other business premises              | 7,150          | 6,809          | 12,574         | 15,968         | 18,816         |
| Education                            | 10,477         | 12,051         | 14,122         | 13,297         | 20,589         |
| Religion                             | 1,147          | 683            | 1,644          | 995            | 1,145          |
| Health                               | 8,927          | 3,436          | 7,373          | 5,949          | 17,527         |
| Entertainment and recreation         | 3,080          | 3,670          | 3,848          | 6,033          | 6,750          |
| Miscellaneous                        | 14,338         | 15,299         | 17,391         | 16,110         | 24,485         |
| <b>Total, Other new buildings</b>    | <b>74,735</b>  | <b>85,456</b>  | <b>99,152</b>  | <b>111,577</b> | <b>175,377</b> |
| <b>TOTAL, ALL NEW BUILDINGS</b>      | <b>162,135</b> | <b>195,403</b> | <b>254,833</b> | <b>303,397</b> | <b>365,012</b> |

(a) See letterpress on page 232.

The survey covers the activities of building contractors who undertake the construction of new buildings; the building operations of Commonwealth, State, semi-government and local government authorities; and work performed by owner-builders.

The statistics in this section relate only to the erection of buildings as distinct from the construction of railways, bridges, earthworks, etc.

In the previous table the value of new buildings completed, classified according to the function each building is intended to serve, is shown for the period 1966-67 to 1970-71. The values shown for each type of building exclude the value of land and represent the estimated value of the buildings on completion.

The following table shows the number of new houses and flats completed, according to ownership, in each of the five years 1966-67 to 1970-71. A building is classified as 'private' or 'government' according to ownership at date of commencement. Thus 'government' includes buildings erected for Commonwealth and State Governments, semi-government and local government authorities, either by contractors or by day labour, whether these buildings are for their own use or for rental or sale after completion. Houses erected for private ownership, or which are financed or supervised by government authorities but erected for particular persons, are classified as 'private'.

#### NUMBER OF NEW HOUSES AND FLATS COMPLETED ACCORDING TO OWNERSHIP

| Year         | Private ownership (a) |       |                  | Government ownership (a) |       |                  | Total  |       |                  |
|--------------|-----------------------|-------|------------------|--------------------------|-------|------------------|--------|-------|------------------|
|              | Houses                | Flats | Houses and flats | Houses                   | Flats | Houses and flats | Houses | Flats | Houses and flats |
| 1966-67 .... | 6,676                 | 1,730 | 8,406            | 1,596                    | 12    | 1,608            | 8,272  | 1,742 | 10,014           |
| 1967-68 .... | 8,533                 | 2,382 | 10,915           | 1,325                    | 10    | 1,335            | 9,858  | 2,392 | 12,250           |
| 1968-69 .... | 11,007                | 3,337 | 14,344           | 1,833                    | 154   | 1,987            | 12,840 | 3,491 | 16,331           |
| 1969-70 .... | 12,384                | 4,915 | 17,299           | 1,549                    | 681   | 2,230            | 13,933 | 5,596 | 19,529           |
| 1970-71 .... | 9,648                 | 3,608 | 13,256           | 2,273                    | 1,405 | 3,678            | 11,921 | 5,013 | 16,934           |

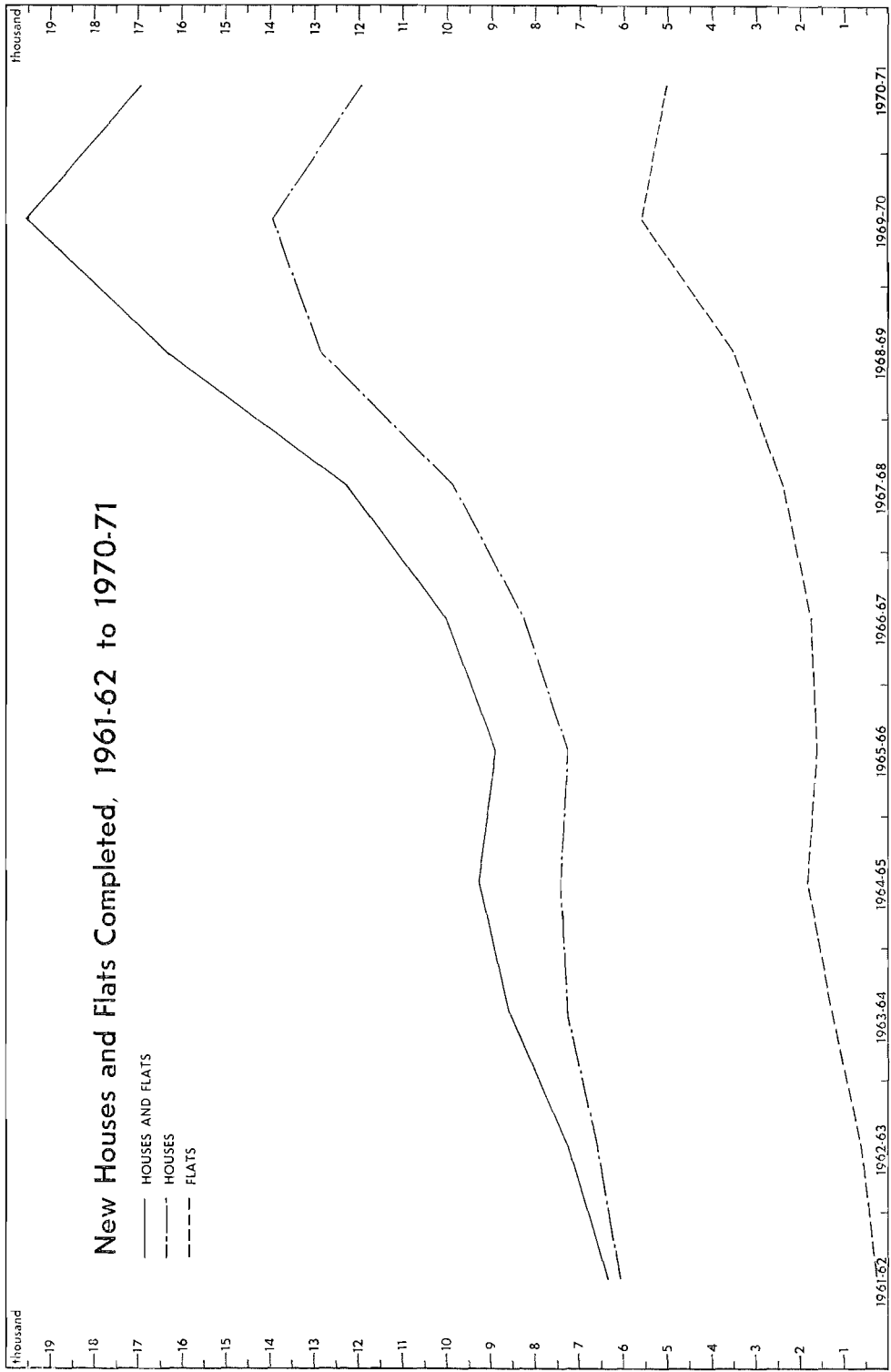
(a) See letterpress preceding table.

As an indication of the distribution of building activity throughout the State, the number of new houses completed in each Statistical Division during 1966-67 to 1970-71 is shown in the next table.

#### NUMBER OF NEW HOUSES COMPLETED IN STATISTICAL DIVISIONS

| Statistical Division            | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|---------------------------------|---------|---------|---------|---------|---------|
| Perth Statistical Division .... | 5,330   | 6,812   | 9,246   | 10,463  | 7,805   |
| Other Divisions—                |         |         |         |         |         |
| South-West ....                 | 696     | 820     | 834     | 973     | 948     |
| Southern Agricultural ....      | 387     | 359     | 384     | 365     | 314     |
| Central Agricultural ....       | 360     | 367     | 407     | 331     | 179     |
| Northern Agricultural ....      | 491     | 513     | 659     | 637     | 500     |
| Eastern Goldfields ....         | 223     | 382     | 489     | 486     | 467     |
| Central ....                    | 14      | 11      | 14      | 16      | 296     |
| North-West ....                 | 277     | 110     | 61      | 146     | 174     |
| Pilbara ....                    | 401     | 423     | 623     | 416     | 1,152   |
| Kimberley ....                  | 93      | 61      | 123     | 100     | 86      |
| Total ....                      | 2,942   | 3,046   | 3,594   | 3,470   | 4,116   |
| WESTERN AUSTRALIA ....          | 8,272   | 9,858   | 12,840  | 13,933  | 11,921  |

A further measure of building activity is that of 'value of work done' which is the estimated value of work actually carried out on buildings during the period. For any building, the sum of these values obtained during its construction equals the value of the building on completion. The figures in the following table include estimates for the value of work done on owner-built houses.





**VALUE OF WORK DONE ON NEW BUILDINGS**  
(₹'000)

| Type of building                       | 1966-67        | 1967-68        | 1968-69        | 1969-70        | 1970-71        |
|----------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Houses and flats—</b>               |                |                |                |                |                |
| Houses ....                            | 80,719         | 105,991        | 137,168        | 154,761        | 150,653        |
| Flats ....                             | 11,056         | 15,328         | 29,219         | 44,783         | 28,302         |
| <b>Total, Houses and flats</b> ....    | <b>91,775</b>  | <b>121,319</b> | <b>166,386</b> | <b>199,545</b> | <b>178,955</b> |
| <b>Other new buildings—</b>            |                |                |                |                |                |
| Hotels, hostels, etc. ....             | 6,551          | 11,620         | 10,425         | 16,574         | 16,241         |
| Shops ....                             | 4,417          | 4,750          | 5,234          | 8,434          | 14,700         |
| Factories ....                         | 10,122         | 16,593         | 15,334         | 16,052         | 19,400         |
| Office premises ....                   | 9,293          | 13,246         | 15,111         | 26,692         | 31,480         |
| Other business premises ....           | 7,055          | 8,598          | 13,499         | 18,937         | 18,905         |
| Education ....                         | 11,183         | 13,494         | 12,436         | 15,829         | 20,626         |
| Religion ....                          | 1,015          | 981            | 1,255          | 1,068          | 1,041          |
| Health ....                            | 5,774          | 5,897          | 7,871          | 12,937         | 13,975         |
| Entertainment and recreation ....      | 3,379          | 3,904          | 4,463          | 6,539          | 7,455          |
| Miscellaneous ....                     | 13,162         | 12,034         | 17,994         | 20,336         | 24,243         |
| <b>Total, Other new buildings</b> .... | <b>71,951</b>  | <b>91,118</b>  | <b>103,625</b> | <b>143,398</b> | <b>168,067</b> |
| <b>TOTAL, ALL NEW BUILDINGS</b> ....   | <b>163,726</b> | <b>212,437</b> | <b>270,012</b> | <b>342,943</b> | <b>347,022</b> |

### Employment in Building

Details of building employment are given in the following table. The figures shown relate to persons working on the jobs of contractors who undertake the erection of new buildings and on the jobs of government authorities which erect new buildings on their own account. They include persons actually engaged on alterations, additions, repairs, and maintenance when these jobs are undertaken by such contractors and authorities. The figures also include the number of persons working on new private buildings (other than houses) erected without the services of a contractor responsible for the whole job.

Informants are asked to supply details of all persons employed on their jobs *on a specified day*, including working principals, men working as or for sub-contractors, and men temporarily laid off on account of weather. Because of the intermittent employment of various types of sub-contractors on any particular job, it is sometimes difficult for informants to provide precise particulars of the number of sub-contractors and sub-contractor employees working on their jobs on the specified day. This factor may cause some understatement in the figures shown in the table. In other cases, because of frequent movement between jobs of some types of tradesmen (such as electricians) who may work on several jobs on the one day, some duplication may occur.

The figures *exclude* persons working on owner-built houses, and employees of building firms which undertake only alterations, additions, repairs, and maintenance.

### EMPLOYMENT IN BUILDING (a)

| Classification              | End of June—  |               |               |               |               |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
|                             | 1967          | 1968          | 1969          | 1970          | 1971          |
| <b>Occupational status—</b> |               |               |               |               |               |
| Contractors ....            | 639           | 697           | 697           | 673           | 646           |
| Sub-contractors....         | 2,539         | 2,882         | 3,731         | 3,132         | 3,181         |
| Wage earners ....           | 11,327        | 13,233        | 14,773        | 15,788        | 13,965        |
| <b>Total</b> ....           | <b>14,505</b> | <b>16,812</b> | <b>19,201</b> | <b>19,593</b> | <b>17,792</b> |
| <b>Occupation—</b>          |               |               |               |               |               |
| Carpenters ....             | 4,026         | 4,569         | 5,007         | 5,114         | 4,327         |
| Bricklayers ....            | 1,966         | 2,469         | 2,954         | 2,463         | 2,365         |
| Painters ....               | 1,341         | 1,494         | 1,723         | 1,611         | 1,476         |
| Electricians ....           | 1,014         | 1,126         | 1,373         | 1,364         | 1,235         |
| Plumbers ....               | 1,275         | 1,577         | 1,711         | 1,695         | 1,579         |
| Builders' labourers ....    | 2,210         | 2,602         | 2,978         | 3,171         | 2,433         |
| Other ....                  | 2,673         | 2,975         | 3,455         | 4,175         | 4,377         |
| <b>Total</b> ....           | <b>14,505</b> | <b>16,812</b> | <b>19,201</b> | <b>19,593</b> | <b>17,792</b> |

(a) See letterpress preceding table.

## DWELLINGS COMPLETED IN AUSTRALIA

The following table shows the numbers of new houses and flats completed in each of the Australian States and Territories during the year 1970-71. In Western Australia the number of new houses and flats completed per thousand of mean population was 16·75, compared with 10·71 in the rest of Australia and 11·19 in Australia as a whole. The proportion of houses to flats completed in Western Australia was 2·4:1, and throughout Australia 2·1:1.

NEW HOUSES AND FLATS COMPLETED—AUSTRALIAN STATES AND TERRITORIES  
1970-71

| State or Territory                | Houses | Flats<br>(a) | Houses and flats (a)         |                                                       |                                       |
|-----------------------------------|--------|--------------|------------------------------|-------------------------------------------------------|---------------------------------------|
|                                   |        |              | Total<br>number<br>completed | Proportion<br>of<br>Australian<br>total<br>(per cent) | Per thousand<br>of mean<br>population |
| New South Wales ....              | 29,051 | 20,346       | 49,397                       | 34·93                                                 | 10·83                                 |
| Victoria ....                     | 25,179 | 12,087       | 37,266                       | 26·35                                                 | 10·72                                 |
| Queensland ....                   | 14,685 | 3,159        | 17,844                       | 12·62                                                 | 9·86                                  |
| South Australia ....              | 8,308  | 4,000        | 12,308                       | 8·70                                                  | 10·54                                 |
| Western Australia ....            | 11,921 | 5,013        | 16,934                       | 11·98                                                 | 16·75                                 |
| Tasmania ....                     | 2,263  | 667          | 2,930                        | 2·07                                                  | 7·53                                  |
| Northern Territory ....           | 855    | 367          | 1,222                        | 0·86                                                  | 14·87                                 |
| Australian Capital Territory .... | 3,169  | 333          | 3,502                        | 2·48                                                  | 25·49                                 |
| AUSTRALIA ....                    | 95,431 | 45,972       | 141,403                      | 100·00                                                | 11·19                                 |

(a) Individual living units.

*Chapter V—continued*

## Part 5—Social Benefits, Pensions and Welfare Services

NOTE. The rates and the conditions applying to payment of the several benefits dealt with in this Part are described as they existed at 1 January 1972. The rates of benefit current at 1 January of each of the years 1968 to 1972 are summarised in a table appearing at the end of each of the relevant sections.

The information given in this Part is intended to serve as a general guide to the main provisions relating to social benefits and relief payments provided by the Commonwealth and State Governments. For more complete details of the Commonwealth benefits, reference should be made to the *Official Year Book of the Commonwealth of Australia*.

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Social benefits are provided by the Commonwealth Government under a series of Acts, and their payment is financed from a National Welfare Fund. Payments from the fund are made in respect of benefits only, and do not include the cost of administering the benefits nor of capital works associated with them. The fund receives each year by transfer from the Consolidated Revenue Fund an amount equal to the payments made. Other income of the National Welfare Fund is derived from interest on investments.

War and service pensions are paid by the Commonwealth Government from the Consolidated Revenue Fund.

The *Social Services Act* 1947-1971 provides for the payment of age and invalid pensions, widows' pensions, unemployment, sickness, and special benefits, maternity allowances and child endowment; the *Repatriation Act* 1920-1971, for war pensions and service pensions; and the *Tuberculosis Act* 1948, for allowances to sufferers from tuberculosis as well as assistance to the States in a national campaign against the disease.

Health services, such as medical, hospital and pharmaceutical benefits, are provided under the *National Health Act* 1953-1971.

War pensions, child endowment, maternity allowances and health service benefits, other than tuberculosis allowances, are paid regardless of income received from other sources or of property owned by the claimant. These payments do not affect eligibility for other social services benefits.

Age and invalid pensions (other than pensions paid to blind persons), widows' pensions and service pensions are subject to a means test in respect of both income and property. Only income is taken into account in assessing eligibility for unemployment and sickness benefits or tuberculosis allowances. Generally, a person receiving a pension or an allowance under one category is ineligible for benefit under any other.

Under the provisions of legislation passed in 1963 and 1964 certain allowances payable on account of children were extended to include 'student' children. For the purposes of the *Social Services Act* 1963 and the *Repatriation Act* 1963 the term 'student child' meant a dependent child aged between sixteen and eighteen years receiving full-time education at a school, college or university, and the allowance continued until the end of the calendar year in which the child attained the age of eighteen years. The Acts made provision for payment in respect of student children of age pensioners, invalid pensioners, widow pensioners and service pensioners. The benefit was extended to include also student children of recipients of tuberculosis allowances. The *Social Services Act* 1964 provides for the payment of child endowment on account of students until the twenty-first birthday.

In terms of amendments made to the Social Services Act and the Repatriation Act in 1965, the payment of allowances in respect of student children, which previously ceased at the end of the calendar year in which the child attained the age of eighteen years, was extended until the twenty-first birthday.

The State Government makes certain payments for the relief of women and others in necessitous circumstances which in most cases supplement benefits provided by the Commonwealth Government.

## SOCIAL SERVICES BENEFITS

### Age and Invalid Pensions

Age pensions were first paid on 1 July 1909 and invalid pensions on 15 December 1910. Pensions are payable subject to a means test which does not, however, apply to pensions paid to persons who are permanently blind.

The age pension is payable to men aged sixty-five years and over and to women aged sixty years and over who have resided in Australia continuously for at least ten years, which need not be immediately prior to the date of claim for a pension. If a person has not completed ten years' continuous residence but has been so resident for a period of not less than five years, the period of ten years' continuous residence otherwise required is reduced by the total of his periods of residence in excess of ten years. Residence in New Zealand or the United Kingdom may be treated as residence in Australia. Certain absences do not affect eligibility.

Invalid pensions are payable to persons aged sixteen years and over who have resided in Australia for a continuous period of not less than five years (including certain absences), and are permanently incapacitated for work to the extent of at least 85 per cent or are permanently blind. If the incapacity or blindness first occurred outside Australia, except during a temporary absence, a period of not less than ten years' continuous residence is necessary. If a person has not completed ten years' continuous residence but has been so resident for a period of not less than five years, the period of ten years' continuous residence otherwise required is reduced by the total of his periods of residence in excess of ten years. Residence in New Zealand or the United Kingdom may be treated as residence in Australia. Certain absences do not affect eligibility.

### AGE AND INVALID PENSIONS—WESTERN AUSTRALIA

| Particulars                            | 1966-67          | 1967-68          | 1968-69          | 1969-70          | 1970-71          |
|----------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Number of pensioners at 30 June—       |                  |                  |                  |                  |                  |
| Age—                                   |                  |                  |                  |                  |                  |
| Males ....                             | 13,796           | 14,724           | 15,257           | 17,329           | 18,071           |
| Females ....                           | 31,945           | 34,126           | 35,175           | 38,688           | 40,153           |
| Persons ....                           | 45,741           | 48,850           | 50,432           | 56,017           | 58,224           |
| Invalid—                               |                  |                  |                  |                  |                  |
| Males ....                             | 4,641            | 4,682            | 4,746            | 4,453            | 4,499            |
| Females ....                           | 3,666            | 3,628            | 3,667            | 3,480            | 3,656            |
| Persons ....                           | 8,307            | 8,310            | 8,413            | 7,933            | 8,155            |
| Average weekly pension at 30 June (a)— |                  |                  |                  |                  |                  |
| Age ....                               | 12.30            | 12.09            | 12.85            | 13.55            | 14.29            |
| Invalid ....                           | 13.30            | 13.36            | 14.67            | 15.76            | 16.57            |
| Amount paid during year (b) ....       | \$'000<br>33,794 | \$'000<br>36,418 | \$'000<br>39,404 | \$'000<br>44,637 | \$'000<br>48,979 |

(a) Includes allowances and supplementary assistance. (b) Includes amounts paid to benevolent homes for maintenance of pensioners and to pensioner inmates of these homes. Includes also allowances and supplementary assistance.

The maximum rate of pension payable to an unmarried person (*i.e.* single, widowed or divorced) is \$17.25 per week. This rate applies also to a married pensioner where the spouse is not receiving an age or invalid pension, a tuberculosis allowance or a service pension. It may also be paid to each of a pensioner couple living apart for an indefinite

period because of the illness or infirmity of either or both. In the case of a married couple, both of whom are pensioners and who are living together, the maximum weekly rate is \$15.25 for each pensioner. A wife's allowance may be granted, subject to the means test, to the wife of an invalid pensioner or of an age pensioner permanently incapacitated or blind, or if she has the care of a child and is not receiving an age or invalid pension, or a service pension. The maximum weekly rate of a wife's allowance is \$8. The pension may also be increased by \$4.50 per week, subject to the means test, for each child under sixteen years of age. These allowances apply also to student children of a pensioner. A guardian's allowance is payable to widowed and other unmarried age or invalid pensioners who have one or more children in their care. The maximum weekly rate of the allowance is \$4, which may be increased to \$6 where the pensioner has the custody, care and control of a child (or children) under six years of age, or an invalid child (or children) requiring full-time care and attention.

If the pensioner pays rent and is entirely or substantially dependent on the pension, supplementary assistance to a maximum of \$2 per week, subject to a means test, may be paid to a single pensioner or to a married pensioner whose spouse does not receive a pension or tuberculosis allowance.

The rate of pension is reducible by the application of a means test in respect of income and property which, for the purposes of assessment, excludes the pensioner's home, furniture, car, personal effects and some other specified assets.

**Rehabilitation Service.** Since 10 December 1948 a rehabilitation service has been provided for invalid pensioners and others whose disabilities are remediable and who have reasonable prospects of engaging in a suitable vocation within three years. With the aim of restoring disabled persons to independence and usefulness, the service provides the necessary treatment and training together with books, tools and equipment. Rehabilitation and training allowances are paid.

The *Social Services Act* 1968, operative from 27 September 1968, provides for a scheme of vocational training for Class 'A' and Class 'B' widow pensioners (see letterpress *Widows' Pensions* below). In addition to her pension, a trainee receives a training allowance of \$4 per week and, where appropriate, a living-away-from-home allowance not exceeding \$5 per week. Tuition fees and fares to and from the place of training are paid for under the scheme, and books and other necessary equipment are provided.

**Funeral Benefit.** From 1 July 1943, a funeral benefit of up to \$20 has been payable to persons who are required to meet the funeral expenses of an age or invalid pensioner. This benefit is increased to a maximum of \$40 where a person receiving either an age, invalid or widow's pension, or a wife's allowance, is required to meet the funeral expenses of another pensioner or those of a non-pensioner spouse or dependent child.

### **Widows' Pensions**

Widows' pensions have been paid since 30 June 1942 and are granted subject to a means test and certain residential qualifications. The term 'widow' is extended to include deserted wives, divorcees and women who have been deprived of support by the insanity or imprisonment of the husband.

Pensions and allowances payable to widows vary according to classes designated 'A', 'B' and 'C' in terms of the *Social Services Act*. To qualify for pension under Class 'A' a widow must have the custody, care and control of one or more children who may be either less than sixteen years of age or student children as defined in the Act. The maximum rate of pension is \$21.25 per week, including a mother's allowance of \$4 per week. An additional allowance of \$4.50 per week is payable in respect of each child. The mother's allowance may be increased to \$6 per week where the pensioner has the custody, care and control of a child (or children) under six years of age, or an invalid child (or children) requiring full-time care and attention. A class 'B' pensioner is one who has not the custody, care and control of any child under sixteen years of age (or any student

child) and who is at least fifty years of age, or is not less than forty-five years of age when her Class 'A' pension ceases because she no longer has a child in her custody, care and control. The maximum rate of pension payable is \$15.25 per week. A Class 'C' pensioner is a widow who, at the time of her husband's death or within twenty-six weeks thereafter, is less than fifty years of age, has not the custody, care and control of any child under sixteen years of age (or any student child), and is in necessitous circumstances. Pension at the rate of \$15.25 per week may be paid for a period of twenty-six weeks immediately after the husband's death but, if the widow is pregnant, may be continued until the birth of the child, when she may qualify for a Class 'A' pension.

A widow pensioner who pays rent and is considered to be entirely or substantially dependent on her pension may, subject to a means test, receive supplementary assistance up to a maximum of \$2 per week.

The rate of pension is reducible by the application of a means test in respect of income and property which, for the purposes of assessment, excludes the pensioner's home, furniture, car, personal effects and some other specified assets.

#### WIDOWS' PENSIONS—WESTERN AUSTRALIA

| Particulars                                | 1966-67      | 1967-68      | 1968-69      | 1969-70      | 1970-71      |
|--------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Number of pensions current at 30 June—     |              |              |              |              |              |
| Class 'A' pensioners (a) ....              | 2,333        | 2,520        | 2,579        | 2,903        | 3,050        |
| Class 'B' pensioners (b) ....              | 2,885        | 2,950        | 2,972        | 3,178        | 3,328        |
| Class 'C' pensioners (c) ....              | 10           | 12           | 8            | 5            | 14           |
| Total ....                                 | 5,228        | 5,482        | 5,559        | 6,086        | 6,392        |
| Average weekly pension at 30 June (d) .... | \$ 15.43     | \$ 15.33     | \$ 16.98     | \$ 18.41     | \$ 19.03     |
| Amount paid during year (d) ....           | \$'000 4,011 | \$'000 4,346 | \$'000 4,786 | \$'000 5,600 | \$'000 6,172 |

(a) Widow having custody, care and control of one or more children aged less than 16 years, or of a student child or children.

(b) Widow aged 50 years or over with no dependent children.

(c) Widow, other than Class 'A' or 'B', in necessitous circumstances following death of husband.

(d) Includes allowances and supplementary assistance.

#### Unemployment, Sickness and Special Benefits

Payments to persons unemployed or temporarily incapacitated for work by sickness or accident were introduced on 1 July 1945 and are subject to residential qualifications and a means test in respect of income but not of property. For unemployment benefit purposes, the incomes of both husband and wife are taken into account. For sickness benefit purposes, any payment received on account of the sickness from an approved friendly society or similar body is disregarded. Benefits are payable to males over sixteen and under sixty-five years of age and to females over sixteen and under sixty years of age. There is a waiting period of seven days before benefits are paid, but this waiting period is not required to be served more than once in any period of thirteen weeks.

The maximum weekly rate of benefit for an unmarried person over twenty-one years of age is \$10 per week. For unmarried minors, the rate is \$4.50 for those aged under eighteen years and \$6 for those aged eighteen and under twenty-one years. A minor with no parent living in Australia may qualify for a benefit of \$10 per week. A married person with dependent spouse may receive \$18 per week, with an additional \$4.50 per week for each dependent child under sixteen years of age.

The rate of sickness benefit may be increased after six consecutive weekly payments, except in cases where the beneficiary is in hospital and has no dependants. Adults and married minors may receive \$17.25 per week, and unmarried minors \$11.25 per week. A minor with no parent living in Australia may receive \$17.25 per week. A supplementary allowance up to a maximum of \$2 per week may be paid to a person receiving the long-term rate of sickness benefit if the beneficiary pays rent and is entirely or substantially dependent on the benefit.

A married woman is not eligible to receive a sickness benefit if it is reasonably possible for her husband to maintain her. Where her husband is able to maintain her only partially a benefit may be paid at such rate as is considered reasonable in the circumstances.

Special benefits have been provided since 1 July 1945. A special benefit may be granted to a person not qualified for unemployment or sickness benefit and who receives no Commonwealth pension if, on account of age, physical or mental disability or for any other reason, he is unable to earn a sufficient livelihood for himself and his dependants. Special benefits are also paid to migrants who are in accommodation centres and are awaiting their first placement in employment. The maximum rate for special benefit is the same as for unemployment benefit.

#### UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS—WESTERN AUSTRALIA

| Particulars                                        | 1966-67    | 1967-68    | 1968-69    | 1969-70      | 1970-71      |
|----------------------------------------------------|------------|------------|------------|--------------|--------------|
| <b>Unemployment benefit—</b>                       |            |            |            |              |              |
| Number admitted to benefit during year ....        | 6,573      | 6,686      | 6,521      | 6,362        | 12,718       |
| Average number on benefit at end of each week .... | 718        | 608        | 524        | 474          | 872          |
| Number on benefit at end of year—                  |            |            |            |              |              |
| Males ....                                         | 387        | 391        | 226        | 598          | 1,262        |
| Females ....                                       | 398        | 355        | 243        | 205          | 342          |
| Persons ....                                       | 785        | 746        | 469        | 803          | 1,604        |
| <b>Sickness benefit—</b>                           |            |            |            |              |              |
| Number admitted to benefit during year ....        | 5,759      | 5,796      | 5,057      | 5,358        | 5,775        |
| Average number on benefit at end of each week .... | 729        | 677        | 525        | 492          | 547          |
| Number on benefit at end of year—                  |            |            |            |              |              |
| Males ....                                         | 436        | 463        | 401        | 400          | 440          |
| Females ....                                       | 251        | 176        | 84         | 119          | 170          |
| Persons ....                                       | 687        | 639        | 485        | 519          | 610          |
| <b>Special benefit (a)—</b>                        |            |            |            |              |              |
| Number admitted to benefit during year ....        | 69         | 133        | 805        | 817          | 1,027        |
| Average number on benefit at end of each week .... | 81         | 72         | 230        | 231          | 278          |
| Number on benefit at end of year—                  |            |            |            |              |              |
| Males ....                                         | 16         | 14         | 19         | 23           | 15           |
| Females ....                                       | 54         | 96         | 230        | 228          | 223          |
| Persons ....                                       | 70         | 110        | 249        | 251          | 238          |
| <b>Benefits paid during year—</b>                  | \$'000     | \$'000     | \$'000     | \$'000       | \$'000       |
| Unemployment ....                                  | 374        | 304        | 309        | 407          | 828          |
| Sickness ....                                      | 445        | 420        | 389        | 508          | 719          |
| Special (a) ....                                   | 36         | 33         | 97         | 123          | 151          |
| <b>Total (a) ....</b>                              | <b>855</b> | <b>757</b> | <b>795</b> | <b>1,039</b> | <b>1,699</b> |

(a) Excludes special benefits to migrants in accommodation centres.

#### Maternity Allowances

Maternity allowance payments were introduced on 10 October 1912. The allowance is payable to a woman who, at the date of giving birth to a child (live or stillborn), is residing in Australia. There is no means test.

#### MATERNITY ALLOWANCES—WESTERN AUSTRALIA

| Particulars                                  | 1966-67       | 1967-68       | 1968-69       | 1969-70       | 1970-71       |
|----------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Number of claims paid—</b>                |               |               |               |               |               |
| <b>Single births: amount of allowance—</b>   |               |               |               |               |               |
| \$30 ....                                    | 6,447         | 6,909         | 7,770         | 7,682         | 9,190         |
| \$32 ....                                    | 7,848         | 8,723         | 9,296         | 9,432         | 10,828        |
| \$35 ....                                    | 3,006         | 3,149         | 3,083         | 2,990         | 3,179         |
| <b>Multiple births: amount of allowance—</b> |               |               |               |               |               |
| <b>Twins—</b>                                |               |               |               |               |               |
| \$40 ....                                    | 56            | 65            | 77            | 63            | 66            |
| \$42 ....                                    | 111           | 73            | 94            | 90            | 103           |
| \$45 ....                                    | 41            | 48            | 59            | 37            | 50            |
| <b>Triplets—</b>                             |               |               |               |               |               |
| \$50 ....                                    | ....          | 2             | 1             | ....          | 1             |
| \$52 ....                                    | 1             | ....          | 1             | ....          | ....          |
| \$55 ....                                    | ....          | ....          | ....          | ....          | ....          |
| <b>Total number of claims paid</b> ....      | <b>17,510</b> | <b>18,969</b> | <b>20,381</b> | <b>20,294</b> | <b>23,417</b> |
| <b>Amount paid</b> ....                      | \$'000 559    | \$'000 605    | \$'000 648    | \$'000 645    | \$'000 743    |

The allowance is \$30 where there are no other children under sixteen years of age, \$32 where the mother has one or two other children under sixteen years of age, or \$35 where she has three or more other such children. The amount payable is increased by \$10 for each additional child of a multiple birth. Part of the allowance may be paid four weeks before the expected date of birth, and the balance immediately after the birth.

### Child Endowment

Child endowment was introduced on 1 July 1941. The payment of endowment is not subject to a means test. A person who is resident in Australia and has the custody, care and control of one or more children under the age of sixteen years, or of a student child or children, is qualified to receive endowment in respect of each child. Approved institutions of which children are inmates are similarly entitled.

At the inception of the scheme, the first child of a family was not endowed. From 20 June 1950 child endowment has applied in respect of the first or only child of a family at the rate of fifty cents per week. Endowment for the second child is at the rate of \$1 per week, and for the third child, \$2 per week. For each subsequent child the endowment increases progressively by twenty-five cents, so that the weekly rate payable for the fourth child is \$2.25, for the fifth child \$2.50, and so on. Endowment is payable to a person having the custody, care and control of a student child (or children) aged sixteen years but under twenty-one years who is receiving full-time education at a school, college or university and is not in employment or engaged in work on his own account. Endowment is at the rate of \$1.50 per week for each such child.

An approved institution is qualified to receive \$1.50 per week in respect of each student child and \$2 per week for each other child in its care.

A summary of the principal statistics relating to child endowment in the five years ended 30 June 1971 is given in the following table.

CHILD ENDOWMENT—WESTERN AUSTRALIA

| Particulars                                   | 1966-67              | 1967-68          | 1968-69          | 1969-70              | 1970-71          |
|-----------------------------------------------|----------------------|------------------|------------------|----------------------|------------------|
| Endowed families at 30 June—                  |                      |                  |                  |                      |                  |
| Number of claims in force in respect of—      |                      |                  |                  |                      |                  |
| Children under 16 years of age ....           | 125,554              | 130,389          | 136,454          | 140,719              | 147,507          |
| Student children ....                         | 9,517                | 10,106           | 10,486           | 10,495               | 12,316           |
| Number of endowed children—                   |                      |                  |                  |                      |                  |
| Children under 16 years of age ....           | 291,705              | 302,516          | 313,857          | 317,904              | 329,671          |
| Student children ....                         | 10,579               | 10,870           | 11,290           | 11,367               | 13,449           |
| Average number of endowed children per claim— |                      |                  |                  |                      |                  |
| Children under 16 years of age ....           | 2.32                 | 2.32             | 2.30             | 2.26                 | 2.24             |
| Student children ....                         | 1.11                 | 1.08             | 1.09             | 1.08                 | 1.09             |
| Approved institutions at 30 June—             |                      |                  |                  |                      |                  |
| Number of institutions ....                   | *87                  | *93              | *95              | *92                  | 96               |
| Number of endowed child inmates—              |                      |                  |                  |                      |                  |
| Children under 16 years of age ....           | 3,923                | 3,976            | 4,290            | 4,154                | 4,177            |
| Student children ....                         | 118                  | 129              | 156              | 172                  | 288              |
| Total number of endowed children at 30 June—  |                      |                  |                  |                      |                  |
| In families ....                              | 302,284              | 313,386          | 325,147          | 329,271              | 343,120          |
| In institutions ....                          | 4,041                | 4,105            | 4,446            | 4,326                | 4,465            |
| Total ....                                    | 306,325              | 317,491          | 329,593          | 333,597              | 347,585          |
| Amount paid during year (a) (b) ....          | \$'000<br>(c) 15,498 | \$'000<br>14,845 | \$'000<br>15,540 | \$'000<br>(c) 17,894 | \$'000<br>16,423 |

(a) Includes payments to institutions. (b) A number of endowments are paid every 12 weeks. During two years in every three, there are four such payments each year, and five in the third year. (c) Expenditure in this year includes five 12-weekly payments; see note (b). \* Revised.

### Reciprocal Arrangements with other Countries

Reciprocal arrangements in respect of payment of age and invalid pensions, widows' pensions, unemployment and sickness benefits and child endowment have been in force between the Governments of Australia and New Zealand since 1 July 1949 and between Australia and the United Kingdom since 7 January 1954.



## Summary of Rates, 1968 to 1972

The following table shows the maximum weekly rates payable at 1 January of the years 1968 to 1972 in respect of age, invalid and widows' pensions, unemployment and sickness benefits, and child endowment. The rates applying to certain allowances and other forms of assistance are also shown.

SOCIAL SERVICE PAYMENTS—MAXIMUM WEEKLY RATES  
(\$)

| Pension, allowance or benefit                                                                | At 1 January— |       |           |           |           |
|----------------------------------------------------------------------------------------------|---------------|-------|-----------|-----------|-----------|
|                                                                                              | 1968          | 1969  | 1970      | 1971      | 1972      |
| Age and invalid pensions (a)—                                                                |               |       |           |           |           |
| Unmarried person .....                                                                       | 13.00         | 14.00 | 15.00     | 15.50     | 17.25     |
| Married couple—                                                                              |               |       |           |           |           |
| Where both eligible .....                                                                    | 23.50         | 25.00 | 26.50     | 27.50     | 30.50     |
| Where one person eligible .....                                                              | 13.00         | 14.00 | 15.00     | 15.50     | 17.25     |
| Wife's allowance .....                                                                       | 6.00          | 7.00  | 7.00      | 7.00      | 8.00      |
| Payments in respect of dependent children (b) (c)—                                           |               |       |           |           |           |
| First child under 16 years of age .....                                                      | 1.50          | 2.50  | 2.50      | 2.50      | 4.50      |
| Each other child under 16 years of age .....                                                 | 1.50          | 2.50  | 3.50      | 3.50      | 4.50      |
| Guardian's allowance—                                                                        |               |       |           |           |           |
| Where there is a child aged under 6 years or an invalid child requiring full-time care ..... | 4.00          | 4.00  | 6.00      | 6.00      | 6.00      |
| Other cases .....                                                                            | 4.00          | 4.00  | 4.00      | 4.00      | 4.00      |
| Widows' pensions—                                                                            |               |       |           |           |           |
| Class A (widow with dependent child or children) .....                                       | 13.00         | 14.00 | 15.00     | 15.50     | 17.25     |
| Mother's allowance—                                                                          |               |       |           |           |           |
| Where there is a child aged under 6 years or an invalid child requiring full-time care ..... | 4.00          | 4.00  | 6.00      | 6.00      | 6.00      |
| Other cases .....                                                                            | 4.00          | 4.00  | 4.00      | 4.00      | 4.00      |
| Payments in respect of dependent children (b) (c)—                                           |               |       |           |           |           |
| First child under 16 years of age .....                                                      | 1.50          | 2.50  | 2.50      | 2.50      | 4.50      |
| Each other child under 16 years of age .....                                                 | 1.50          | 2.50  | 3.50      | 3.50      | 4.50      |
| Class B (widow aged 50 years or more) .....                                                  | 11.75         | 12.50 | 13.25     | 13.75     | 15.25     |
| Class C (widow under 50 years of age in necessitous circumstances) .....                     | 11.75         | 12.50 | 13.25     | 13.75     | 15.25     |
| Supplementary assistance .....                                                               | 2.00          | 2.00  | 2.00      | 2.00      | 2.00      |
| Unemployment and sickness benefits—                                                          |               |       |           |           |           |
| Unemployment benefit and short-term sickness benefit—                                        |               |       |           |           |           |
| Unmarried person—                                                                            |               |       |           |           |           |
| Aged 16 and under 18 years .....                                                             | 3.50          | 3.50  | 4.50      | 4.50      | 4.50      |
| Aged 18 and under 21 years .....                                                             | 4.75          | 4.75  | 6.00      | 6.00      | 6.00      |
| Aged 21 years or more .....                                                                  | 8.25          | 8.25  | (d) 10.00 | (d) 10.00 | (d) 10.00 |
| Married person .....                                                                         | 8.25          | 8.25  | 10.00     | 10.00     | 10.00     |
| Dependent spouse .....                                                                       | 6.00          | 6.00  | 7.00      | 7.00      | 8.00      |
| Payments in respect of dependent children (b) (c)—                                           |               |       |           |           |           |
| First child under 16 years of age .....                                                      | 1.50          | 1.50  | 2.50      | 2.50      | 4.50      |
| Each other child under 16 years of age .....                                                 | 1.50          | 1.50  | 3.50      | 3.50      | 4.50      |
| Long-term sickness benefit (e)—                                                              |               |       |           |           |           |
| Unmarried person—                                                                            |               |       |           |           |           |
| Aged 16 and under 21 years .....                                                             | .....         | ..... | .....     | 10.00     | 11.25     |
| Aged 21 years or more .....                                                                  | .....         | ..... | .....     | (d) 15.50 | (d) 17.25 |
| Married person .....                                                                         | .....         | ..... | .....     | 15.50     | 17.25     |
| Dependent spouse .....                                                                       | .....         | ..... | .....     | 7.00      | 8.00      |
| Payments in respect of dependent children (b) (c)—                                           |               |       |           |           |           |
| First child under 16 years of age .....                                                      | .....         | ..... | .....     | 2.50      | 4.50      |
| Each other child under 16 years of age .....                                                 | .....         | ..... | .....     | 3.50      | 4.50      |
| Supplementary allowance .....                                                                | .....         | ..... | .....     | 2.00      | 2.00      |
| Child endowment—                                                                             |               |       |           |           |           |
| Children under 16 years of age—                                                              |               |       |           |           |           |
| First child .....                                                                            | 0.50          | 0.50  | 0.50      | 0.50      | 0.50      |
| Second child .....                                                                           | 1.00          | 1.00  | 1.00      | 1.00      | 1.00      |
| Third child .....                                                                            | 1.50          | 1.50  | 1.50      | 1.50      | 2.00      |
| Fourth and each subsequent child .....                                                       | (f)           | (f)   | (f)       | (f)       | (f)       |
| Student child aged 16 and under 21 years .....                                               | 1.50          | 1.50  | 1.50      | 1.50      | 1.50      |

(a) The rates shown apply also to the recipient of a sheltered employment allowance (see page 213). (b) In addition to child endowment. (c) In the case of a 'student child', i.e. where the child is a full-time student and dependent on the pensioner, payment continues until the twenty-first birthday. (d) Payable also to unmarried minor with no parent living in Australia. (e) Introduced by *Social Services Act (No. 2) 1970*, which came into operation on 28 September 1970; commences when sickness benefit has been paid continuously for six weeks, but does not apply in cases where beneficiary is in hospital and has no dependants. (f) For the fourth and each subsequent child the rate increases progressively by 25 cents (e.g. at 1 January 1972, the rate for the fourth child was \$2.25, for the fifth child \$2.50, and so on).

## WAR AND SERVICE PENSIONS

## War Pensions

The *Repatriation Act 1920-1971* provides for the payment of pensions to ex-servicemen (and ex-servicewomen) and their dependants in respect of disability or death accepted as due to war service.

For members of the forces who served outside Australia, or within Australia in circumstances which can be regarded as combat against the enemy, pensions are payable in respect of incapacity or death which may result from any occurrence during the whole period of service. If a member served only in Australia, incapacity or death to be pensionable must have been attributable to service. In all cases, providing a member had at least six months' camp service, a condition which existed at the time of enlistment may be pensionable if it is considered that the condition was aggravated by service. If, at any time after discharge, an ex-serviceman who served in a theatre of war becomes incapacitated or dies from pulmonary tuberculosis, war pension is payable as if the incapacity or death resulted from an occurrence on service.

The main classes of war pensions are the special (T.P.I.) rate, the intermediate rate, the general rate and the war widow's pension. The special rate of war pension, \$42·50 per week, is payable to those who are totally and permanently incapacitated and are unable to earn more than a negligible percentage of a living wage. The intermediate rate of war pension, \$30·25 per week, is payable to an ex-serviceman who, because of the severity of a war-caused incapacity, can work only part-time or intermittently and, in consequence, is unable to earn a living wage. The wife of a pensioner receiving the special rate or the intermediate rate of war pension is paid \$4·05 per week plus \$1·38 per week for each child under sixteen years of age. The general rate of war pension is the rate payable to those who suffer war-caused disabilities but are not thereby prevented from working, although their earning capacity may be reduced. The actual pension payable is assessed in accordance with the degree of incapacity suffered. The maximum (100 per cent) rate is \$12 per week. A wife and children also receive pensions at rates according to the assessed degree of incapacity of the ex-serviceman, the maximum being \$4·05 per week for a wife and \$1·38 per week for each child under sixteen years of age. A war widow's pension at the rate of \$17·25 per week is paid to the widow of an ex-serviceman who died as a result of war service. Children under the age of sixteen years are pensionable at a weekly rate of \$7 for each child. Where both parents are dead, pension at the rate of \$14 per week is payable for each child under the age of sixteen years.

Provision is also made for the payment of certain allowances, among which are a domestic allowance, special compensation allowance, attendant's allowance, and allowances for clothing and recreation transport.

#### WAR PENSIONS (a)—WESTERN AUSTRALIA

| Particulars                                     | 1966-67          | 1967-68          | 1968-69          | 1969-70          | 1970-71          |
|-------------------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Number of pensions current at 30 June—          |                  |                  |                  |                  |                  |
| Incapacitated ex-servicemen .....               | 19,038           | 18,849           | 18,668           | 18,449           | 18,181           |
| Dependants of incapacitated ex-servicemen ..... | 29,532           | 28,008           | 26,529           | 25,257           | 24,037           |
| Dependants of deceased ex-servicemen .....      | 4,356            | 4,300            | 4,295            | 4,254            | 4,264            |
| Miscellaneous (b) .....                         | 41               | 36               | 34               | 33               | 32               |
| Total .....                                     | 52,967           | 51,193           | 49,526           | 47,993           | 46,514           |
| Amount paid in pensions during year (c) .....   | \$'000<br>11,889 | \$'000<br>11,934 | \$'000<br>13,061 | \$'000<br>12,811 | \$'000<br>13,140 |

(a) Including pensions in respect of ex-servicewomen. (b) Pensions payable under Seamen's War Pensions and Allowances Act and 'Act of grace' pensions. (c) Includes widows' allowances.

#### Service Pensions

The payment of service pensions is provided for in the *Repatriation Act* 1920-1971 and has operated since 1 January 1936. A means test is applied in respect of income and property.

A service pension may be granted to a former member of the forces who is suffering incapacity from pulmonary tuberculosis, or who has served in a theatre of war (or, in the case of an ex-servicewoman, served abroad) and has attained the age of sixty years (or, in the case of an ex-servicewoman, fifty-five years) or is permanently unemployed.

The maximum weekly rate of pension payable to an ex-serviceman (or an ex-service-woman) is \$17·25. This rate applies to an unmarried person (*i.e.* single, widowed or divorced) or to a married person where the spouse is not receiving a Commonwealth pension or allowance. Where the spouse is receiving any such benefit the maximum rate is \$15·25 per week. The maximum pension payable to the wife of an ex-serviceman is \$8 per week. The rate for eligible children is \$4·50 for the first child, and twenty-five cents for each additional child, up to and including the fourth child of the family. An eligible child is a child under sixteen years of age, or a child up to twenty-one years who is not receiving an invalid pension and is undergoing full-time education. The service pension of an ex-serviceman is increased by \$4·50 per week for each eligible child, other than the first, whether or not such children qualify for pension in their own right.

A service pensioner who is unmarried, widowed, divorced, or married but separated, and who has care and control of one or more children, qualifies for a guardian's allowance. The maximum weekly rate of the allowance is \$4, which may be increased to \$6 where the pensioner has the custody, care and control of a child (or children) under six years of age, or an invalid child (or children) requiring full-time care and attention.

Supplementary assistance up to a maximum of \$2 per week may be paid to an ex-serviceman who is paying rent, or for lodging, or board and lodging.

The number of service pensions current in Western Australia at 30 June and the amount paid in pensions in the period 1966-67 to 1970-71 are shown in the following table.

SERVICE PENSIONS (a)—WESTERN AUSTRALIA

| Particulars                               | 1966-67         | 1967-68         | 1968-69         | 1969-70         | 1970-71         |
|-------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Number of pensions current at 30 June—    |                 |                 |                 |                 |                 |
| Ex-servicemen .....                       | 6,086           | 6,041           | 5,951           | 6,282           | 6,314           |
| Dependants of—                            |                 |                 |                 |                 |                 |
| Living service pensioners .....           | 1,130           | 1,069           | 863             | 1,004           | 972             |
| Deceased service pensioners .....         | 456             | 472             | 482             | 494             | 477             |
| Miscellaneous (b) .....                   | 2               | 4               | 2               | 3               | 4               |
| Total .....                               | 7,674           | 7,586           | 7,298           | 7,783           | 7,767           |
| Amount paid in pensions during year ..... | \$'000<br>3,612 | \$'000<br>3,777 | \$'000<br>4,071 | \$'000<br>4,491 | \$'000<br>4,769 |

(a) Including pensions in respect of ex-servicewomen.

(b) 'Act of grace' pensions.

## Summary of Rates, 1968 to 1972

The following table shows the maximum weekly rates of war and service pensions payable at 1 January of the years 1968 to 1972. The rates applying to certain allowances and other forms of assistance are also shown.

WAR AND SERVICE PENSIONS—MAXIMUM WEEKLY RATES  
(\$)

| Pension or allowance                       | At 1 January— |       |       |       |       |
|--------------------------------------------|---------------|-------|-------|-------|-------|
|                                            | 1968          | 1969  | 1970  | 1971  | 1972  |
| War pensions—                              |               |       |       |       |       |
| Special rate .....                         | 30·50         | 33·50 | 36·00 | 38·00 | 42·50 |
| Intermediate rate .....                    | 21·25         | 24·25 | 26·50 | 28·00 | 30·25 |
| General rate .....                         | 12·00         | 12·00 | 12·00 | 12·00 | 12·00 |
| Wife .....                                 | 4·05          | 4·05  | 4·05  | 4·05  | 4·05  |
| Each child under 16 years of age (a) ..... | 1·38          | 1·38  | 1·38  | 1·38  | 1·38  |
| War widows—                                |               |       |       |       |       |
| Pension .....                              | 13·00         | 14·00 | 15·00 | 15·50 | 17·25 |
| Domestic allowance (b) .....               | 7·00          | 7·00  | 7·50  | 8·00  | 8·00  |
| War orphans under 16 years of age (a)—     |               |       |       |       |       |
| Where one parent dead—                     |               |       |       |       |       |
| First child .....                          | 4·40          | 5·40  | 5·40  | 6·00  | 7·00  |
| Second and each subsequent child .....     | 3·25          | 4·25  | 4·25  | 5·00  | 7·00  |
| Where both parents dead—                   |               |       |       |       |       |
| Each child .....                           | 8·15          | 10·15 | 10·15 | 12·00 | 14·00 |

For footnotes, see page 245.

WAR AND SERVICE PENSIONS—MAXIMUM WEEKLY RATES—*continued*  
(\$)

| Pension or allowance                                                                         | At 1 January— |       |       |       |       |
|----------------------------------------------------------------------------------------------|---------------|-------|-------|-------|-------|
|                                                                                              | 1968          | 1969  | 1970  | 1971  | 1972  |
| Service pensions—                                                                            |               |       |       |       |       |
| Unmarried person .....                                                                       | 13·00         | 14·00 | 15·00 | 15·50 | 17·25 |
| Married person .....                                                                         | 11·75         | 12·50 | 13·25 | 13·75 | 15·25 |
| Wife's pension .....                                                                         | 6·00          | 7·00  | 7·00  | 7·00  | 8·00  |
| Payments in respect of dependent children (a)—                                               |               |       |       |       |       |
| Under 16 years of age (c)—                                                                   |               |       |       |       |       |
| First child .....                                                                            | 1·50          | 2·50  | 2·50  | 2·50  | 4·50  |
| Each other child up to the fourth .....                                                      | 1·75          | 2·75  | 3·75  | 3·75  | 4·75  |
| Fifth and each subsequent child .....                                                        | 1·50          | 2·50  | 3·50  | 3·50  | 4·50  |
| Guardian's allowance—                                                                        |               |       |       |       |       |
| Where there is a child aged under 6 years or an invalid child requiring full-time care ..... | 4·00          | 4·00  | 6·00  | 6·00  | 6·00  |
| Other cases .....                                                                            | 4·00          | 4·00  | 4·00  | 4·00  | 4·00  |
| Supplementary assistance .....                                                               | 2·00          | 2·00  | 2·00  | 2·00  | 2·00  |

(a) The amounts shown are payable in addition to child endowment. (b) Payable, in addition to pension, to a war widow if she has a dependent child or children under 16 years of age, or is 50 years of age or over, or is permanently unemployable, or has a child over 16 years of age undertaking education or training and not receiving an adequate living wage. (c) In the case of a 'student child', i.e. where the child is a full-time student and dependent on the pensioner, payment continues until the twenty-first birthday.

## NATIONAL HEALTH SERVICES

The *National Health Act* 1953-1971 provides for expenditure from the National Welfare Fund in respect of a free general practitioner service to eligible pensioners and their dependants; hospital, medical and pharmaceutical benefits to the community generally; and subsidised health insurance for certain persons. Other services financed from the Fund are the nutrition of children by the free supply of milk; the payment of handicapped children's benefits; the payment of allowances to sufferers from tuberculosis; reimbursement to State Governments of maintenance expenditure in relation to the diagnosis, treatment and control of tuberculosis; and a number of miscellaneous health services.

Payments from the National Welfare Fund in respect of health services in Western Australia during the five-year period ended 30 June 1970 are shown on page 273.

### Hospital and Nursing Home Benefits

The payment of hospital and nursing home benefits is authorised under Part V of the *National Health Act*. Benefits are payable only in respect of treatment received in approved hospitals and approved nursing homes. For the purposes of the *National Health Act*, premises which provide medical treatment, care and accommodation for sick persons are approved either as hospitals or as nursing homes depending mainly on their clinical standards and the type of patients accommodated. The basic principle of the provision of Commonwealth hospital benefits is the encouragement of voluntary insurance by individuals against the costs involved.

Payment of \$2 per day is made by the Commonwealth for patients in approved hospitals who are contributors to a registered hospital benefit fund, the benefit being paid through the fund. Payment of eighty cents per day is made direct to the hospital for patients who are not contributors to a benefit organisation.

In accordance with an amendment to the *National Health Act* effective from 1 July 1970, a Commonwealth benefit of \$2 per day is payable direct to approved hospitals in respect of patients, whether insured or uninsured, provided that no charge is made by the hospital.

Under arrangements made with the States, pensioners who are enrolled in the Pensioner Medical Service and are treated in public wards of public hospitals are entitled (with a few exceptions) to free public ward treatment. For this the Commonwealth pays the hospitals a benefit of \$5 per day for each pensioner.

Commonwealth benefit of \$3·50 per day is paid for all qualified patients in approved nursing homes, whether the patient is insured or not. A supplementary benefit of \$3 per day is payable for those patients in approved nursing homes who need and receive intensive nursing home care.

The following table shows the amounts of benefit paid in Western Australia during each financial year from 1966-67 to 1970-71, and the number and membership of registered benefit organisations at 30 June in each year. It should be noted that the total number of persons covered by hospital benefit schemes is considerably higher than the number of members shown, as many members contribute on account of dependants as well as for themselves.

#### HOSPITAL AND NURSING HOME BENEFITS—WESTERN AUSTRALIA

| Particulars                                 | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|---------------------------------------------|---------|---------|---------|---------|---------|
| Registered organisations—                   |         |         |         |         |         |
| Number at 30 June ....                      | 9       | 9       | 8       | 8       | 7       |
| Membership at 30 June ....                  | 288,232 | 292,803 | 317,049 | 330,298 | 349,359 |
| Amount of benefit paid during year—         |         |         |         |         |         |
| Commonwealth benefit—                       | \$'000  | \$'000  | \$'000  | \$'000  | \$'000  |
| Insured patients ....                       | 1,685   | 1,620   | 1,722   | 1,756   | 1,895   |
| Uninsured patients ....                     | 148     | 153     | 150     | 160     | 103     |
| Patients treated without charge (a) ....    | .....   | .....   | .....   | .....   | 42      |
| Pensioner patients ....                     | 1,787   | 2,316   | 2,375   | 2,246   | 2,058   |
| Nursing home patients ....                  | 2,033   | 2,222   | 2,812   | 4,319   | 4,650   |
| Special account deficits (b) ....           | 229     | 287     | 343     | 600     | 789     |
| Subsidised Medical Services Scheme (c) .... | .....   | .....   | .....   | *68     | 720     |
| Total ....                                  | 5,882   | 6,598   | 7,402   | *9,149  | 10,256  |
| Fund benefit ....                           | 5,638   | 7,033   | 8,505   | 9,400   | 10,922  |

(a) Introduced 1 July 1970; benefit payable in respect of each non-pensioner patient, whether insured or uninsured, provided that no hospital fee is charged. (b) Reimbursements paid to benefit organisations; see letterpress immediately following table. (c) See letterpress *Subsidised Health Insurance* on pages 247-8. \* Revised.

A 'special account' system was introduced on 1 January 1959 to provide an assured rate of hospital fund benefits to contributors who would otherwise have been excluded from fund benefits on account of organisations' rules covering pre-existing ailments, chronic illnesses and maximum fund benefit. One condition of payment is that the treatment in respect of which the fund benefit is paid is given in an approved hospital, although fund benefit is also payable in certain circumstances in respect of treatment given in approved nursing homes. If the payments from special accounts exceed the contributions credited to the account, the amount of the deficit is reimbursed by the Commonwealth.

Australian residents who receive hospital treatment in recognised hospitals in overseas countries, while temporarily absent from Australia, are eligible to receive the Commonwealth and fund benefits to which they are entitled.

#### Handicapped Children's Benefit

An amendment to the National Health Act in 1968 provided for the introduction of a handicapped children's benefit. Payment is made at the rate of \$1·50 per day on behalf of each handicapped child under sixteen years of age accommodated in a private non-profit institution, where the child receives medical or paramedical treatment and nursing care. The benefit became payable from 1 January 1969. Expenditure in Western Australia in the financial year 1970-71 was \$60,338.

#### Medical Benefits

A Medical Benefits Scheme commenced to operate from 1 July 1953, being authorised under the National Health (Medical Benefits) Regulations. These regulations were superseded by the National Health Act. The basic principle of the scheme is the encouragement of voluntary insurance by individuals against the costs of medical attention. The scheme provides for the payment of benefits by the Commonwealth, through medical insurance organisations registered for the purpose. The Commonwealth benefits sup-

plement the benefits paid by the registered organisations in respect of a proportion of the medical expenses, such as fees for medical and surgical treatment, incurred by members of those organisations and their dependants. Benefits provided by the Commonwealth are paid either on a fee-for-service basis or in the form of a subsidy representing a proportion of the payments made to medical practitioners by registered organisations under contract arrangements.

Under the 'special account' system referred to on page 246, contributors who would otherwise be excluded from fund benefits because of organisations' rules covering pre-existing or long-term ailments receive full fund benefits with the Commonwealth reimbursing the organisations for any deficits incurred in providing benefits in such cases.

Australian residents who, while temporarily absent from Australia, receive medical attention by registered medical practitioners are entitled, if insured, to the Commonwealth benefit and the medical fund benefit to which they would be entitled if the service were rendered in Australia.

The following table shows the number of medical services rendered in Western Australia to members of medical benefit organisations and their dependants during each financial year from 1966-67 to 1970-71. The number of organisations and their membership at 30 June in each year are also shown. It should be noted that the total number of persons covered by medical benefit schemes is considerably higher than the number of contributors, as many members subscribe for benefits on account of dependants as well as for themselves.

#### MEDICAL BENEFITS—WESTERN AUSTRALIA

| Particulars                                      | 1966-67      | 1967-68      | 1968-69      | 1969-70      | 1970-71      |
|--------------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Registered organisations—                        |              |              |              |              |              |
| Number at 30 June                                | 8            | 8            | 8            | 8            | 8            |
| Membership at 30 June                            | 279,373      | 284,463      | 309,291      | 323,486      | 344,380      |
|                                                  | '000         | '000         | '000         | '000         | '000         |
| Number of medical services received during year— |              |              |              |              |              |
| General practitioner services                    | 1,536        | 1,594        | 1,760        | 2,050        | 1,886        |
| Other                                            | 868          | 1,001        | 1,022        | 1,029        | 1,311        |
| Total                                            | 2,404        | 2,594        | 2,782        | 3,079        | 3,197        |
| Amount of benefit paid during year—              |              |              |              |              |              |
| Commonwealth benefit—                            |              |              |              |              |              |
| Ordinary                                         | \$'000 3,848 | \$'000 4,013 | \$'000 4,345 | \$'000 4,817 | \$'000 8,229 |
| Special account deficits (a)                     | 77           | 80           | 87           | 132          | 85           |
| Subsidised Medical Services Scheme (b)           | —            | —            | —            | *28          | 123          |
| Total                                            | 3,925        | 4,093        | 4,432        | *4,977       | 8,437        |
| Fund benefit                                     | 3,850        | 4,268        | 4,888        | 5,654        | 5,746        |

(a) Reimbursements paid to benefit organisations. (b) See Letterpress *Subsidised Health Insurance* below. \* Revised.

A Pensioner Medical Service, which commenced on 21 February 1951, was introduced under the authority of the National Health (Medical Services to Pensioners) Regulations made under the provisions of the *National Health Service Act 1948-1949*. The service has been continued under the provisions of the *National Health Act 1953-1971*.

Under the scheme, qualified persons and their dependants, including student children aged up to twenty-one years, are provided with a free general practitioner service. Specialist services are not provided. A small fee may be charged by practitioners who attend qualified patients outside normal surgery or visiting hours. Practitioners in the scheme are remunerated on a fee-for-service basis by the Commonwealth Government.

#### Subsidised Health Insurance

In September 1969 the National Health Act was amended to provide free health insurance for persons receiving unemployment and sickness benefits; for migrants during their first two months in Australia; and for families with weekly income not exceeding \$39, an amount approximating the average of the Commonwealth minimum wage rates

for adult males then current in the several States. In December 1969 the Commonwealth minimum weekly wage was increased by \$3·50, and in order to maintain the position applying prior to that time an amendment to the Act in 1970 raised the level of eligibility to \$42·50 per week. This amendment also provided for graduated assistance towards the payment of health insurance contributions by families with weekly incomes not exceeding \$48·50.

In terms of an amendment of 1 March 1971 to regulations under the National Health Act, families with weekly income of \$46·50 or less are entitled to full medical benefits, and also to hospital benefits equal to the cost of public ward treatment, without any payment of contributions. Families with income of more than \$46·50 but not more than \$49·50 per week are eligible for the same benefits on payment of contributions at one-third of the usual rate, while those with income of more than \$49·50 but not more than \$52·50 per week are eligible for the benefits on payment of contributions at two-thirds of the usual rate. Families eligible for this assistance may secure insurance cover higher than that needed to meet public ward hospital charges by paying the extra contributions involved.

### **Pharmaceutical Benefits**

The Pharmaceutical Benefits Scheme was inaugurated on 4 September 1950 when certain life-saving and disease-preventing drugs became available to the general community free of charge if duly prescribed by a medical practitioner registered in Australia.

From 1 March 1960 a charge has been levied, except in the case of pensioners or their dependants, for each prescription dispensed and for each repeat supply. With the introduction of this charge, the list of drugs available as pharmaceutical benefits was greatly expanded and now comprises a wide range of drugs. These include the majority of drugs covered by the British Pharmacopoeia, and additions are recommended from time to time by the Pharmaceutical Benefits Advisory Committee, a committee of experts which advises the Government on the value of drugs most suitable for the treatment of various diseases.

The charge for each prescription dispensed (and for each repeat supply) is \$1, except in the case of subsidised health beneficiaries, who pay fifty cents, and pensioners to whom drugs are supplied without charge.

A service providing pharmaceutical benefits free of charge to pensioners has been in operation since 2 July 1951. The full range of medicines supplied under the general scheme, and certain additional drugs, are available for this service. Persons qualifying for benefits are those who hold a Pensioner Medical Service entitlement card, and the dependants of such persons including student children aged up to twenty-one years.

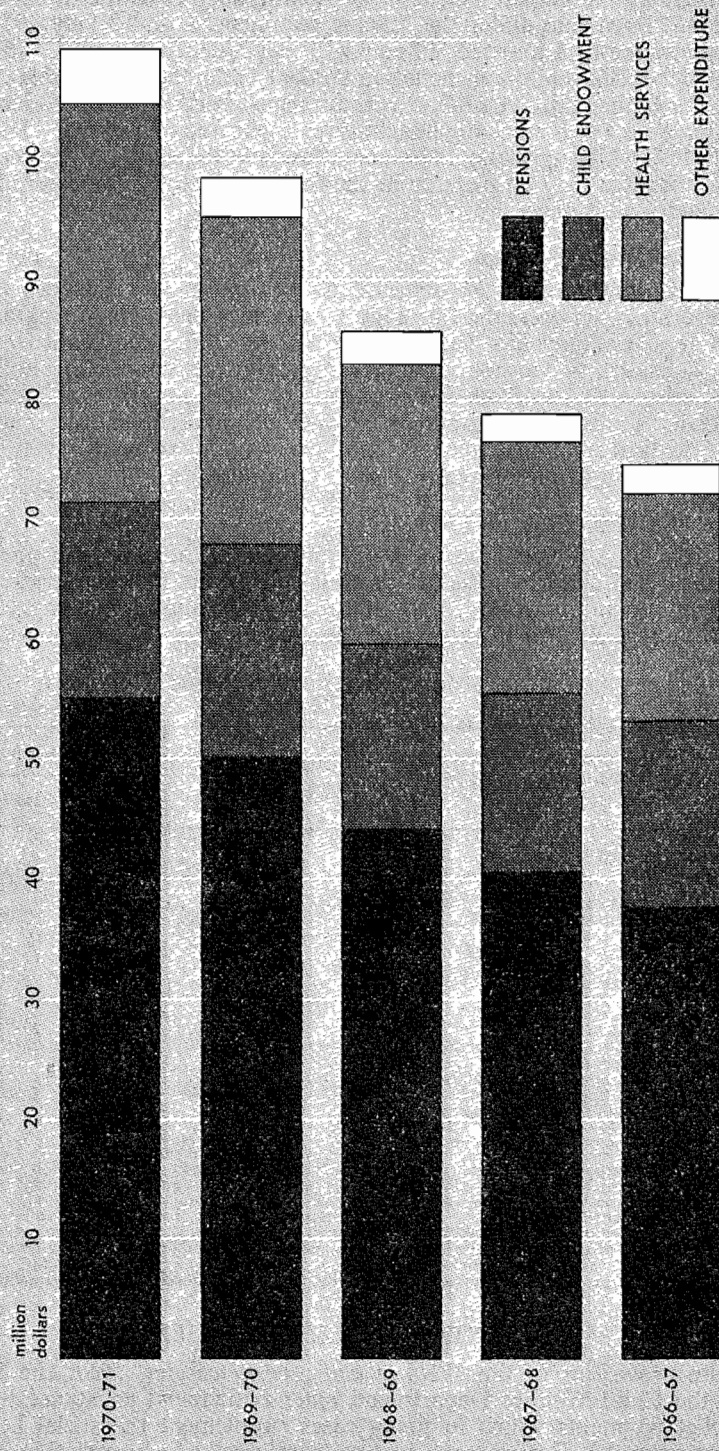
### **Free Milk for School Children**

The *States Grants (Milk for School Children) Act* 1950 provides for the distribution of free milk to school children throughout the Commonwealth, with the object of improving their diet. All children under the age of thirteen years attending school are eligible to receive this issue. The cost of the milk plus half the capital or incidental costs, including expenses incurred in administering the scheme, is reimbursed by the Commonwealth to the State, which arranges for the distribution.

### **Tuberculosis Campaign**

The *Tuberculosis Act* 1948 provides for a joint Commonwealth and State campaign against tuberculosis. The Commonwealth has an arrangement with the States, whereby each State is required to conduct a campaign against tuberculosis and to provide adequate facilities for that purpose. In consideration of this, the Commonwealth undertakes to reimburse the State for all approved capital expenditure in relation to tuberculosis and for net maintenance expenditure to the extent that it is in excess of net maintenance expenditure for the base year 1947-48. Thus, the States are required to carry out the actual physical or field work of the national campaign with the Commonwealth acting in an advisory, co-ordinating and financial capacity.

National Welfare Fund | EXPENDITURE IN WESTERN AUSTRALIA  
1966-67 to 1970-71





The Act provides also for the payment of allowances to sufferers and their dependants at such rates as the Director-General of Health, subject to the direction of the Minister, determines. Payments under the scheme commenced on 13 July 1950. The maximum rate of allowance to a married sufferer with dependent wife is \$33.75 per week. Allowances for dependent children, including student children, are payable at the rate of \$4.50 per week for each child. A sufferer without dependants is eligible to receive a maximum of \$20.50 per week or, if receiving hospital treatment free of charge, \$17.25 per week. There is a means test, which applies only to income and not to property. In certain circumstances, additional benefits may be payable in the form of a mother's or guardian's allowance or supplementary assistance.

### Miscellaneous Health Services

Other Commonwealth expenditure on health services includes the cost of district health laboratory services, the free supply of certain prophylactic materials and biological products (e.g. poliomyelitis vaccine), the supply and maintenance of hearing aids for children, subsidies to various voluntary organisations conducting home-nursing services that are assisted by the State Governments or local government authorities, the supply of artificially produced radio-active isotopes to private medical practitioners and hospitals for medical treatment purposes, and expenses in connection with the blood fractionation plant of the Commonwealth Serum Laboratories.

### Summary of Rates, 1968 to 1972

The following table shows the daily amounts of hospital and nursing home benefits and handicapped children's benefit payable during the five-year period ended 1 January 1972. The maximum weekly rates of tuberculosis allowances payable at 1 January in each of the years 1968 to 1972 are also shown.

NATIONAL HEALTH SERVICE PAYMENTS (a)  
(£)

| Benefit or allowance (n)                                           | At 1 January— |       |       |       |       |
|--------------------------------------------------------------------|---------------|-------|-------|-------|-------|
|                                                                    | 1968          | 1969  | 1970  | 1971  | 1972  |
| Hospital benefits (per day)—                                       |               |       |       |       |       |
| Insured patient (b) .....                                          | 2.00          | 2.00  | 2.00  | 2.00  | 2.00  |
| Uninsured patient .....                                            | 0.80          | 0.80  | 0.80  | 0.80  | 0.80  |
| Patient treated without charge (c) .....                           | .....         | ..... | ..... | 2.00  | 2.00  |
| Pensioner patient in public hospital (d) .....                     | 5.00          | 5.00  | 5.00  | 5.00  | 5.00  |
| Nursing home benefits (per day)—                                   |               |       |       |       |       |
| Ordinary .....                                                     | 2.00          | 2.00  | 2.00  | 2.00  | 3.50  |
| Supplementary (e) .....                                            | .....         | 3.00  | 3.00  | 3.00  | 3.00  |
| Handicapped children's benefit (per day) (e) .....                 | .....         | 1.50  | 1.50  | 1.50  | 1.50  |
| Tuberculosis allowances—                                           |               |       |       |       |       |
| Maximum weekly rate—                                               |               |       |       |       |       |
| Sufferer with dependent wife .....                                 | 26.75         | 28.25 | 29.75 | 30.75 | 33.75 |
| Sufferer without spouse but with dependent child or children ..... | 17.00         | 18.00 | 23.00 | 23.50 | 25.25 |
| Sufferer without dependants—                                       |               |       |       |       |       |
| While undergoing approved domiciliary treatment .....              | 16.25         | 17.25 | 18.25 | 18.75 | 20.50 |
| While undergoing free hospital treatment .....                     | 13.00         | 14.00 | 15.00 | 15.50 | 17.25 |
| Payments in respect of dependent children (f) (g)—                 |               |       |       |       |       |
| First child under 16 years of age .....                            | 1.50          | 2.50  | 2.50  | 2.50  | 4.50  |
| Each other child under 16 years of age .....                       | 1.50          | 2.50  | 3.50  | 3.50  | 4.50  |

(a) In addition to the benefits shown, payments from the National Welfare Fund in respect of National Health Services include medical benefits (see page 246), pharmaceutical benefits (see page 248), the cost of milk supplied free to school children (see page 248), miscellaneous health services (see above), and subsidised health insurance (see pages 247–8). (b) Member of an approved hospital insurance organisation. (c) Introduced 1 July 1970; benefit payable in respect of each non-pensioner patient, whether insured or uninsured, provided that no hospital fee is charged. (d) Benefit payable on account of a pensioner enrolled in the Pensioner Medical Service who is a patient in a public hospital and for whom no fees are charged. (e) Introduced 1 January 1969. (f) In addition to child endowment. (g) In the case of a 'student child', i.e. a dependent child who is receiving full-time education at a school, college or university, payment continues until the twenty-first birthday.

### STATE RELIEF PAYMENTS

Under the provisions of the *Welfare and Assistance Act, 1961*, the State Government, through the Child Welfare Department, extends financial assistance to indigent persons. These relief payments which in many cases supplement the social benefits provided by the Commonwealth Government are made primarily to ensure that dependent children

do not suffer hardship from the indigence of parents or guardians. Those assisted include deserted wives, unmarried mothers, divorced women, widows having the care of children, and families where the husband is unable to provide adequate support because of sickness, unemployment, age or imprisonment.

Other aid provided by the State for persons in need includes free travel for country people requiring medical treatment in the metropolitan area and the provision of school requisites for children of women receiving financial assistance. In certain circumstances, the burial of indigent persons is arranged at State expense.

Deserted wives and unmarried mothers applying to the Department for assistance are given advice concerning the legal redress available to them and it is usual for application to be made to a Summary Relief Court or a Children's Court for an order requiring the husband or the father to provide maintenance. Court orders are enforceable throughout Australia and in certain overseas countries.

State monetary assistance to widows, not in receipt of a Commonwealth widow's pension, is at the rate of \$15.25 per week, plus \$10.50 per week for the first dependent child, \$4.50 per week for the second child, \$6.50 per week for the third child, and \$4.50 for each other dependent child in her care. Unmarried mothers receive State monetary assistance at the same rate. To a widow receiving a Commonwealth pension the State pays \$2 per week if she has three or more dependent children. In this context, the term 'widow' includes deserted wives, divorced women, and women deprived of support by the insanity or imprisonment of husbands. If an age or invalid pensioner has dependent children, the State allows \$2 per week where there is one child, or \$2.50 per week where there is more than one dependent child.

Where Commonwealth unemployment or sickness benefits are payable, State financial assistance of \$11.25 for parents, plus \$1.50 for each dependent child up to a maximum of seven children, is paid for one week pending receipt of the Commonwealth benefit. In addition, Commonwealth child endowment is payable in respect of all dependent children. Details of Commonwealth Social Service benefits are given earlier in this Part in the section *Social Service Benefits*. The amount of State assistance granted is subject to a means test and in assessing income the earnings of the children of a family are taken into account.

#### FAMILIES GRANTED FINANCIAL ASSISTANCE FROM CHILD WELFARE DEPARTMENT

| Category                         | Number of applications approved |         |         |         |         |
|----------------------------------|---------------------------------|---------|---------|---------|---------|
|                                  | 1966-67                         | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
| Deserted wives .....             | 592                             | 598     | 718     | 905     | 1,274   |
| Divorced women .....             | 24                              | 21      | 26      | 32      | 18      |
| Foster mothers .....             | 131                             | 109     | 103     | 110     | 103     |
| Husband imprisoned .....         | 166                             | 165     | 184     | 202     | 272     |
| Husband pensioner .....          | 3                               | 1       | 3       | .....   | 33      |
| Husband sick or unemployed ..... | 1,672                           | 1,242   | 1,230   | 1,204   | 1,716   |
| Special cases .....              | 151                             | 134     | 119     | 118     | 125     |
| Unmarried mothers .....          | 109                             | 90      | 201     | 254     | 475     |
| Widows .....                     | 68                              | 76      | 72      | 47      | 45      |
| Total .....                      | 2,916                           | 2,436   | 2,656   | 2,872   | 4,061   |

Under the *States Grants (Deserted Wives) Act* 1968, effective from 1 January 1968, the Commonwealth shares on a \$1 for \$1 basis with participating States in the cost of helping certain mothers with dependent children who are ineligible for a Class 'A' widow's pension. The main groups of women assisted are deserted wives during the first six months of desertion; wives during the first six months of the husband's imprisonment; deserted *de facto* wives; and *de facto* wives of prisoners. The grant by the Commonwealth to a State is equal to half the cost of the approved assistance paid by the State to

each eligible person but may not exceed half the amount that would have been payable to such a person under the Social Services Act had she been eligible for a Class 'A' widow's pension.

### SUMMARY OF RELIEF AND WELFARE PAYMENTS

The following table shows the maximum weekly rates of allowances and benefits paid by the Child Welfare Department at 1 January of the years 1968 to 1972 in terms of the Welfare and Assistance Act and the Child Welfare Act.

STATE GOVERNMENT RELIEF AND WELFARE PAYMENTS (a)  
MAXIMUM WEEKLY RATES  
(\$)

| Allowance or benefit                                                                   | At 1 January— |       |       |       |       |
|----------------------------------------------------------------------------------------|---------------|-------|-------|-------|-------|
|                                                                                        | 1968          | 1969  | 1970  | 1971  | 1972  |
| Woman not receiving widow's pension under Social Services Act (Commonwealth) (b) ..... | 11.25         | 12.50 | 13.25 | 13.75 | 15.25 |
| Payments in respect of dependent children—                                             |               |       |       |       |       |
| First child .....                                                                      | 5.00          | 8.00  | 8.25  | 8.25  | 10.50 |
| Second child .....                                                                     | 1.50          | 2.50  | 3.50  | 3.50  | 4.50  |
| Third child .....                                                                      | 1.50          | 5.50  | 5.50  | 5.50  | 6.50  |
| Fourth and each subsequent child .....                                                 | 1.50          | 2.50  | 3.50  | 3.50  | 4.50  |
| Widow pensioner with dependent children (c) .....                                      | 3.00          | 3.00  | 2.00  | 2.00  | 2.00  |
| Age or invalid pensioner—                                                              |               |       |       |       |       |
| Payments in respect of dependent children—                                             |               |       |       |       |       |
| Where there is one child .....                                                         | 2.00          | 2.00  | 2.00  | 2.00  | 2.00  |
| Where there are two children .....                                                     | 2.50          | 2.50  | 2.50  | 2.50  | 2.50  |
| Where there are three or more children .....                                           | 3.50          | 3.50  | 2.50  | 2.50  | 2.50  |
| Unemployment and sickness benefits—                                                    |               |       |       |       |       |
| First week (d) —                                                                       |               |       |       |       |       |
| Married person .....                                                                   | 8.25          | 8.25  | 8.25  | 8.25  | 8.25  |
| Dependent spouse .....                                                                 | 3.00          | 3.00  | 3.00  | 3.00  | 3.00  |
| Each dependent child up to and including the seventh .....                             | 1.50          | 1.50  | 1.50  | 1.50  | 1.50  |
| Second and each subsequent week (e) —                                                  |               |       |       |       |       |
| Where there are one or two children .....                                              | 3.00          | 3.00  | ....  | ....  | ....  |
| Where there are three or four children .....                                           | 2.50          | 2.50  | ....  | ....  | ....  |
| Where there are five or more children .....                                            | 2.00          | 2.00  | ....  | ....  | ....  |
| Wards of the State—                                                                    |               |       |       |       |       |
| Foster children in families—                                                           |               |       |       |       |       |
| First child .....                                                                      | 5.60          | 5.60  | 5.60  | 7.00  | 7.00  |
| Second child .....                                                                     | 5.20          | 5.20  | 5.20  | 7.00  | 7.00  |
| Third and each additional child .....                                                  | 5.00          | 5.00  | 5.00  | 7.00  | 7.00  |
| In institutions—                                                                       |               |       |       |       |       |
| Each child .....                                                                       | 5.10          | 5.10  | 6.50  | 7.50  | 7.50  |
| Foster child (f) in institution or private home .....                                  | 4.50          | 4.50  | 5.50  | 5.50  | 5.50  |

(a) Payments made by Child Welfare Department in terms of the Welfare and Assistance Act and the Child Welfare Act. Such payments are, in general, intended to supplement benefits provided under the Social Services Act (Commonwealth) as shown on page 242.

(b) Includes divorcee; deserted wife; woman whose husband is in prison or in a mental institution; and unmarried mother receiving no direct assistance under the Social Services Act. The amounts shown apply also in the case of a widow awaiting payment of widow's pension, except that at 1 January 1968 the rate was \$10.25 and payment in respect of the first dependent child was \$4.

(c) Woman receiving widow's pension and having three or more dependent children in her care. (d) Benefits under the Social Services Act (Commonwealth) are not paid during the first week of unemployment or sickness. (e) Additional to benefits paid by the Commonwealth Government under the Social Services Act; Child Welfare Department assistance discontinued 22 October 1969.

(f) Foster child not being a ward of the State.

### CHILD WELFARE

Under the provisions of the *Child Welfare Act, 1947-1971* the State Government, through the Child Welfare Department, is responsible for the care of State wards and children placed under supervision or released on probation by Children's Courts. For the purposes of the Act, a child is defined as 'any boy or girl under the age of eighteen years'. Institutions caring for children, as well as children brought to Western Australia under child migration schemes, are subject to supervision by the Department, as also are foster-mothers who have in their care children under six years of age and are required under the Act to be licensed for this purpose. Among other functions of the Department are the arranging of legal adoptions and the licensing of children employed in street trading and in public entertainment. A provision of the Child Welfare Act vests in the Department the right to decide which institution or what form of treatment is appropriate to the needs of a child committed by a Children's Court to the care of the Department for treatment, discipline and training.

Children's Courts are established at Perth and at other centres throughout the State and have jurisdiction in all cases where children under eighteen years of age are involved whether as offenders or as being neglected or destitute. The Courts also have jurisdiction to deal with adults committing certain specified offences against children. The public may be excluded from Court hearings and names of juvenile offenders are withheld from publication unless with the express authority of the Court. Adults charged with certain indictable offences against children may forgo the right to trial by jury and agree to be dealt with summarily by Children's Courts. This power to exercise summary jurisdiction is designed to eliminate as far as possible the necessity for children to appear in open courts as witnesses in cases dealing with sex offences. A Children's Court may commit such offenders for sentence by the Supreme Court.

Children guilty of minor offences may be cautioned, fined, bound over, placed on probation, or dismissed without a conviction being recorded. A Court may declare a child to be neglected or destitute and may order the child to be committed to the care of the Child Welfare Department or released on probation. Children found guilty of offences punishable by imprisonment may be committed to the care of the Department, released on security given by parents, or released on probation under the supervision of the Department. Those guilty of less serious or first offences are generally placed in the care of their parents or suitable guardians under appropriate supervision by officers of the Child Welfare Department.

**Expenditure.** The following table gives details of the annual expenditure of the Child Welfare Department during the five-year period ended 30 June 1971.

EXPENDITURE OF CHILD WELFARE DEPARTMENT  
(\$'000)

| Nature of expenditure                 | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|---------------------------------------|---------|---------|---------|---------|---------|
| Administration .....                  | 516     | 606     | 687     | 853     | 1,128   |
| Departmental institutions .....       | 722     | 773     | 938     | 1,213   | 1,617   |
| Maintenance of wards .....            | 440     | 488     | 517     | 751     | 1,060   |
| Maintenance of migrant children ..... | 7       | 6       | 5       | 6       | 4       |
| Adoption of children .....            | .....   | .....   | .....   | 41      | 62      |
| Outdoor relief (a) .....              | 393     | 350     | 451     | 576     | 904     |
| Unemployment relief .....             | 40      | 37      | 34      | 22      | 29      |
| Parole classes .....                  | 3       | 4       | 6       | 3       | 4       |
| Burial of indigents .....             | 8       | 8       | 11      | 11      | 10      |
| Total expenditure .....               | 2,130   | 2,272   | 2,649   | 3,476   | 4,818   |
| Total revenue .....                   | 198     | 186     | 241     | 228     | 280     |
| Net expenditure .....                 | 1,932   | 2,086   | 2,408   | 3,248   | 4,538   |

(a) Assistance to women with dependent children and to the infirm.

**Wards of the Child Welfare Department.** A child committed to the care of the Child Welfare Department or to the custody of the Director of Child Welfare becomes a ward of the Department. A ward may be placed in an institution, boarded out with a relative or other approved person, paroled or placed in suitable employment. The Director of Child Welfare has authority to place wards of working age in employment or apprenticeship. The *Immigration (Guardianship of Children) Act 1946-1966* (Commonwealth) provides that the Minister for Immigration shall be the guardian of migrant children under the age of twenty-one years who are not in the care of a parent or other relative. In Western Australia this function is exercised, under delegation, by the Director of Child Welfare.

**Private Children.** In addition to wards, there are some private children under the supervision of the Department. These comprise children under six years of age who may be either in institutions or in the care of licensed foster-mothers.

**Maintenance of Children.** Payments by the Child Welfare Department to foster-parents having the care of State wards are at the weekly rate of \$7 for each child. Institutions are paid subsidies of \$7·50 per week for each ward in their care. The British Government pays \$2·50 per week for each British migrant child in institutions or boarded out and the State Government pays an additional amount of \$1·50 per week where the child is unaccompanied. A further grant of \$1 per week for each child maintained is paid to the institutions by the State Lotteries Commission. Where an institution refuses assistance from the Commission on religious or moral grounds the State Government may grant an equivalent allowance to the institution for each ward maintained. All institutions and foster-parents having the care of children receive Commonwealth child endowment payments. Under an 'emergency' foster placement scheme established by the Department during 1967, children are placed for short periods in approved private homes while awaiting permanent placement.

Parents or step-parents are required to contribute towards the maintenance of wards in institutions or boarded out.

**Day Care Centres.** Any person who provides day-to-day care of children under the age of six years must have a licence issued by the Department in accordance with the Child Welfare (Care Centres) Regulations, 1968. The regulations specify standards relating to premises, furnishings, equipment, staffing and the general conduct of centres. An advisory service is provided by the Department to assist those wishing to establish centres, and to ensure that the regulations are observed and that good standards of child care are maintained.

**Adoption of Children.** Any person wishing to adopt a child must first obtain the written approval of the Director of Child Welfare. Legal adoptions may be arranged by the Department or privately by solicitors. In either case, the Director is required to investigate the suitability of applicants and an order for adoption must be obtained from a Judge of the Supreme Court of Western Australia.

The following table shows the number of children who were the subject of adoptions arranged by the Child Welfare Department and by private application to the Supreme Court of Western Australia during the three-year period ended 31 December 1970.

ADOPTION OF CHILDREN

| Particulars                                | Adoption arranged by—    |      |      |                         |      |      |
|--------------------------------------------|--------------------------|------|------|-------------------------|------|------|
|                                            | Child Welfare Department |      |      | Private application (a) |      |      |
|                                            | 1968                     | 1969 | 1970 | 1968                    | 1969 | 1970 |
| Ex-nuptial children—                       |                          |      |      |                         |      |      |
| Adopted by mother and present husband .... | 26                       | 14   | 17   | 6                       | 10   | 11   |
| Adopted by relatives ....                  | 2                        | 5    | .... | ....                    | 5    | 3    |
| Placed with approved adoptive parents .... | 329                      | 277  | 383  | 188                     | 187  | 241  |
| Nuptial children—                          |                          |      |      |                         |      |      |
| Adopted by mother and present husband .... | 13                       | 2    | 8    | 31                      | 31   | 38   |
| Adopted by relatives ....                  | ....                     | .... | .... | 5                       | 2    | .... |
| Placed with approved adoptive parents .... | 6                        | 7    | 2    | 5                       | .... | .... |
| Total ....                                 | 376                      | 305  | 410  | 235                     | 235  | 293  |

(a) To the Supreme Court of Western Australia.

**Institutions.** The State Government subsidises homes for children in Western Australia. Most of these institutions are conducted by religious organisations. All institutions having the care of wards (including migrant children) or private children under six years of age are subject to the supervision of the Department.

Departmental institutions provide short-term accommodation for children in need of care and children awaiting proceedings in Children's Courts; assessment facilities for children coming into the care of the Department; treatment centres in the nature of reformatories; and hostel accommodation. Children aged from three years to seventeen years are provided for. Wards under three years of age requiring short-term care are placed by arrangement at Ngala Mothercraft Home and Training Centre, South Perth.

The Child Welfare Reception Home at Mount Lawley has accommodation for forty-seven children who are either wards of the Department or are in need of care and protection. Children are generally accommodated for short periods, usually pending placement elsewhere.

Bridgewater Care and Assessment Centre at Applecross was opened in February 1969. It has accommodation for forty children in four cottages and offers short-term care for neglected or otherwise needy children who are not delinquent. Children may remain at Bridgewater for a full assessment and a decision concerning their future placement and management.

Hillston Farm School at Stoneville provides training for seventy-two boys aged from fourteen to seventeen years.

Longmore Remand and Assessment Centre at Bentley, established in 1965, provides short-term accommodation for thirty-six boys and twenty-four girls aged from thirteen to seventeen years. It serves as a detention centre for children apprehended for offences and awaiting Court proceedings, and for those remanded by Children's Courts for pre-sentence assessment and report. It also provides assessment facilities where newly-committed children can be assessed comprehensively and plans developed for future care and management.

'Nyandi' at Bentley, officially opened in February 1970, is an institution for the treatment of difficult girls. It has a maximum security unit which can accommodate twenty girls and a cottage for sixteen girls. The treatment programme is planned to provide a comprehensive approach to education and training. Varying degrees of control and supervision can be exercised, and the treatment programme is flexible so that it takes account of each girl's progress to maturity and greater social competence.

'Riverbank' at Caversham is a secure reformatory with accommodation for forty-three boy offenders. It provides a training programme incorporating school work, pre-trade experience in workshops, and recreational activities.

'Tudor Lodge' at Mount Lawley and 'Fourteen' at 14 Francis Street, Perth are hostels which provide accommodation for fourteen and ten boys, respectively. 'Stuart House' at Mount Lawley and 'Watson Lodge' at West Perth each has accommodation for ten girls.

The following table shows the number of admissions to institutions of the Child Welfare Department during the five-year period to 30 June 1971. It is important to note that the figures relate to *admissions* and not to *distinct persons*, i.e. a child has been counted once for each time he or she was admitted.

ADMISSIONS TO INSTITUTIONS OF CHILD WELFARE DEPARTMENT

| Institution                  | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|------------------------------|---------|---------|---------|---------|---------|
| Child Welfare Reception Home | 1,408   | 1,112   | 763     | 992     | 964     |
| Bridgewater (a)              | 134     | 118     | 154     | * 211   | 342     |
| Hillston                     | 794     | 770     | 1,103   | *1,329  | 233     |
| Longmore                     | 65      | 67      | 90      | 30      | 1,747   |
| Nyandi (b)                   |         |         |         | 123     | 122     |
| Riverbank                    |         |         |         |         | 173     |
| Total                        | 2,401   | 2,067   | 2,250   | *2,884  | 3,581   |

(a) Opened February 1969.

(b) Opened February 1970.

\* Revised.

**Employment of Children.** The *Child Welfare Act, 1947-1971* provides that children may not engage in street trading except under licence granted by the Department. The issue of licences is restricted to boys aged twelve years and over and it is an offence to employ an unlicensed child. Most of the licences issued are for the sale of newspapers.

The Act provides further that children under the age of sixteen years may not take part in any form of public entertainment for profit or reward unless under licence, except in the case of an occasional entertainment for the benefit of a school or charitable or patriotic object. Most of these licences are issued for concerts arranged by dancing teachers and other tutors.



BAOBAB ' PRISON TREE ' NEAR WYNDHAM

Photograph by courtesy of the Department of Development and Decentralisation

The hollow trunk of this tree is reputed to have been used at one time to house prisoners. A similar baobab tree is located at Wyndham.



## *Chapter V—continued*

### **Part 6—Law, Order and Public Safety**

The law in force in Western Australia is contained in The Statutes of Western Australia, comprising legislation passed by the Western Australian Parliament and certain Imperial Acts which have been adopted, and in the Commonwealth Acts in so far as they apply to Western Australia. Under the Constitution of the Commonwealth of Australia, 'when a law of a State is inconsistent with a law of the Commonwealth, the latter shall prevail, and the former shall, to the extent of the inconsistency, be invalid'.

Australian law adheres to the principle that judicial control must in general be exercised by ordinary courts. There is no integrated system of administrative tribunals. The ordinary courts exercise supervision over administrative tribunals either by way of statutory appeal or by the use of prerogative writs of mandamus, prohibition or *certiorari*, by which administrative tribunals can be enjoined to perform a duty or to abstain from excess of jurisdiction, or can have their decisions set aside. A basic feature of the Australian legal system is the 'rule of law': no act, official or unofficial, however *bona fide* and apparently reasonable, which infringes the liberty or rights of an individual is justifiable unless it is authorised by law, and for any such unlawful act, by whatever authority commanded, the official or other person is personally liable in an action in the ordinary courts.

#### **The Legal Profession**

The Barristers' Board, constituted under the *Legal Practitioners Act, 1893-1971*, comprises the Attorney-General as chairman; the Solicitor-General; all Queens' Counsel residing and practising in the State; persons who retire from an office of Judge of the Supreme Court of Western Australia and are resident in the State; and five practitioners of at least three years' standing and practice in the State, elected annually by the practitioners on the roll of the Supreme Court residing and practising in the State.

The Board has the power to regulate and control the examination and admission of articled clerks, and the examination of all candidates for admission as practitioners. The certificate of the Board is necessary before any person may be admitted to practice. An applicant for admission having qualifications acquired outside Western Australia must satisfy the Board that he possesses qualifications substantially equivalent to those required for the admission of persons who qualify in Western Australia.

#### **The Crown Law Department**

The Crown Law Department is administered, subject to the control of the Minister, by the Under Secretary for Law. The Department is responsible for the Supreme Court Central Office, the District Court Registry, Court Offices throughout the State, the Solicitor-General's Office, the Office of Titles, the Public Trust Office, the Companies Registration Office, and the Probation and Parole Service. The Department, in addition to administering the Acts which come under the portfolio of the Minister, conducts Crown legal business and, when required, acts for and advises all other State Government Departments and instrumentalities.

### **LAW COURTS**

The principal courts operating in Western Australia are the High Court of Australia, the Supreme Court of Western Australia, The District Court of Western Australia, the Third Party Claims Tribunal, the Magistrates' and Coroners' Courts, the Summary Relief Court and the Licensing Court of Western Australia. In Chapter X, Part 1, reference is made

to the Commonwealth Industrial Court, the Commonwealth Conciliation and Arbitration Commission, the Western Australian Industrial Appeal Court, and The Western Australian Industrial Commission.

### High Court of Australia

The High Court of Australia is the Federal Supreme Court and its powers are defined in the Commonwealth Constitution and in the *Judiciary Act* 1903-1969. The High Court consists of a Chief Justice and six other Justices. Sittings are held in the capital city of each State as occasion may require. The High Court exercises both original and appellate jurisdiction, acting as a court of appeal for Australia.

An appeal may lie from a judgment of the High Court of Australia to the Judicial Committee of the Privy Council in London. However, the *Privy Council (Limitation of Appeals) Act* 1968 (Commonwealth), which came into operation on 1 September 1968, limits the matters which may be the subject of special leave of appeal from a decision of the High Court. The Act provides, in part, that leave of appeal 'may be asked only in a matter in which the decision of the High Court was a decision that (a) was given on appeal from a decision of the Supreme Court of a State given otherwise than in the exercise of federal jurisdiction; and (b) did not involve the application or interpretation' of the Australian Constitution, or of a Commonwealth law (including any ordinance, rule, regulation or by-law made under such a law).

### Supreme Court of Western Australia

The Supreme Court of Western Australia, as constituted under the *Supreme Court Act, 1935-1971*, consists of a Chief Justice and such other Judges, not exceeding six in number, as may from time to time be appointed. The jurisdiction of the Court in both civil and criminal matters is exercised by a single Judge, sitting alone or with a jury, unless it is provided that an action must be brought before a Full Court. Criminal cases are heard before a jury. Criminal sittings of the Supreme Court are held at Perth each month from February to December, and also in January if the Chief Justice so directs. Civil sittings and Full Court sittings are held at times fixed by the Court from year to year. There are regular sittings at Albany, Bunbury, Geraldton and Kalgoorlie, and at other country centres as required.

Any two or more Judges together comprise a Full Court except that when sitting as a court of criminal appeal there must be an uneven number of Judges. Appeals are heard against judgments of the Supreme Court, the District Court and the Third Party Claims Tribunal as well as against decisions of the magistrates in lower courts.

Appeal from a judgment of the Supreme Court of Western Australia lies to the High Court of Australia, subject to the provisions of the *Judiciary Act* 1903-1969 (Commonwealth), and may also be made direct to the Privy Council.

### The District Court of Western Australia

The District Court of Western Australia is constituted under the provisions of the *District Court of Western Australia Act, 1969-1970* and consists of a Chairman of Judges and such other Judges as may from time to time be appointed. The Act, which came into operation on 1 April 1970, repeals the *Courts of Session Act, 1921*. The jurisdiction of the Court is exercised by a Judge sitting alone or with a jury. Criminal cases must be heard before a Judge and jury. Criminal sittings of the District Court are held at Perth each month from February to December, five times a year at Albany, Bunbury, Geraldton and Kalgoorlie, and at five other centres when required. Civil sittings are held concurrently with criminal sittings in Perth, and immediately following the criminal sittings at other centres except at Bunbury where special civil sittings are held four times a year.

Civil jurisdiction exists broadly up to a maximum of \$6,000, and criminal jurisdiction in respect of indictable offences except those for which the maximum penalty exceeds fourteen years' imprisonment.

Each District Court Judge is empowered to act as Chairman of the Third Party Claims Tribunal and in fact performs this function as a regular part of his duties.

Appeals from a District Court Judge lie, in the civil jurisdiction, to the Full Court of the Supreme Court and, in the criminal jurisdiction, to the Court of Criminal Appeal.

### **Third Party Claims Tribunal**

The Third Party Claims Tribunal is established under the provisions of the *Motor Vehicle (Third Party Insurance) Act Amendment Act, 1966*. The Tribunal consists of three members, including a Chairman, appointed by the Governor. The Chairman must be either a Judge or a legal practitioner of not less than eight years' standing and practice. Each District Court Judge is empowered to act as Chairman at hearings of the Tribunal. The Tribunal has exclusive jurisdiction to hear and determine all actions and proceedings brought against an owner or driver of a motor vehicle, or against The Motor Vehicle Insurance Trust, claiming damages in respect of the death of, or bodily injury to, any person caused by or arising out of the use of a motor vehicle. The Tribunal may, in respect of any claim, delegate powers to the magistrate of a Local Court. Any party dissatisfied with any decision, determination or judgment of the Tribunal in any action or proceedings under the Act may appeal to the Full Court of the Supreme Court.

The Third Party Claims Tribunal acquired jurisdiction in December 1967.

### **Magistrates' and Coroners' Courts**

In addition to their usual functions, magistrates act as coroners and mining wardens where required. Two or more Justices of the Peace sitting together in petty sessions may deal with cases which could be decided by a magistrate sitting alone.

**POLICE COURTS.** Police Courts are held at centres of population throughout the State. Minor offences are dealt with summarily, but a person charged with an indictable offence may be committed to a higher court for trial or sentence if there is sufficient evidence to justify this course.

**CHILDREN'S COURTS.** Children's Courts are established under the provisions of the *Child Welfare Act, 1947-1971* to deal with offenders under the age of eighteen years and to hear certain specified cases of offences against children. Certain cases of offences concerning children may be remanded for hearing or committed for sentence before the Supreme Court. The public may be excluded from Children's Court hearings and names of juvenile offenders are withheld from publication unless with the express authority of the Court. Children's Courts operate in Perth, and at other centres as required. Further reference to Children's Courts appears in the section *Child Welfare* in Part 5 of this Chapter.

**SUMMARY RELIEF COURT.** The Summary Relief Court is established under the provisions of the *Married Persons and Children (Summary Relief) Act, 1965-1967* and is empowered to make orders providing for separation, payment of maintenance, legal custody of a child and access to a child.

**LOCAL COURTS.** Local Courts are held throughout the State to determine minor civil issues, largely the recovery of small debts. Jurisdiction is limited in most cases to claims not exceeding \$1,000.

**CORONERS' COURTS.** Coroners' Courts may be held to inquire into the circumstances of sudden or unnatural deaths or the cause and origin of fires. A Coroner may charge a person with a major offence and commit him for trial at a higher court.

### **Licensing Court of Western Australia**

The Licensing Court of Western Australia is established under the provisions of the *Liquor Act, 1970*, which came into operation on 1 July 1970. The Court comprises three members, including a chairman, appointed by the Governor. Except as otherwise provided by the Act, the Court may be constituted, and its jurisdiction may be exercised, by any two members. The Court has exclusive jurisdiction to hear and determine all applications under the Liquor Act in respect of licences, provisional certificates and permits relating to the sale, supply and consumption of liquor. Appeal against a direction, determination or order of the Court lies to the Supreme Court, but only where the appeal involves a question of law.

## COURT PROCEEDINGS

## Higher Courts

The term *Higher Courts*, as used in the tables on pages 261 and 264, refers to courts presided over by a Judge. The general jurisdiction of the higher courts includes appeals from the lower courts, cases of crime committed from lower courts, and civil cases. Under the *Bankruptcy Act* 1966-1970 (Commonwealth) the Supreme Court of Western Australia is invested with jurisdiction in bankruptcy, and under the *Matrimonial Causes Act* 1959-1971 (Commonwealth) with jurisdiction in divorce and related matters. Decrees of dissolution of marriage, nullity of marriage, and judicial separation may be granted by the Supreme Court.

## Civil Proceedings

Particulars of civil cases dealt with by the courts in the five years ended 31 December 1970 are shown in the following table.

## CIVIL PROCEEDINGS

| Particulars                                               | 1966   | 1967   | 1968   | 1969   | 1970   |
|-----------------------------------------------------------|--------|--------|--------|--------|--------|
| <b>SUPREME COURT OF WESTERN AUSTRALIA—</b>                |        |        |        |        |        |
| Bankruptcy (a)—                                           |        |        |        |        |        |
| Number of—                                                |        |        |        |        |        |
| Petitions—                                                |        |        |        |        |        |
| Filed ....                                                | 202    | 199    | 228    | 233    | 233    |
| Withdrawn or dismissed ....                               | 1      | 4      | 4      | 4      | 2      |
| Sequestration orders—                                     |        |        |        |        |        |
| On debtors' petitions ....                                | 187    | 183    | 218    | 206    | 218    |
| On creditors' petitions ....                              | 10     | 12     | 4      | 18     | 11     |
| Assignments and arrangements without sequestration        | 80     | 82     | 52     | 60     | 64     |
| Assets and liabilities—                                   |        |        |        |        |        |
| Under sequestration orders—                               |        |        |        |        |        |
| Assets .... \$'000                                        | 187    | 303    | 230    | 495    | 847    |
| Liabilities .... \$'000                                   | 755    | 898    | 1,013  | 1,081  | 1,924  |
| Under assignments and arrangements without sequestration— |        |        |        |        |        |
| Assets .... \$'000                                        | 2,283  | 632    | 745    | 896    | 1,098  |
| Liabilities .... \$'000                                   | 2,476  | 850    | 941    | 1,100  | 1,421  |
| Divorce (b)—                                              |        |        |        |        |        |
| Number of—                                                |        |        |        |        |        |
| Petitions filed ....                                      | 791    | 890    | 1,003  | *1,065 | 1,206  |
| Decrees granted ....                                      | 640    | 727    | 812    | 873    | 890    |
| Other proceedings—                                        |        |        |        |        |        |
| Number of—                                                |        |        |        |        |        |
| Writs commencing actions ....                             | 1,776  | 2,063  | 1,773  | 2,264  | 2,330  |
| Judgments—                                                |        |        |        |        |        |
| With trial ....                                           | 198    | 226    | 143    | 101    | 69     |
| Without trial ....                                        | 454    | 407    | 637    | 700    | 695    |
| Amounts awarded .... \$'000                               | 2,274  | 5,770  | 3,845  | 3,358  | 3,368  |
| <b>DISTRICT COURT OF WESTERN AUSTRALIA (c)—</b>           |        |        |        |        |        |
| Number of—                                                |        |        |        |        |        |
| Writs commencing actions ....                             | ....   | ....   | ....   | ....   | 802    |
| Judgments—                                                |        |        |        |        |        |
| With trial ....                                           | ....   | ....   | ....   | ....   | 51     |
| Without trial ....                                        | ....   | ....   | ....   | ....   | 243    |
| <b>THIRD PARTY CLAIMS TRIBUNAL (d)—</b>                   |        |        |        |        |        |
| Number of claims filed ....                               | ....   | 2      | 409    | 694    | 736    |
| Amounts awarded .... \$'000                               | ....   | ....   | 528    | 2,082  | 2,713  |
| <b>LOCAL COURTS—</b>                                      |        |        |        |        |        |
| Number of—                                                |        |        |        |        |        |
| Plaints entered ....                                      | 54,289 | 55,559 | 57,689 | 60,854 | 64,727 |
| Verdicts for plaintiffs ....                              | 23,885 | 25,769 | 24,430 | 36,734 | 27,348 |
| Amounts awarded .... \$'000                               | 2,446  | 2,822  | 2,812  | 3,263  | 3,810  |
| <b>CORONERS' COURTS—</b>                                  |        |        |        |        |        |
| Number of inquests—                                       |        |        |        |        |        |
| On persons ....                                           | 237    | 230    | 234    | 206    | 192    |
| On fires ....                                             | 7      | 8      | 2      | 5      | 9      |

(a) Figures relate to year ended 30 June; for further details see pages 308-9.  
(c) See letterpress on page 258.

(d) See letterpress on page 259.

(b) For further details see pages 116-7.

\* Revised.

## CONVICTIONS IN COURTS

## Aborigines

The figures shown in the tables on pages 261-2 and 264 include particulars of Aborigines. An analysis of convictions of Aborigines during each year of the period from 1966 to 1970, according to class of offence, is given on page 263.

## Number of Convictions

It is important to bear in mind when considering the particulars shown in the tables on pages 261-4 that the figures relate to the *number of convictions* recorded and not to the *number of persons* convicted. Thus, where a person is convicted on more than one count each conviction so recorded has been included in the statistics below.

## HIGHER COURTS—NUMBER OF CONVICTIONS (a)

| Class of offence                               | 1966 | 1967 | 1968 | 1969 | 1970  |
|------------------------------------------------|------|------|------|------|-------|
| Offences against the person—                   |      |      |      |      |       |
| Murder ....                                    | 1    | 2    | 1    | 5    | 7     |
| Attempted murder ....                          | 3    | 3    | 1    | 2    | ....  |
| Manslaughter ....                              | 7    | 4    | 5    | 10   | 19    |
| Negligent driving causing death ....           | 11   | 4    | 4    | 5    | 6     |
| Sex offences ....                              | 36   | 32   | 24   | 16   | 25    |
| Assault ....                                   | 13   | 25   | 62   | 30   | 35    |
| Other ....                                     | 7    | 7    | 5    | 7    | 14    |
| Total ....                                     | 78   | 77   | 102  | 75   | 106   |
| Offences against property—                     |      |      |      |      |       |
| Breaking, entering and stealing ....           | 271  | 329  | 622  | 674  | 812   |
| Stealing, receiving ....                       | 46   | 95   | 113  | 58   | 103   |
| Other ....                                     | 19   | 14   | 29   | 50   | 54    |
| Total ....                                     | 336  | 438  | 764  | 782  | 969   |
| Forgery and offences against the currency .... | 63   | 31   | 41   | 5    | 50    |
| Offences against good order ....               | 3    | 8    | 1    | 1    | 15    |
| Other offences ....                            | 8    | 9    | 44   | 29   | 47    |
| GRAND TOTAL ....                               | 488  | 563  | 952  | 892  | 1,187 |

(a) Including convictions of Aborigines.

## MAGISTRATES' COURTS (a)—NUMBER OF CONVICTIONS (b)

| Class of offence                               | 1966   | 1967   | 1968   | 1969   | 1970   |
|------------------------------------------------|--------|--------|--------|--------|--------|
| Offences against the person—                   |        |        |        |        |        |
| Sex offences ....                              | 148    | 172    | 183    | 186    | 180    |
| Assault ....                                   | 717    | 801    | 871    | 1,067  | 1,214  |
| Other ....                                     | 3      | 1      | 3      | 1      | 4      |
| Total ....                                     | 868    | 974    | 1,057  | 1,254  | 1,398  |
| Offences against property—                     |        |        |        |        |        |
| Breaking, entering and stealing ....           | 1,406  | 1,546  | 1,755  | 1,835  | 2,376  |
| Unlawfully on premises ....                    | 444    | 503    | 723    | 933    | 1,003  |
| Stealing, receiving ....                       | 4,879  | 5,461  | 6,159  | 7,286  | 7,947  |
| Unlawfully using motor vehicles ....           | 1,173  | 1,107  | 1,524  | 1,279  | 2,253  |
| Wilful damage ....                             | 527    | 562    | 743    | 868    | 837    |
| Other ....                                     | 53     | 46     | 34     | 99     | 43     |
| Total ....                                     | 8,482  | 9,225  | 10,938 | 12,300 | 14,459 |
| Forgery and offences against the currency .... | 7      | 8      | 70     | 68     | 68     |
| Offences against good order—                   |        |        |        |        |        |
| Drunkenness ....                               | 9,033  | 10,722 | 11,146 | 11,970 | 12,612 |
| Disorderliness ....                            | 2,359  | 2,899  | 2,763  | 3,090  | 3,071  |
| Vagrancy ....                                  | 569    | 625    | 638    | 710    | 699    |
| Escaping legal custody ....                    | 124    | 141    | 182    | 256    | 260    |
| Offences against police ....                   | 729    | 826    | 1,018  | 1,118  | 1,112  |
| Other ....                                     | 83     | 87     | 143    | 226    | 243    |
| Total ....                                     | 12,897 | 15,300 | 15,890 | 17,370 | 17,997 |
| Other offences—                                |        |        |        |        |        |
| Breach of—                                     |        |        |        |        |        |
| Traffic Act (c) ....                           | 33,905 | 36,468 | 43,929 | 43,428 | 34,882 |
| Native Welfare Act ....                        | 445    | 246    | 615    | 1,038  | 965    |
| Liquor laws ....                               | 1,735  | 2,811  | 2,393  | 2,837  | 1,730  |
| Health laws ....                               | 195    | 214    | 184    | 166    | 223    |
| Gaming ....                                    | 81     | 118    | 156    | 154    | 308    |
| Industrial offences ....                       | 86     | 151    | 119    | 83     | 234    |
| Maintenance offences ....                      | 634    | 842    | 677    | 886    | 606    |
| Taxation offences ....                         | 522    | 642    | 504    | 758    | 914    |
| Other offences ....                            | 4,899  | 5,799  | 5,360  | 5,614  | 6,115  |
| Total ....                                     | 42,502 | 47,291 | 53,937 | 54,964 | 45,977 |
| GRAND TOTAL ....                               | 64,756 | 72,798 | 81,892 | 85,956 | 79,899 |

(a) Including Children's Courts. (b) Including convictions of Aborigines. (c) Excludes minor traffic offences not subject to court process; see letterpress on page 264.

### Convictions of Juveniles

The term *juvenile*, as used in relation to the statistics given in this Part, means a person under the age of eighteen years. Convictions of juvenile offenders are included in the figures shown in the tables on pages 261 and 263, and are given separately in the tables below and on page 264.

The following table shows the number of convictions of juvenile offenders in higher (Judges') courts and magistrates' courts (including Children's Courts) in Western Australia during the five years ended 31 December 1970.

OFFENCES BY JUVENILES—NUMBER OF CONVICTIONS (a)

| Class of offence                               | 1966         | 1967         | 1968         | 1969          | 1970          |
|------------------------------------------------|--------------|--------------|--------------|---------------|---------------|
| <b>Offences against the person—</b>            |              |              |              |               |               |
| Sex offences .....                             | 56           | 76           | 76           | 93            | 71            |
| Assault .....                                  | 80           | 107          | 134          | 138           | 184           |
| Other ....                                     | 1            | 1            | 2            | 1             | 2             |
| <b>Total</b> .....                             | <b>137</b>   | <b>184</b>   | <b>212</b>   | <b>232</b>    | <b>257</b>    |
| <b>Offences against property—</b>              |              |              |              |               |               |
| Breaking, entering and stealing .....          | 1,402        | 1,544        | 1,720        | 1,781         | 2,359         |
| Unlawfully on premises .....                   | 126          | 163          | 199          | 266           | 340           |
| Stealing, receiving .....                      | 2,038        | 2,318        | 2,428        | 3,135         | 3,365         |
| Unlawfully using motor vehicles .....          | 840          | 761          | 970          | 718           | 1,568         |
| Wilful damage .....                            | 250          | 268          | 350          | 423           | 367           |
| Other ....                                     | 34           | 38           | 15           | 61            | 29            |
| <b>Total</b> .....                             | <b>4,690</b> | <b>5,092</b> | <b>5,682</b> | <b>6,384</b>  | <b>8,028</b>  |
| Forgery and offences against the currency .... | 3            | 4            | 8            | 11            | 29            |
| <b>Offences against good order—</b>            |              |              |              |               |               |
| Drunkenness .....                              | 166          | 161          | 193          | 241           | 220           |
| Disorderliness .....                           | 256          | 300          | 265          | 348           | 305           |
| Vagrancy .....                                 | 46           | 33           | 36           | 55            | 54            |
| Escaping legal custody .....                   | 19           | 10           | 19           | 32            | 38            |
| Offences against police .....                  | 112          | 143          | 176          | 169           | 197           |
| Other ....                                     | 32           | 34           | 37           | 58            | 35            |
| <b>Total</b> .....                             | <b>631</b>   | <b>681</b>   | <b>726</b>   | <b>903</b>    | <b>849</b>    |
| <b>Other offences—</b>                         |              |              |              |               |               |
| Breach of—                                     |              |              |              |               |               |
| Traffic Act .....                              | 2,394        | 2,442        | 2,644        | 3,211         | 3,689         |
| Liquor laws .....                              | 243          | 488          | 481          | 628           | 356           |
| Other offences .....                           | 198          | 188          | 193          | 186           | 284           |
| <b>Total</b> .....                             | <b>2,835</b> | <b>3,118</b> | <b>3,318</b> | <b>4,025</b>  | <b>4,329</b>  |
| <b>GRAND TOTAL</b> .....                       | <b>8,296</b> | <b>9,079</b> | <b>9,946</b> | <b>11,555</b> | <b>13,492</b> |

(a) Comprises convictions in higher courts and magistrates' courts (including Children's Courts). Includes convictions of Aborigines.

The following table gives a classification, according to age of offender, of convictions of juveniles in courts in Western Australia during the year ended 31 December 1970.

CONVICTIONS OF JUVENILES, 1970 (a)  
AGES OF OFFENDERS

| Class of offence         | Age last birthday (years) |    |     |     |     |       |       |       |       |     |            | Total         |
|--------------------------|---------------------------|----|-----|-----|-----|-------|-------|-------|-------|-----|------------|---------------|
|                          | 8                         | 9  | 10  | 11  | 12  | 13    | 14    | 15    | 16    | 17  | Not stated |               |
| Against the person ..... | 27                        | 1  | 157 | 2   | 2   | 10    | 25    | 52    | 65    | 71  | 29         | 257           |
| Against property .....   | 491                       | 50 | 237 | 491 | 853 | 1,353 | 1,219 | 1,591 | 1,654 | 396 | 8,028      | 8,028         |
| Forgery, etc. ....       | 1                         | 1  | 2   | 2   | 6   | 24    | 55    | 96    | 241   | 395 | 28         | 849           |
| Against good order ..... |                           |    |     |     |     |       |       |       |       |     |            | 849           |
| Other offences .....     |                           |    |     |     |     |       |       |       |       |     |            | 4,329         |
| <b>Total</b> .....       | Not available             |    |     |     |     |       |       |       |       |     |            | <b>13,492</b> |

(a) Comprises convictions in higher courts and magistrates' courts (including Children's Courts). Includes convictions of Aborigines.

(b) Comprises mainly convictions for traffic offences and breaches of liquor laws.

### Convictions of Aborigines

Convictions recorded against Aboriginal offenders are included in the figures contained in the tables on pages 261 and 262. The total number of convictions of Aborigines in each year from 1966 to 1970 are shown in the following table. The figures relate to convictions in higher courts and magistrates' courts (including Children's Courts).

OFFENCES BY ABORIGINES—NUMBER OF CONVICTIONS (a)

| Class of offence                                      | 1966         | 1967          | 1968          | 1969          | 1970          |
|-------------------------------------------------------|--------------|---------------|---------------|---------------|---------------|
| <b>Offences against the person—</b>                   |              |               |               |               |               |
| Murder ....                                           | 3            | 18            | 32            | 2             | 1             |
| Manslaughter ....                                     | 22           | 299           | 18            | 29            | 2             |
| Sex offences ....                                     | 274          | 350           | 418           | 464           | 1             |
| Assault ....                                          | 1            | ....          | ....          | ....          | ....          |
| Other ....                                            | ....         | ....          | ....          | ....          | ....          |
| <b>Total</b> ....                                     | <b>300</b>   | <b>317</b>    | <b>382</b>    | <b>440</b>    | <b>496</b>    |
| <b>Offences against property—</b>                     |              |               |               |               |               |
| Breaking, entering and stealing ....                  | 230          | 280           | 401           | 443           | 362           |
| Unlawfully on premises ....                           | 77           | 104           | 208           | 275           | 326           |
| Stealing, receiving ....                              | 356          | 627           | 675           | 836           | 901           |
| Unlawfully using motor vehicles ....                  | 114          | 213           | 366           | 387           | 686           |
| Wilful damage ....                                    | 84           | 99            | 194           | 166           | 187           |
| Other ....                                            | 23           | 3             | 13            | 22            | 17            |
| <b>Total</b> ....                                     | <b>884</b>   | <b>1,326</b>  | <b>1,857</b>  | <b>2,129</b>  | <b>2,479</b>  |
| <b>Forgery and offences against the currency</b> .... | ....         | 3             | 1             | ....          | 2             |
| <b>Offences against good order—</b>                   |              |               |               |               |               |
| Drunkenness ....                                      | 3,922        | 5,376         | 5,489         | 5,819         | 6,837         |
| Disorderliness ....                                   | 1,005        | 1,561         | 1,417         | 1,458         | 1,539         |
| Vagrancy ....                                         | 185          | 223           | 272           | 300           | 249           |
| Escaping legal custody ....                           | 35           | 65            | 72            | 93            | 102           |
| Offences against police ....                          | 183          | 240           | 239           | 233           | 242           |
| Other ....                                            | 6            | 11            | 9             | 14            | 20            |
| <b>Total</b> ....                                     | <b>5,336</b> | <b>7,476</b>  | <b>7,498</b>  | <b>7,917</b>  | <b>8,989</b>  |
| <b>Other offences—</b>                                |              |               |               |               |               |
| Breach of—                                            |              |               |               |               |               |
| Native Welfare Act ....                               | 350          | 196           | 551           | 942           | 852           |
| Traffic Act ....                                      | 521          | 712           | 738           | 1,085         | 1,005         |
| Liquor laws ....                                      | 132          | 232           | 272           | 264           | 250           |
| Health laws ....                                      | 2            | ....          | ....          | ....          | 2             |
| Gaming ....                                           | 8            | ....          | 4             | ....          | ....          |
| Maintenance offences ....                             | 13           | 9             | 6             | 8             | 13            |
| Other offences ....                                   | 117          | 147           | 101           | 128           | 145           |
| <b>Total</b> ....                                     | <b>1,143</b> | <b>1,296</b>  | <b>1,672</b>  | <b>2,427</b>  | <b>2,267</b>  |
| <b>GRAND TOTAL</b> ....                               | <b>7,663</b> | <b>10,418</b> | <b>11,410</b> | <b>12,913</b> | <b>14,233</b> |

(a) Comprises convictions in higher courts and magistrates' courts (including Children's Courts).

It will be seen from the table that convictions for drunkenness and breaches of liquor laws together accounted for about half the total number of convictions. Before the *Licensing Act Amendment Act (No. 4), 1963* came into operation on 1 July 1964 the supply of liquor to Aborigines in any part of the State was prohibited. The amendment provided that this prohibition should be limited to areas of the State declared for the purpose. The declared area which, from 1 July 1964, was the portion of the State outside the South-West Land Division (see page 141) was reduced with effect from 1 November 1966 so as to comprise approximately the part of the State lying east of longitude 121°E. In accordance with a proclamation made under the provisions of the *Liquor Act, 1970*, the prohibition ceased to apply in any part of the State from 1 July 1971.

### Summary of Convictions in Courts

The following table gives a summary of convictions in courts in Western Australia during each of the five years to 31 December 1970, together with an analysis according to class of offence of convictions recorded during the year ended 31 December 1970.

## COURT CONVICTIONS (a)—SUMMARY

| Particulars                       | Higher courts |         |       | Magistrates' courts |         |        | Convictions of juveniles (b) |         |        |
|-----------------------------------|---------------|---------|-------|---------------------|---------|--------|------------------------------|---------|--------|
|                                   | Males         | Females | Total | Males               | Females | Total  | Males                        | Females | Total  |
| FIVE YEARS ENDED 31 DECEMBER 1970 |               |         |       |                     |         |        |                              |         |        |
| Year—                             |               |         |       |                     |         |        |                              |         |        |
| 1966 ....                         | 427           | 61      | 488   | 57,695              | 7,061   | 64,756 | 7,666                        | 630     | 8,296  |
| 1967 ....                         | 547           | 16      | 563   | 64,256              | 8,542   | 72,798 | 8,331                        | 748     | 9,079  |
| 1968 ....                         | 901           | 51      | 952   | 72,839              | 9,053   | 81,892 | 9,129                        | 817     | 9,946  |
| 1969 ....                         | 867           | 25      | 892   | 76,404              | 9,552   | 85,956 | 10,365                       | 1,190   | 11,555 |
| 1970 ....                         | 1,158         | 29      | 1,187 | 69,890              | 10,009  | 79,899 | 12,166                       | 1,326   | 13,492 |
| YEAR ENDED 31 DECEMBER 1970       |               |         |       |                     |         |        |                              |         |        |
| Class of offence—                 |               |         |       |                     |         |        |                              |         |        |
| Against the person ....           | 94            | 12      | 106   | 1,322               | 76      | 1,398  | 246                          | 11      | 257    |
| Against property ....             | 957           | 12      | 969   | 12,823              | 1,636   | 14,459 | 7,151                        | 877     | 8,028  |
| Forgery, etc. ....                | 47            | 3       | 50    | 55                  | 13      | 68     | 27                           | 2       | 29     |
| Against good order ....           | 15            | ....    | 15    | 14,771              | 3,226   | 17,997 | 677                          | 172     | 849    |
| Other offences ....               | 45            | 2       | 47    | 40,919              | 5,058   | 45,977 | 4,065                        | 264     | 4,329  |
| Total ....                        | 1,158         | 29      | 1,187 | 69,890              | 10,009  | 79,899 | 12,166                       | 1,326   | 13,492 |

(a) Including convictions of Aborigines.

(b) Included in figures shown under *Higher courts* and *Magistrates' courts*.

Regulations under the Traffic Act allow fines to be imposed without court action for minor traffic offences. Similar provisions apply under parking facilities legislation and municipal by-laws. These minor offences (which are, of course, excluded from the tables relating to court convictions) numbered 63,560 in 1966; 64,055 in 1967; 83,146 in 1968; 117,054 in 1969 and 152,996 in 1970.

## LIQUOR LICENCES

The following table shows the number of liquor licences of the several types in force in Western Australia. The figures shown for 30 June of the years 1967 to 1970 relate to licences granted under the provisions of the *Licensing Act, 1911-1969*. The Licensing Act was repealed, with effect from 1 July 1970, by the *Liquor Act, 1970*.

## LIQUOR LICENCES IN FORCE

| Type of licence (a)                    | At 30 June— |       |       |       | Type of licence (b)                | At 30 June 1971 |
|----------------------------------------|-------------|-------|-------|-------|------------------------------------|-----------------|
|                                        | 1967        | 1968  | 1969  | 1970  |                                    |                 |
| Publican's general ....                | 418         | 419   | 417   | 419   | } Hotel ....                       | 463             |
| Wayside house ....                     | 41          | 40    | 39    | 39    |                                    |                 |
| Australian wine, beer and spirits .... | 1           | 1     | 1     | 1     | } Limited hotel ....               | 15              |
| Limited hotel ....                     | 3           | 5     | 7     | 11    |                                    |                 |
| Australian wine ....                   | 47          | 46    | 45    | 46    | } Australian wine ....             | 39              |
| Australian wine, bottle ....           | 6           | 8     | 8     | 8     |                                    |                 |
| Gallon ....                            | 212         | 212   | 213   | 212   | } Store ....                       | 227             |
| Packet ....                            | 9           | 9     | 9     | 9     |                                    |                 |
| Railway refreshment room ....          | ....        | ....  | ....  | ....  | } Packet ....                      | 14              |
| Spirit merchant's ....                 | 44          | 47    | 45    | 45    |                                    |                 |
| Brewer's ....                          | 4           | 4     | 4     | 4     | } Railway refreshment room ....    | 45              |
| Club ....                              | 240         | 251   | 255   | 259   |                                    |                 |
| Canteen ....                           | 8           | 17    | 13    | 15    | } Wholesale spirit merchant's .... | 4               |
| Restaurant ....                        | 23          | 25    | 32    | 41    |                                    |                 |
|                                        |             |       |       |       | } Brewer's ....                    | 264             |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Club ....                        | 25              |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Canteen ....                     | 47              |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Restaurant ....                  | 2               |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Tavern ....                      | 17              |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Winehouse ....                   | 1               |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Cabaret ....                     | 1               |
|                                        |             |       |       |       |                                    |                 |
|                                        |             |       |       |       | } Theatre ....                     | 1               |
|                                        |             |       |       |       |                                    |                 |
| Total ....                             | 1,056       | 1,084 | 1,090 | 1,109 | Total ....                         | 1,163           |

(a) As described in the *Licensing Act, 1911-1969*.(b) As described in the *Liquor Act, 1970*.

By a provision of the *Government Railways Act, 1904-1971*, The Western Australian Government Railways Commission is authorised to lease railways premises for the sale of refreshments, subject to the provisions of the *Liquor Act, 1970*.



A licence applying to premises at Perth International Airport is issued in terms of the *Airports (Business Concessions) Act 1959-1966* (Commonwealth).

## POLICE

The Western Australian Police Force comprises six main branches under the direction of the Commissioner of Police. The Commissioner is responsible to the Minister for Police and is assisted by a Deputy Commissioner.

For the administration of the Uniformed Branch, the State is divided into three metropolitan districts and seven country districts, each under the direction of an Inspector-in-Charge. There are four specialised branches, the Criminal Investigation Branch, the Plain Clothes Branch, the Firearms and Inquiries Branch, and the Traffic Branch. The Women Police form the sixth branch.

The following table shows the numbers and classification of members of the Western Australian Police Force at 30 June of each year from 1966 to 1970.

POLICE FORCE—NUMBER AND CLASSIFICATION (a)

| Date and classification | Branch and number of officers |                               |                      |                               |              |                | Total (a) |
|-------------------------|-------------------------------|-------------------------------|----------------------|-------------------------------|--------------|----------------|-----------|
|                         | Uniformed Branch              | Criminal Investigation Branch | Plain Clothes Branch | Firearms and Inquiries Branch | Women Police | Traffic Branch |           |
| At 30 June—             |                               |                               |                      |                               |              |                |           |
| 1966                    | (b) 954                       | 105                           | 53                   | (c)                           | 19           | 185            | 1,316     |
| 1967                    | (b) 967                       | 105                           | 56                   | (c)                           | 20           | 224            | 1,372     |
| 1968                    | (b) 997                       | 114                           | 55                   | (c)                           | 21           | 231            | 1,418     |
| 1969                    | 1,021                         | 125                           | 59                   | 9                             | 23           | 249            | 1,486     |
| 1970—                   |                               |                               |                      |                               |              |                |           |
| Superintendent          | 10                            | 1                             | ....                 | 1                             | ....         | 2              | 14        |
| Senior Inspector        | 9                             | 1                             | 1                    | ....                          | 1            | 2              | 14        |
| Inspector               | 10                            | 3                             | ....                 | ....                          | ....         | 2              | 15        |
| Sergeant                | 165                           | 53                            | 10                   | 3                             | 3            | 34             | 268       |
| Constable               | 826                           | 88                            | 52                   | 8                             | 25           | 223            | 1,222     |
| Recruit in training     | 51                            | ....                          | ....                 | ....                          | ....         | ....           | 51        |
| Total                   | 1,071                         | 146                           | 63                   | 12                            | 29           | 263            | 1,584     |

(a) In addition to the numbers shown there were a Commissioner of Police and a Deputy Commissioner of Police for each year; a Chief Inspector of Police for 1968 and earlier years; and an Assistant Commissioner of Police and a Chief Superintendent of Police for 1969 and 1970. (b) Includes officers of the Firearms and Inquiries Branch. (c) Included in numbers shown for Uniformed Branch.

The Uniformed Branch comprises the main body of the Police Force and is responsible for the routine maintenance of law and order throughout the State. Where required, officers of the Branch act as Clerks of Courts and perform special duties for other government authorities.

The Criminal Investigation Branch is centred in Perth, with several sub-branches in the metropolitan area and the principal country towns. The Branch is equipped with radio patrol cars and the usual facilities for work on fingerprints, photography and ballistics. Special staffs attached to the Criminal Investigation Branch are responsible for security and for police work in connection with gold stealing, pillaging and thefts from retail shops.

The Plain Clothes Branch is concerned mainly with the enforcement of the liquor laws and laws for the suppression of vice and gaming.

The Firearms and Inquiries Branch is responsible for the licensing of firearms throughout the State. It also makes inquiries concerning the suitability of applicants for licenses to operate as land agents, auctioneers, money-lenders, inquiry agents, employment brokers, and debt collectors.

The Women Police are employed mainly in police duties concerning women and children. Policewomen are stationed at Perth, Fremantle, Midland, Geraldton and Kalgoorlie.

The Traffic Branch is responsible for the regulation of traffic and the licensing of motor vehicles in the Metropolitan Traffic Area and in certain country areas. In other parts of the State these functions are performed by the local government authorities. Licences to drive motor vehicles are issued by police officers throughout the State. The Traffic Branch is responsible for the patrol of major highways to check commercial vehicles for overloading and for excessive speed. Officers of the Branch instruct school children in the principles of road safety and assist the National Safety Council to conduct a school where young persons are instructed in the proper use of motor cycles. Traffic Education Classes, although held mainly for the instruction of minor offenders against traffic laws, also admit members of the public who attend voluntarily.

Police and Citizens' Youth Clubs are established by the Police Department to provide recreational facilities for young people and to give them an appreciation of civic responsibilities.

### PRISONS

Under the provisions of the *Prisons Act, 1903-1971*, the Director of the Department of Corrections is responsible, subject to the control of the Minister, for the administration of prisons in Western Australia. In addition to prison establishments under the control of the Department of Corrections, there are some police gaols administered jointly by the Department of Corrections and the Police Department.

The principal institution is Fremantle Prison and there are regional prisons at Albany, Broome, Geraldton and Kalgoorlie. Barton's Mill Prison, Brunswick Junction Prison, Karnet Rehabilitation Centre, Pardelup Prison Farm and Wooroloo Training Centre are minimum security institutions. Bandyup Women's Training Centre, situated at Middle Swan about twelve miles from Perth, is a medium security institution. It was opened in March 1970 and women formerly accommodated at Fremantle Prison were transferred there. A new Rehabilitation Centre was opened at Bunbury in February 1971.

The following table shows the number of receivals for penal imprisonment in gaols in Western Australia during each of the five years to 30 June 1970. It is important to note that the figures relate to *receivals* and not to *distinct persons*, i.e. a prisoner has been counted once for each time he or she was received.

PENAL IMPRISONMENT—NUMBER OF RECEIVALS (a)

| Institution                 | Year ended 30 June— |            |              |            |              |            |              |            |              |            |
|-----------------------------|---------------------|------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|
|                             | 1966                |            | 1967         |            | 1968         |            | 1969         |            | 1970         |            |
|                             | Males               | Females    | Males        | Females    | Males        | Females    | Males        | Females    | Males        | Females    |
| <b>Prisons—</b>             |                     |            |              |            |              |            |              |            |              |            |
| Fremantle (b) ....          | 2,474               | 297        | 2,795        | 309        | 2,790        | 373        | 3,097        | 409        | 3,199        | ....       |
| Albany (c) ....             | ....                | ....       | 186          | 41         | 297          | 70         | 231          | 62         | 188          | 49         |
| Bandyup (d) ....            | ....                | ....       | ....         | ....       | ....         | ....       | ....         | ....       | ....         | 455        |
| Broome ....                 | 113                 | 14         | 161          | 19         | 100          | 15         | 144          | 18         | 149          | 8          |
| Brunswick Junction (e) .... | ....                | ....       | ....         | ....       | ....         | ....       | 19           | ....       | 134          | ....       |
| Geraldton ....              | 189                 | 41         | 286          | 52         | 483          | 119        | 421          | 66         | 487          | 22         |
| Kalgoorlie (f) ....         | ....                | ....       | ....         | ....       | 295          | 45         | 513          | 102        | 398          | 90         |
| <b>Total ....</b>           | <b>2,776</b>        | <b>352</b> | <b>3,428</b> | <b>421</b> | <b>3,965</b> | <b>622</b> | <b>4,425</b> | <b>657</b> | <b>4,555</b> | <b>624</b> |
| <b>Police gaols ....</b>    | <b>1,107</b>        | <b>155</b> | <b>1,291</b> | <b>217</b> | <b>1,126</b> | <b>276</b> | <b>883</b>   | <b>218</b> | <b>903</b>   | <b>275</b> |
| <b>GRAND TOTAL ....</b>     | <b>3,883</b>        | <b>507</b> | <b>4,719</b> | <b>638</b> | <b>5,091</b> | <b>898</b> | <b>5,308</b> | <b>875</b> | <b>5,458</b> | <b>899</b> |

(a) Excludes imprisonment for debt. (b) Includes figures for Barton's Mill Prison, Karnet Rehabilitation Centre, Pardelup Prison Farm and Wooroloo Training Centre. (c) Opened 16 September 1966. (d) Opened 13 March 1970. (e) Opened 6 March 1969. (f) On 29 February 1968 the former police gaol was closed and simultaneously gazetted as a prison.

Fremantle Prison is divided into separate sections for prisoners on remand or awaiting trial, juvenile prisoners, and other sentenced prisoners. There are workshops where prisoners are employed in bootmaking, carpentry, printing, tailoring, tinsmithing and welding, making cement products, and in arts and crafts work. Prisoners can also qualify

as cooks and bakers. A school is conducted by teachers supplied by the Education Department, and tuition by correspondence is also available. The section at Fremantle Prison which was occupied by female prisoners before their transfer to Bandyup Women's Training Centre is now used as an assessment centre.

At Barton's Mill Prison the development of trade training workshops is continuing, with the aim of replacing the declining activity of firewood cutting. Farming is carried on at Pardelup Prison Farm and Karnet Rehabilitation Centre, and inmates receive instruction in animal husbandry, market gardening, and the operation and maintenance of farm machinery. Karnet Rehabilitation Centre is a dual-purpose institution with accommodation in two dormitory blocks, one of which houses committed inebriates. The other block provides for selected inmates, mainly first offenders, for whom accommodation has been increased by the erection of single cabins adjacent to the dormitory block. Bunbury Rehabilitation Centre, which was opened in February 1971, receives inmates who have been selected at the Fremantle Prison assessment centre for educational courses and vocational training. Brunswick Junction Prison is used for short-term offenders from the south-west of the State. Short-term offenders from the metropolitan area are sent to the Wooroloo Training Centre.

Police gaols are established in Perth and at other centres. They are used for the detention of short-sentence prisoners and prisoners awaiting trial. In addition, provision is made for holding prisoners for short periods at police stations throughout the State.

The following table shows the number of prisoners, excluding trial and remand prisoners and debtors, in gaols in Western Australia at 30 June in each year from 1966 to 1970.

PRISONERS IN GAOL

| Institution                  | At 30 June— |         |       |         |       |         |       |         |       |         |
|------------------------------|-------------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
|                              | 1966        |         | 1967  |         | 1968  |         | 1969  |         | 1970  |         |
|                              | Males       | Females | Males | Females | Males | Females | Males | Females | Males | Females |
| <b>Prisons—</b>              |             |         |       |         |       |         |       |         |       |         |
| Fremantle .....              | 459         | 27      | 521   | 46      | 461   | 37      | 523   | 55      | 439   | ....    |
| Albany (a) .....             | ....        | ....    | 48    | 5       | 92    | ....    | 60    | 4       | 59    | ....    |
| Bandyup (b) .....            | ....        | ....    | ....  | ....    | ....  | ....    | ....  | ....    | ....  | 54      |
| Barton's Mill .....          | 90          | ....    | 119   | ....    | 93    | ....    | 123   | ....    | 123   | ....    |
| Broome .....                 | 35          | 1       | 51    | 7       | 36    | 4       | 37    | 1       | 53    | 2       |
| Brunswick Junction (c) ..... | ....        | ....    | ....  | ....    | ....  | ....    | 21    | ....    | 24    | ....    |
| Geraldton .....              | 21          | ....    | 43    | 3       | 105   | ....    | 99    | ....    | 122   | 1       |
| Kalgoorlie (d) .....         | ....        | ....    | ....  | ....    | 48    | 2       | 40    | 5       | 32    | 1       |
| <b>Karnet—</b>               |             |         |       |         |       |         |       |         |       |         |
| Inebriates' Section .....    | 37          | ....    | 57    | ....    | 53    | ....    | 51    | ....    | 56    | ....    |
| Other .....                  | 53          | ....    | 60    | ....    | 70    | ....    | 79    | ....    | 64    | ....    |
| Pardelup .....               | 51          | ....    | 62    | ....    | 79    | ....    | 65    | ....    | 42    | ....    |
| Wooroloo (e) .....           | ....        | ....    | ....  | ....    | ....  | ....    | ....  | ....    | 42    | ....    |
| <b>Total</b> .....           | 746         | 28      | 961   | 61      | 1,037 | 43      | 1,098 | 65      | 1,056 | 58      |
| <b>Police gaols</b> .....    | 84          | 5       | 105   | 10      | 67    | 3       | 48    | 3       | 53    | 7       |
| <b>GRAND TOTAL</b> .....     | 830         | 33      | 1,066 | 71      | 1,104 | 46      | 1,146 | 68      | 1,109 | 65      |

(a) Opened 16 September 1966. (b) Opened 13 March 1970. (c) Opened 6 March 1969. (d) On 29 February 1968 the former police gaol was closed and simultaneously gazetted as a prison. (e) Opened 5 March 1970.

## PROBATION AND PAROLE SERVICE

The Probation and Parole Service, a branch of the Crown Law Department, is constituted under the provisions of the *Offenders Probation and Parole Act, 1963-1971*.

The Act establishes a Parole Board of five members, comprising a Judge of the Supreme Court as chairman, the Director of the Department of Corrections, and three members appointed by the Governor.

Probation officers carry out supervision of offenders placed on probation by the courts. A court may require the Chief Probation Officer to report on an offender before passing sentence. These pre-sentence reports are used by the courts as an aid in determining the penalty to be imposed.

The Act requires that where a person is sentenced to imprisonment for twelve months or longer the court shall, unless special circumstances make it inappropriate, fix a minimum term during which the convicted person is not eligible to be released. The court is given discretionary power to fix a minimum term where the sentence is for less than twelve months. Provision is made for the reduction of a minimum term, as a reward for good conduct or industry. Where no minimum term has been fixed, remission of up to 25 per cent of the sentence may be allowed for diligence and good conduct.

The Parole Board is empowered to release on parole a prisoner who has served a minimum term fixed by a court, or a prisoner being detained at the Governor's pleasure.

The Governor may direct the release on parole of a prisoner sentenced to imprisonment for life, a prisoner undergoing a sentence of imprisonment for life commuted from a sentence of death, or an unconvicted person held in custody during the Governor's pleasure following acquittal because of unsoundness of mind. The Parole Board is required to submit to the Minister, at prescribed intervals, a report and a recommendation concerning such prisoners.

Parole officers establish contact with prisoners serving a minimum term (*i.e.* the non-parole period of the sentence) during their imprisonment, prepare a case history of each prisoner for the information of the Parole Board, and supervise paroled persons during the parole period.

The following table gives particulars of the operations of the Probation and Parole Service during the five-year period ended 30 June 1970.

#### PROBATION AND PAROLE SERVICE

| Particulars                              | Year ended 30 June— |      |       |       |       |
|------------------------------------------|---------------------|------|-------|-------|-------|
|                                          | 1966                | 1967 | 1968  | 1969  | 1970  |
| <b>PROBATION</b>                         |                     |      |       |       |       |
| Number of persons—                       |                     |      |       |       |       |
| Under supervision at beginning of period | 120                 | 417  | 656   | 751   | 1,023 |
| Admitted to probation during period      | 347                 | 403  | 370   | 572   | 609   |
| Under supervision during period          | 467                 | 820  | 1,026 | 1,323 | 1,632 |
| Cancellation of probation                | * 9                 | * 52 | * 66  | 59    | 92    |
| Completion of probation                  | *41                 | *112 | *209  | 241   | 338   |
| Under supervision at end of period       | 417                 | 656  | 751   | 1,023 | 1,202 |
| <b>PAROLE</b>                            |                     |      |       |       |       |
| Number of persons—                       |                     |      |       |       |       |
| Under supervision at beginning of period | 124                 | 207  | 209   | 288   | 336   |
| Released on parole during period         | 226                 | 232  | 280   | 348   | 337   |
| Under supervision during period          | 350                 | 439  | 489   | 636   | 673   |
| Cancellation of parole                   | 56                  | 81   | 72    | 105   | 102   |
| Completion of parole                     | 87                  | 149  | 129   | 195   | 187   |
| Under supervision at end of period       | 207                 | 209  | 288   | 336   | 384   |

\* Revised.

#### PUBLIC SAFETY

##### National Safety Council

The formation of the National Safety Council of Western Australia arose out of discussions among office bearers and senior officials of the Royal Automobile Club of Western Australia concerning ways and means of establishing an organisation for the prevention of accidents. Following a conference between police and education authorities and officers of the Royal Automobile Club, and agreement with the State Government in respect of financial arrangements, the National Safety Council of Western

Australia was established. The first meeting of the Council was held on 29 January 1946. In 1947 the Australian Road Safety Council was formed and the National Safety Council of Western Australia was nominated by the State Government to receive a proportion of the Commonwealth grant for the promotion of road safety. The Industrial Division of the Council was established in 1961, the Home Safety Division in 1963 and the Water Safety Division in 1965. The Safety Instructional Centre at Mount Lawley has a safety training area of some eighteen acres which includes road systems, buildings and equipment for the training of adults and juveniles in each field of activity.

In November 1965 the National Safety Council of Western Australia was affiliated with the National Safety Council of Australia and became the Western Australian Division of that Council. The objects of the Council are to devise and encourage the adoption of safety measures of all kinds; to promote discussion of all matters relating to safety measures; to conduct an educational campaign among the people of Australia to stimulate the adoption and observance of safety measures; and to consider, initiate and support improvements in the laws of the Commonwealth of Australia, the States and local governing bodies, calculated to prevent accidents.

### Fire Protection

**Western Australian Fire Brigades Board.** The *Fire Brigades Act, 1942-1971* constitutes the Western Australian Fire Brigades Board of ten members. The Board comprises two members appointed by the Governor, one of whom is president of the Board; three members elected by the insurance companies carrying on business in the State; one member elected by the Council of the City of Perth; three members elected by other local government authorities; and one member elected by the registered volunteer fire brigades. The general duties of the Board are to take, superintend and enforce all necessary steps for the prevention and extinguishing of fires and the protection of life and property from fire, and the control of all fire brigade premises and of all fire brigades.

Seventeen permanent and two volunteer brigades operate in the metropolitan fire district centred on the City of Perth. Permanent brigade personnel serve with volunteer brigade personnel in five large country centres, and volunteer brigades provide town fire protection at sixty-six other centres. During the year ended June 1971, brigades attended 4,656 calls in the metropolitan fire district and 1,020 calls in country fire districts. At 30 June 1971, the Board had 557 employees and there were 1,560 volunteer brigade officers and firemen.

**Bush Fires Board.** The Bush Fires Board, which is constituted under the *Bush Fires Act, 1954-1970*, consists of thirteen members appointed by the Governor on the recommendation of the Minister. It comprises the Under Secretary for Lands as chairman; six persons nominated by the Country Shire Councils' Association of W.A.; and one person nominated by each of the following: the Minister for Forests, the Minister for Agriculture, The Western Australian Government Railways Commission, the Fire and Accident Underwriters' Association of Western Australia, the Commissioner of Police, and the Associated Sawmillers and Timber Merchants. The principal functions of the Board are to administer the Bush Fires Act; to report to the Minister on methods of preventing or extinguishing bush fires; to recommend the prohibited burning times to be declared for the whole or any part of the State for any yearly period; to carry out such fire prevention measures as it considers necessary; to carry out research in connection with fire prevention and control; and to conduct publicity campaigns for the purpose of improving fire prevention measures.

At 30 June 1971, there were 944 bush fire brigades comprising 6,850 members, mainly volunteers. During the 1970-71 season, some 169,521 acres (mostly scrub and undeveloped land) were destroyed by fire. The principal cause was 'escape of burning-off operations', which accounted for 24 per cent of all fires. Other fires were caused mainly by burning rubbish, and sparks from vehicles, tractors and cigarettes. The burning of protective fire breaks is carried out by bush fire brigades throughout the agricultural areas.

## CHAPTER VI—FINANCE

### Part 1—Public Finance

In Western Australia there are three groups of authorities responsible for the collection and expenditure of public moneys. They are the State Government and associated semi-governmental authorities; the Commonwealth Government; and the local government authorities, comprising City Councils, Town Councils and Shire Councils.

#### COMMONWEALTH-STATE FINANCIAL RELATIONS

##### The Financial Agreement of 1927

Under the terms of the Financial Agreement, the Commonwealth Government took over from the States their public debts existing at 30 June 1927 and assumed responsibility for all future loan raisings by the Australian Governments. The Commonwealth also agreed to contribute annually for a period of fifty-eight years from 1 July 1927 an amount of \$15,169,824 towards the interest payable on the States' debts, Western Australia's share of this amount being \$946,864.

Sinking Funds established by the Financial Agreement between the Commonwealth and the States are designed to redeem the States' debts as follows: (a) debt existing at 30 June 1927, in a period of fifty-eight years thereafter; (b) debt incurred after 30 June 1927 (except for the purpose of financing revenue deficits), in a period of fifty-three years from the date of creation of the debt; (c) debt incurred to finance revenue deficits for the years 1929-30 to 1934-35, in a period of thirty-nine years from 30 June 1944; and (d) debt incurred to finance other revenue deficits, in a period of approximately seventeen years from the date of its creation.

These Sinking Funds are under the control of the National Debt Commission. Receipts of the Funds consist mainly of contributions from the Consolidated Revenue Funds of the Commonwealth and the States. The Commonwealth and the States make annual contributions of  $\frac{1}{4}$  per cent and  $\frac{1}{4}$  per cent respectively towards the redemption of debt existing at 30 June 1927, and further annual contributions of  $\frac{1}{4}$  per cent each towards the redemption of debt created since that date, with the exception of debt incurred to finance revenue deficits. In respect of debt incurred to finance revenue deficits during the years 1929-30 to 1934-35, the Commonwealth makes an annual contribution of  $\frac{1}{4}$  per cent and the States an annual contribution of  $\frac{1}{4}$  per cent. In respect of debt incurred to finance all other revenue deficits, contributions are at a rate of not less than 4 per cent per annum, and are the sole responsibility of the States concerned. In addition to the foregoing contributions, the States make an annual contribution of  $4\frac{1}{2}$  per cent on the face value of securities redeemed from their Sinking Funds, which in effect accumulates the original contributions and ensures that funds are approximately sufficient to repurchase or redeem the full amount of all debt in a period of fifty-three years.

Subject to the Financial Agreement, the contributions of the Commonwealth and the States in respect of the States' debts are applied by the Commission to the redemption of the public debts of the States, the redemption of loans raised by the Commonwealth for and on behalf of the States, and the repurchase of securities issued in respect thereof. Under the provisions of the Financial Agreement, repurchased or redeemed securities must be cancelled, and the debts of the States are reduced accordingly.

##### The Australian Loan Council

The Australian Loan Council was established by the Financial Agreement Act of 1928 to co-ordinate the public borrowings of the Commonwealth and the States. The Council has as its Chairman the Prime Minister of the Commonwealth, or a Minister nominated by him, and the other members are the Premiers of the States or, in the absence

of a Premier, a Minister nominated by him. The Commonwealth and each State submits to the Council a programme of its desired loan raisings during each financial year, including the amount of any revenue deficit to be funded. The Commonwealth Government's borrowings for defence purposes are expressly excluded from its submissions to the Council. If the Council decides that the total amount of the loan programme for a year cannot be borrowed at reasonable rates and conditions, it decides the amount to be borrowed during the year, and may by unanimous decision allocate this amount between the Commonwealth and the States. Where the members fail to arrive at a unanimous decision the Commonwealth is entitled to a maximum of one-fifth of the total sum to be borrowed. Of the balance, each State is entitled to an amount in the proportion which its net loan expenditure during the preceding five years bears to the aggregate for all the States.

### Grants to the States

**Debt Charges Assistance.** The *States Grants (Debt Charges Assistance) Act 1970* provides Commonwealth financial assistance to the States in connection with interest and sinking fund contributions payable in terms of the Financial Agreement. The assistance is in the form of an annual grant to meet charges on \$200 million of the States' debts in each year from 1970-71 to 1974-75. The grants amount in total to \$172.6 million in respect of \$1,000 million of existing debt. Western Australia's share (\$1.11 million in 1970-71, \$2.21 million in 1971-72, \$3.32 million in 1972-73, \$4.42 million in 1973-74, and \$5.53 million in 1974-75) amounts to \$16.6 million in respect of \$96.1 million of debt. It was agreed at a Premiers' Conference in June 1970 that the \$1,000 million of States' debts to which the Act relates would be formally transferred from the States to the Commonwealth in June 1975.

**The Commonwealth Grants Commission.** Section 96 of the Commonwealth Constitution provides that the States may be granted financial assistance. In 1933 the Commonwealth Parliament passed the Commonwealth Grants Commission Act establishing a Commission of three members to inquire into and report on applications made by States for grants of financial aid.

In each year from 1934-35, in respect of which the Commission made its first recommendation, Western Australia received a Special Grant until it ceased to be a claimant State from and including the year 1968-69, in accordance with an agreement made between the Commonwealth and the State at a Premiers' Conference in June 1968. Following this agreement the Commonwealth was authorised by the *States Grants Act 1968* to pay to Western Australia an amount of \$15.5 million in each of the years 1968-69 and 1969-70, in addition to the Financial Assistance Grant (see below), as a substitute for any Special Grant that might have been recommended by the Commission for those years. For subsequent years, additional grants on a reducing basis were provided by the *States Grants Act 1970* (\$12.5 million for 1970-71), and the *States Grants Act (No. 2) 1971* (\$9.5 million for 1971-72, \$6.5 million for 1972-73, \$3.5 million for 1973-74, and \$0.5 million for 1974-75).

**Other Grants.** As well as the Special Grants paid to some States on the recommendation of the Commonwealth Grants Commission, annual Financial Assistance Grants are made by the Commonwealth Government to every State. Special revenue assistance has been provided in some years in addition to the Special Grants and Financial Assistance Grants. Details of payments made to Western Australia during the five-year period ended 30 June 1970 are shown in the next table under the heading *General revenue grants*.

### Other Financial Assistance

As well as providing general financial assistance to the States by means of grants, the Commonwealth Government allocates to them funds for specific purposes, as shown in the next table which gives details of payments made to Western Australia from the Consolidated Revenue Fund. Social service and national health benefits and homes savings grants are paid from the National Welfare Fund. In addition, financial assistance for housing and war service land settlement is provided from Loan Fund.

## FINANCIAL ASSISTANCE TO WESTERN AUSTRALIA

## Consolidated Revenue Fund

COMMONWEALTH CONSOLIDATED REVENUE FUND  
FINANCIAL ASSISTANCE TO WESTERN AUSTRALIA (a)  
(\$'000)

| Nature of payment                                             | 1965-66        | 1966-67        | 1967-68        | 1968-69        | 1969-70        |
|---------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Payments of a revenue nature—</b>                          |                |                |                |                |                |
| Financial Agreement—                                          |                |                |                |                |                |
| Interest on State debts .....                                 | 947            | 947            | 947            | 947            | 947            |
| Sinking Fund contribution .....                               | 1,726          | 1,844          | 1,986          | 2,106          | 2,258          |
| General revenue grants—                                       |                |                |                |                |                |
| Financial Assistance Grants .....                             | 78,474         | 86,396         | 96,152         | (b)123,796     | (b)138,835     |
| Special Grants (c) .....                                      | 24,038         | 19,406         | 15,518         | 582            | ...            |
| Special Financial Assistance Grants .....                     | ....           | ....           | ....           | 1,296          | 1,545          |
| Education—                                                    |                |                |                |                |                |
| University .....                                              | 2,152          | 2,306          | 2,652          | 2,833          | 3,281          |
| Colleges of advanced education .....                          | ....           | 363            | 776            | 912            | 1,929          |
| Independent (i.e. non-government) schools .....               | ....           | ....           | ....           | ....           | 862            |
| Research grants .....                                         | 142            | 155            | 257            | 276            | 323            |
| Development of resources and assistance to industry—          |                |                |                |                |                |
| Agricultural extension services .....                         | 104            | 213            | 294            | 375            | 493            |
| Bovine brucellosis and tuberculosis eradication .....         | ....           | ....           | ....           | ....           | 64             |
| Natural disaster payments .....                               | ....           | ....           | ....           | 50             | 42             |
| Health—                                                       |                |                |                |                |                |
| Blood transfusion services .....                              | 44             | 92             | 80             | 75             | 76             |
| Welfare—                                                      |                |                |                |                |                |
| Aboriginal advancement .....                                  | ....           | ....           | ....           | ....           | 55             |
| Housekeeper services .....                                    | 1              | 2              | 2              | 2              | ....           |
| Other—                                                        |                |                |                |                |                |
| Road safety practices .....                                   | 16             | 19             | 19             | 19             | 19             |
| Coal mining industry long service leave .....                 | 34             | 34             | 40             | 45             | 47             |
| <b>Total .....</b>                                            | <b>107,679</b> | <b>111,778</b> | <b>118,724</b> | <b>133,313</b> | <b>150,777</b> |
| <b>Payments of a capital nature—</b>                          |                |                |                |                |                |
| Transport and communication—                                  |                |                |                |                |                |
| Commonwealth Aid Roads Acts .....                             | 24,739         | 26,676         | 28,597         | 30,537         | 32,940         |
| Beef cattle roads grants .....                                | 1,500          | 1,500          | 1,400          | 1,451          | 1,168          |
| Eyre Highway—Contribution to maintenance .....                | 25             | 25             | 25             | 25             | 25             |
| Railway standardisation agreement (d) .....                   | 17,828         | 17,996         | 19,458         | 8,362          | 7,900          |
| Education—                                                    |                |                |                |                |                |
| University .....                                              | 901            | 1,160          | 567            | 734            | 2,048          |
| Teachers colleges .....                                       | ....           | ....           | 1,817          | 582            | 201            |
| Pre-school teachers colleges .....                            | ....           | ....           | ....           | 14             | 161            |
| Colleges of advanced education .....                          | 232            | 457            | 1,304          | 874            | 1,050          |
| Technical training .....                                      | 269            | 551            | 1,323          | 437            | 957            |
| Science laboratories in schools .....                         | 502            | 899            | 912            | 921            | 921            |
| School libraries .....                                        | ....           | ....           | ....           | 168            | 596            |
| Aboriginal advancement .....                                  | ....           | ....           | ....           | ....           | 160            |
| Development of resources and assistance to industry—          |                |                |                |                |                |
| Water supplies (e) .....                                      | 1,250          | 1,250          | 1,500          | 2,050          | 2,000          |
| Softwood forestry (e) .....                                   | ....           | ....           | 450            | 500            | 859            |
| Investigation and measurement of water resources .....        | 211            | 235            | 260            | 273            | 312            |
| Ord River irrigation agreement .....                          | 1,112          | ....           | 100            | 5,100          | 5,850          |
| Northern harbours .....                                       | (f) 1,154      | ....           | ....           | ....           | ....           |
| Encouragement of meat production .....                        | ....           | 8              | ....           | ....           | ....           |
| Natural disaster payments .....                               | ....           | ....           | ....           | ....           | 130            |
| Health—                                                       |                |                |                |                |                |
| Mental institutions—Contribution to capital expenditure ..... | 338            | 260            | 148            | 375            | 241            |
| Tuberculosis Act—Reimbursement of capital expenditure .....   | 2              | ....           | 10             | ....           | ....           |
| Welfare—                                                      |                |                |                |                |                |
| Aboriginal advancement .....                                  | ....           | ....           | ....           | 825            | 1,040          |
| Other—                                                        |                |                |                |                |                |
| Exmouth township development .....                            | 750            | 1,952          | 417            | ....           | 59             |
| Migrant centre .....                                          | ....           | ....           | 357            | 411            | 60             |
| <b>Total .....</b>                                            | <b>50,813</b>  | <b>52,969</b>  | <b>58,645</b>  | <b>53,639</b>  | <b>58,678</b>  |
| <b>GRAND TOTAL .....</b>                                      | <b>158,492</b> | <b>164,746</b> | <b>177,369</b> | <b>186,952</b> | <b>209,455</b> |

(a) Excludes subsidy and hounty payments. (b) Includes \$15,500,000 in place of a Special Grant. (c) See letterpress The Commonwealth Grants Commission on page 271. (d) Includes repayable advances : 1965-66, \$10,487,000; 1966-67, \$10,586,000; 1967-68, \$11,446,000; 1968-69, \$4,919,000; 1969-70, \$4,647,000. (e) Repayable advances. (f) Includes repayable advance of \$577,000.

## National Welfare Fund

The National Welfare Fund was established in 1943 by the National Welfare Fund Act passed by the Commonwealth Parliament in that year. The purpose of the fund is to provide for the payment of social service and health benefits.



NATIONAL WELFARE FUND—PAYMENTS IN WESTERN AUSTRALIA (a)  
(\$'000)

| Pension or benefit                                  | 1965-66       | 1966-67       | 1967-68       | 1968-69       | 1969-70       |
|-----------------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Social services—</b>                             |               |               |               |               |               |
| Age and invalid pensions ....                       | 30,760        | 33,794        | 36,418        | 39,404        | 44,637        |
| Rehabilitation service ....                         | 187           | 196           | 193           | 208           | 284           |
| Funeral benefits ....                               | 66            | 88            | 90            | 96            | 102           |
| Widows' pensions ....                               | 3,602         | 4,011         | 4,346         | 4,786         | 5,600         |
| <b>Unemployment, sickness and special benefits—</b> |               |               |               |               |               |
| Unemployment ....                                   | 368           | 374           | 304           | 309           | 407           |
| Sickness ....                                       | 457           | 445           | 420           | 389           | 508           |
| Special ....                                        | 47            | 36            | 33            | 97            | 123           |
| Maternity allowances ....                           | 536           | 559           | 605           | 648           | 645           |
| Child endowment ....                                | 13,624        | 15,498        | 14,845        | 15,540        | 17,894        |
| Sheltered employment allowances (b) ....            |               |               | 5             | 37            | 74            |
| Assistance for deserted wives (c) ....              |               |               | 35            | 215           | 342           |
| Personal care subsidy (d) ....                      |               |               |               |               | 89            |
| Delivered meals subsidy (e) ....                    |               |               |               |               | 20            |
| <b>National health services—</b>                    |               |               |               |               |               |
| Hospital and nursing home benefits (f) ....         | 5,286         | 5,881         | 6,598         | 7,401         | 9,153         |
| Handicapped children's benefits (g) ....            |               |               |               | 3             | 64            |
| Medical benefits (h) ....                           | 3,387         | 3,925         | 4,093         | 4,432         | 4,978         |
| Medical benefits for pensioners ....                | 958           | 1,020         | 1,172         | 1,168         | 1,394         |
| Pharmaceutical benefits ....                        | 4,205         | 4,730         | 4,974         | 6,195         | 7,116         |
| Pharmaceutical benefits for pensioners ....         | 1,665         | 1,989         | 2,143         | 2,507         | 2,720         |
| Milk for school children ....                       | 619           | 698           | 850           | 797           | 797           |
| <b>Tuberculosis campaign—</b>                       |               |               |               |               |               |
| Allowances ....                                     | 61            | 53            | 55            | 44            | 39            |
| Maintenance (i) ....                                | 697           | 547           | 807           | 602           | 789           |
| Miscellaneous (j) ....                              | 28            | 156           | 168           | 191           | 212           |
| Homes savings grants ....                           | 762           | 666           | 740           | 760           | 590           |
| <b>TOTAL</b> ....                                   | <b>67,316</b> | <b>74,666</b> | <b>78,894</b> | <b>85,828</b> | <b>98,577</b> |

(a) For conditions applying to payment of social service and health benefits, see Chapter V, Part 5. (b) Payable from 6 July 1967. (c) Payable from 1 January 1968. (d) Payable from 10 October 1969. (e) Payable from 15 April 1970. (f) For details, see table *Hospital and Nursing Home Benefits—Western Australia* on page 246. (g) Payable from 1 January 1969. (h) For details, see table *Medical Benefits—Western Australia* on page 247. (i) Figures exclude payments and reimbursements from Commonwealth Consolidated Revenue Fund in respect of capital expenditure by the State Government; see preceding table. (j) See letterpress *Miscellaneous Health Services* on page 250.

## COMMONWEALTH AND STATE TAXATION

## Commonwealth Taxation

COMMONWEALTH TAXATION—NET COLLECTIONS IN WESTERN AUSTRALIA  
(\$'000)

| Tax, duty, charge or levy                                  | 1965-66        | 1966-67        | 1967-68        | 1968-69        | 1969-70        |
|------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Paid to Consolidated Revenue Fund—</b>                  |                |                |                |                |                |
| Income tax (a) ....                                        | 130,589        | 165,396        | 193,765        | 226,532        | 280,042        |
| Customs duties (a) ....                                    | 13,359         | 11,839         | 16,604         | 19,580         | 22,865         |
| Excise duties ....                                         | 53,077         | 57,673         | 62,349         | 68,642         | 76,101         |
| Sales tax (a) ....                                         | 23,067         | 25,878         | 28,944         | 34,779         | 40,819         |
| Pay-roll tax (b) ....                                      | 10,192         | 11,574         | 13,204         | 15,162         | 18,180         |
| Estate duty ....                                           | 1,652          | 2,267          | 2,551          | 2,482          | 4,220          |
| Gift duty ....                                             | 611            | 962            | 602            | 812            | 1,008          |
| Broadcast listeners' and television viewers' licences .... | 2,285          | 2,571          | 2,666          | 3,127          | 3,483          |
| Other ....                                                 | 42             | 36             | 38             | 67             | 136            |
| <b>Total (a) (c) ....</b>                                  | <b>234,874</b> | <b>278,197</b> | <b>320,724</b> | <b>371,185</b> | <b>446,854</b> |
| <b>Other (d)—</b>                                          |                |                |                |                |                |
| Wool tax ....                                              | 2,283          | 2,370          | 2,445          | 3,017          | 2,541          |
| Export charges on primary products ....                    | 41             | 42             | 29             | 62             | 60             |
| Stevedoring industry charge ....                           | 961            | 1,025          | 1,609          | 1,487          | 1,455          |
| Dairy produce levy (e) ....                                | 3              |                |                |                |                |
| Butterfat levy (f) ....                                    | 65             | 61             | 59             | 61             | 58             |
| Canning-fruit charge ....                                  |                | 1              | 1              | (g)            |                |
| Cattle slaughter levy (h) ....                             | (g)            |                |                |                |                |
| <b>Livestock slaughter levy (i)—</b>                       |                |                |                |                |                |
| Cattle ....                                                | 93             | 85             | 93             | 105            | 121            |
| Sheep and lambs ....                                       | 28             | 62             | 81             | 101            | 132            |
| Honey levy ....                                            | 9              | 8              | 7              | 8              | 5              |
| Tobacco charge ....                                        |                |                |                | 3              |                |
| <b>Total ....</b>                                          | <b>3,483</b>   | <b>3,653</b>   | <b>4,323</b>   | <b>4,845</b>   | <b>4,372</b>   |
| <b>GRAND TOTAL (a) (c) ....</b>                            | <b>238,357</b> | <b>281,850</b> | <b>325,047</b> | <b>376,030</b> | <b>451,226</b> |

(a) The amounts shown have been adjusted by offsetting remissions under special circumstances of income tax, customs duties and sales tax. (b) Discontinued as Commonwealth tax September 1971; from that date collected by State Government (see page 278). (c) Figures for years prior to 1969-70 revised to include revenue from broadcast listeners' and television viewers' licences. (d) Transferred to trust funds or relevant authorities and used for purposes of the industry concerned. (e) Replaced by Butterfat levy from 1 July 1965. (f) Operative from 1 July 1965; see footnote (e). (g) Less than \$500. (h) Discontinued 1 August 1964; see footnote (i). (i) Operative from 1 August 1964; see footnote (h).

It is important to note that, although the figures shown in the preceding table represent the amounts of taxes actually collected in Western Australia, they do not necessarily indicate the amounts contributed by the people of the State, as moneys may be collected in one State in respect of goods consumed or assessments made in other States. Further, administrative arrangements for the collection of certain taxes are such that a large proportion of the revenue (or, as in the case of Wheat Tax, the whole of the revenue) is brought to account in a State other than Western Australia.

Details of the purposes and rates applicable to the main forms of Commonwealth taxation are given in the *Official Year Book of the Commonwealth of Australia*: No. 57, 1971 on pages 279-82 (customs duties), 313 (excise duties), 579-87 (income tax), and 550-5 (other taxation).

**Income Tax.** The following table relates to assessments of tax on the incomes of individuals (*i.e.* excluding companies) resident in Western Australia. The term 'actual income', as used in the table, refers to gross income (including 'exempt income') less expenditure incurred in gaining that income. (The principal items of exempt income are social service benefits, war and service pensions, and income from gold mining and some other mining operations.) 'Taxable income' is equal to actual income less exempt income and allowable deductions.

**INCOME TAX ASSESSMENTS—RESIDENT INDIVIDUALS: WESTERN AUSTRALIA (a)**  
**INCOME YEAR 1968-69 (ASSESSMENT YEAR 1969-70)**

| Grade of actual income (b) | Number of taxpayers |         |         | Actual income | Taxable income (b) |              |           | Net tax assessed |                      |
|----------------------------|---------------------|---------|---------|---------------|--------------------|--------------|-----------|------------------|----------------------|
|                            | Males               | Females | Persons |               | Salary and wages   | Other income | Total     | Total            | Average per taxpayer |
| \$      \$                 |                     |         |         | \$'000        | \$'000             | \$'000       | \$'000    | \$'000           | \$                   |
| 417- 599 .....             | 3,852               | 7,845   | 11,697  | 5,994         | 5,021              | 756          | 5,777     | 121              | 10                   |
| 600- 799 .....             | 4,735               | 9,778   | 14,513  | 10,150        | 8,287              | 1,217        | 9,504     | 305              | 21                   |
| 800- 999 .....             | 5,257               | 10,540  | 15,797  | 14,201        | 11,357             | 1,702        | 13,059    | 578              | 37                   |
| 1,000- 1,199 .....         | 5,570               | 10,991  | 16,561  | 18,212        | 14,296             | 2,180        | 16,475    | 920              | 56                   |
| 1,200- 1,399 .....         | 5,749               | 11,354  | 17,103  | 22,233        | 17,357             | 2,705        | 20,062    | 1,338            | 78                   |
| 1,400- 1,599 .....         | 6,402               | 10,933  | 17,335  | 26,033        | 19,752             | 3,575        | 23,327    | 1,785            | 103                  |
| 1,600- 1,799 .....         | 6,967               | 11,546  | 18,513  | 31,435        | 23,857             | 4,245        | 28,102    | 2,415            | 130                  |
| 1,800- 1,999 .....         | 7,809               | 10,796  | 18,605  | 35,319        | 26,582             | 4,776        | 31,358    | 2,974            | 160                  |
| 2,000- 2,199 .....         | 9,168               | 8,235   | 17,403  | 36,547        | 26,033             | 5,795        | 31,828    | 3,259            | 187                  |
| 2,200- 2,399 .....         | 11,227              | 6,264   | 17,491  | 40,222        | 28,140             | 6,169        | 34,309    | 3,761            | 215                  |
| 2,400- 2,599 .....         | 12,434              | 5,119   | 17,553  | 43,873        | 29,961             | 6,842        | 36,803    | 4,266            | 243                  |
| 2,600- 2,799 .....         | 13,818              | 3,733   | 17,551  | 47,376        | 31,397             | 7,165        | 38,562    | 4,658            | 265                  |
| 2,800- 2,999 .....         | 14,703              | 2,852   | 17,555  | 50,895        | 33,562             | 7,303        | 40,865    | 5,178            | 295                  |
| 3,000- 3,199 .....         | 15,351              | 2,268   | 17,619  | 54,632        | 35,984             | 7,616        | 43,600    | 5,799            | 329                  |
| 3,200- 3,399 .....         | 15,223              | 1,953   | 17,176  | 56,647        | 36,513             | 7,878        | 44,391    | 6,137            | 357                  |
| 3,400- 3,599 .....         | 14,730              | 1,623   | 16,353  | 57,257        | 37,301             | 8,024        | 45,324    | 6,603            | 404                  |
| 3,600- 3,799 .....         | 13,998              | 1,365   | 15,363  | 56,787        | 36,625             | 7,974        | 44,600    | 6,715            | 437                  |
| 3,800- 3,999 .....         | 12,472              | 1,234   | 13,706  | 53,424        | 33,453             | 8,209        | 41,662    | 6,502            | 474                  |
| 4,000- 4,999 .....         | 41,190              | 4,285   | 45,475  | 202,184       | 121,606            | 36,571       | 158,177   | 27,312           | 601                  |
| 5,000- 5,999 .....         | 20,158              | 2,571   | 22,729  | 124,083       | 65,916             | 31,153       | 97,069    | 19,287           | 849                  |
| 6,000- 6,999 .....         | 10,537              | 1,618   | 12,155  | 78,423        | 36,599             | 25,344       | 61,943    | 13,719           | 1,129                |
| 7,000- 7,999 .....         | 5,863               | 1,184   | 7,047   | 52,540        | 20,174             | 21,832       | 42,006    | 10,154           | 1,441                |
| 8,000- 8,999 .....         | 3,440               | 822     | 4,262   | 36,074        | 11,588             | 17,622       | 29,210    | 7,575            | 1,777                |
| 9,000- 9,999 .....         | 2,245               | 594     | 2,839   | 26,874        | 7,022              | 15,115       | 22,137    | 6,171            | 2,174                |
| 10,000-11,999 .....        | 2,581               | 755     | 3,336   | 36,383        | 7,868              | 22,474       | 30,342    | 9,231            | 2,767                |
| 12,000-13,999 .....        | 1,503               | 375     | 1,878   | 24,213        | 4,548              | 15,963       | 20,511    | 6,910            | 3,679                |
| 14,000-15,999 .....        | 899                 | 212     | 1,111   | 16,556        | 2,876              | 11,358       | 14,235    | 5,224            | 4,702                |
| 16,000-17,999 .....        | 556                 | 135     | 691     | 11,699        | 2,024              | 8,137        | 10,161    | 4,003            | 5,793                |
| 18,000-19,999 .....        | 371                 | 66      | 437     | 8,263         | 1,334              | 5,840        | 7,174     | 2,968            | 6,792                |
| 20,000-29,999 .....        | 586                 | 129     | 715     | 16,914        | 1,770              | 13,066       | 14,836    | 6,906            | 9,659                |
| 30,000-39,999 .....        | 119                 | 30      | 149     | 5,064         | 456                | 4,094        | 4,550     | 2,409            | 16,166               |
| 40,000-49,999 .....        | 35                  | 8       | 43      | 1,902         | 255                | 1,410        | 1,665     | 940              | 21,867               |
| 50,000-59,999 .....        | 18                  | 5       | 23      | 1,254         | 138                | 993          | 1,131     | 662              | 28,796               |
| 60,000-79,999 .....        | 20                  | 3       | 23      | 1,561         | 203                | 1,145        | 1,349     | 794              | 34,511               |
| 80,000-99,999 .....        | 5                   | 1       | 6       | 523           | 45                 | 372          | 418       | 258              | 42,924               |
| 100,000 and over .....     | 5                   | ....    | 5       | 867           | ....               | 686          | 686       | 446              | 89,118               |
| Total .....                | 269,596             | 131,222 | 400,818 | 1,306,615     | 739,899            | 327,305      | 1,067,204 | 188,283          | 470                  |

(a) Including Central Office assessments of Western Australian residents. (b) An individual was not liable to pay tax on income derived in any year from and including 1963-64 if the taxable income was \$416 or less.

Additional tables, including particulars relating to companies, appear in *Statistics of Western Australia—Finance*. The bulletin *Commonwealth Taxation Assessments*, published annually by the Commonwealth Statistician, Canberra, contains comprehensive statistical tables and details of rates of tax, allowable deductions and other conditions applying to tax on incomes of individuals and of companies.

### State Taxation

The net amounts collected in Western Australia in the form of State Government taxation in each year from 1965-66 to 1969-70 are shown in the table on page 280. Information concerning rates of tax and the relevant legislation is given below.

**STAMP DUTIES.** The *Stamp Act, 1921-1971* imposes stamp duties and prescribes the rates applying to a great number of transactions relating to a wide range of property, commodities and services.

**ESTATE DUTY (PROBATE AND SUCCESSION DUTIES).** The *Death Duties (Taxing) Act, 1934-1970* imposes duties on the estates of deceased persons and specifies the rates of duty. Conditions relating to probate and the administration of estates are contained in the *Administration Act, 1903-1971*. Differential rates of estate duty and amounts of exemption apply according to distinct categories of beneficiary. The following table shows the amounts of duty payable at 30 June 1971 on estates of persons dying on or after 1 July 1970, classified according to the dutiable value of the estate.

ESTATE DUTY—AMOUNTS PAYABLE AT 30 JUNE 1971  
CLASSIFIED ACCORDING TO VALUE OF ESTATE

| Dutiable value of estate<br>(a) | Gross amount payable where estate passes to— |                                     |                            |
|---------------------------------|----------------------------------------------|-------------------------------------|----------------------------|
|                                 | Widow,<br>widower,<br>children,<br>etc. (b)  | Brothers,<br>sisters,<br>or parents | Any other<br>person<br>(c) |
| \$                              | \$                                           | \$                                  | \$                         |
| 1,500                           | Nil                                          | Nil                                 | Nil                        |
| 3,000                           | Nil                                          | 90                                  | 120                        |
| 5,000                           | Nil                                          | 250                                 | 300                        |
| 10,000                          | Nil                                          | 750                                 | 850                        |
| 15,000                          | Nil                                          | 1,350                               | 1,500                      |
| 20,000                          | 450                                          | 1,950                               | 2,150                      |
| 30,000                          | 1,550                                        | 3,350                               | 3,650                      |
| 50,000                          | 4,150                                        | 6,750                               | 7,250                      |
| 70,000                          | 7,350                                        | 10,750                              | 11,450                     |
| 90,000                          | 11,350                                       | 15,550                              | 16,450                     |
| 110,000                         | 16,150                                       | 21,150                              | 22,450                     |
| 130,000                         | 21,750                                       | 27,750                              | 29,450                     |
| 150,000                         | 28,150                                       | 35,350                              | 37,450                     |
| 170,000                         | 35,750                                       | 44,150                              | 46,650                     |
| 200,000                         | 49,250                                       | 59,150                              | 62,250                     |
| 250,000                         | 62,500                                       | 75,000                              | 80,000                     |
| 500,000                         | 125,000                                      | 150,000                             | 160,000                    |

(a) Final balance of real and personal estate of the deceased person after deducting all debts. (b) Widow, widower, children, other issue, or step-children of the deceased person; ex-nuptial children of the deceased person if that person was a female; or wholly dependent parents of the deceased person. (c) Or any body corporate or unincorporate.

**LAND TAX.** The *Land Tax Assessment Act, 1907-1971* authorises a tax, with certain specified exemptions, on every owner of land, and the rates of tax are prescribed by the *Land Tax Act, 1948-1969*. The following table shows the rates of tax and the amounts of tax payable, in respect of the assessment year 1970-71, on improved land and unimproved land of the values specified.

**LAND TAX—RATES OF TAX AND AMOUNTS PAYABLE**  
**ASSESSMENT YEAR 1970-71**

| Unimproved value— |               | Improved land                 |                             | Unimproved land               |                             |
|-------------------|---------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|
| Exceeding         | Not exceeding | Tax on amount in first column | Tax per dollar on remainder | Tax on amount in first column | Tax per dollar on remainder |
| \$                | \$            | \$                            | cents                       | \$                            | cents                       |
| Nil               | 5,000         | Nil                           | 0·3                         | Nil                           | 1·00                        |
| 5,000             | 10,000        | 15                            | 0·4                         | 50                            | 1·25                        |
| 10,000            | 15,000        | 35                            | 0·5                         | 112·50                        | 1·50                        |
| 15,000            | 20,000        | 60                            | 0·6                         | 187·50                        | 1·75                        |
| 20,000            | 25,000        | 90                            | 0·7                         | 275                           | 2·00                        |
| 25,000            | 30,000        | 125                           | 0·8                         | 375                           | 2·25                        |
| 30,000            | 35,000        | 165                           | 0·9                         | 487·50                        | 2·50                        |
| 35,000            | 40,000        | 210                           | 1·0                         | 612·50                        | 2·75                        |
| 40,000            | 45,000        | 260                           | 1·1                         | 750                           | 3·00                        |
| 45,000            | 50,000        | 315                           | 1·2                         | 900                           | 3·25                        |
| 50,000            | 60,000        | 375                           | 1·3                         | 1,062·50                      | 3·50                        |
| 60,000            | 70,000        | 505                           | 1·4                         | 1,412·50                      | 3·75                        |
| 70,000            | 80,000        | 645                           | 1·5                         | 1,787·50                      | 4·00                        |
| 80,000            | 90,000        | 795                           | 1·6                         | 2,187·50                      | 4·25                        |
| 90,000            | 100,000       | 955                           | 1·8                         | 2,612·50                      | 4·50                        |
| 100,000           | 110,000       | 1,135                         | 2·0                         | 3,062·50                      | 4·75                        |
| 110,000           | 120,000       | 1,335                         | 2·2                         | 3,537·50                      | 5·00                        |
| 120,000           | upwards       | 1,555                         | 2·4                         | 4,037·50                      | 5·25                        |

**BETTING INVESTMENT TAX.** The *Betting Investment Tax Act, 1959-1966* imposed a tax on each bet made by a bookmaker in registered premises and on each bet made through or with the Totalisator Agency Board. The amount of tax payable at 31 December 1970 was three cents on each such bet. (The Betting Investment Tax Act was repealed, with effect from 1 January 1971, by the *Betting Investment Tax Act Repeal Act, 1970*.)

**BOOKMAKERS BETTING TAX.** The *Bookmakers Betting Tax Act, 1954-1970* provides for a tax on money paid or promised as the consideration for bets made by or on behalf of bookmakers. Rates of tax are prescribed as a proportion of the turnover of a racing year (1 August to 31 July). In respect of turnover of the year ended 31 July 1972 the rates applying to on-course transactions were 2 per cent of amounts up to \$100,000 and 2½ per cent of the remainder. For off-course transactions the rate was 2¼ per cent of amounts up to \$50,000, the rate payable on each additional \$50,000 of turnover increasing by ½ per cent up to \$300,000; on turnover exceeding \$300,000 the rate was 3½ per cent.

**TOTALISATOR AGENCY BOARD BETTING TAX.** The *Totalisator Agency Board Betting Tax Act, 1960-1970* imposes a tax on all moneys paid to the Board in respect of bets made through or with the Board. The rate of tax payable at 30 June 1971 was 6 per cent.

**TOTALISATOR DUTY.** The *Totalisator Duty Act, 1905-1970* authorised the payment of duty on the takings of totalisators operated by horse-racing clubs and prescribes the rates to be paid. Differential rates apply to totalisators operated within a radius of twenty-five miles from the General Post Office, Perth and those situated outside this area. In 1970-71, the principal rates of duty payable in respect of totalisators in the former area were 9 per cent of the gross takings from win and place transactions and 5 per cent of the gross takings from wagering transactions known as 'jack pots', 'quinellas' and 'doubles'; for totalisators outside that area, the rate was 5 per cent in respect of all transactions.

**TOTALISATOR LICENCES.** The *Totalisator Regulation Act, 1911* provides for the licensing of totalisators operated by horse-racing clubs. Licence fees are prescribed by regulation and are payable annually in respect of the calendar year. For the year 1971 the fee payable was \$2 for each \$2,000 (or part of \$2,000) passing through the totalisator.

**LIQUOR LICENCES.** Licences and permits authorising the holder to sell or supply fermented and spirituous liquors are granted under the provisions of the *Liquor Act, 1970*. The Liquor Act, which repeals the *Licensing Act, 1911-1969*, became operative with effect from 1 July 1970. It prescribes the fees payable in respect of liquor licences and permits.

The several types of licence for which the Act provides are shown in the table *Liquor Licences in Force* on page 264. Annual licence fees are assessed as a proportion of the gross amount paid for liquor purchased for licensed premises or, in the case of wholesale spirit merchants' and brewers' licences, the gross amount received for liquor sold. The proportion prescribed by the Act is  $7\frac{1}{2}$  per cent for a tavern licence or a store licence and  $5\frac{1}{2}$  per cent for all other licences. An additional annual fee of \$60 is payable in respect of a wholesale spirit merchant's licence and a brewer's licence.

**MOTOR VEHICLE REGISTRATION FEES.** The *Traffic Act, 1919-1971* provides for the registration of vehicles and prescribes the licence fees to be paid in respect of the several classes of vehicles required to be registered. Fees are based on the tare weight of the vehicle (except for motor cycles, which are subject to a standard fee). At 1 January 1972 the annual licence fee for a motor car or station wagon, for example, was \$2 where the tare weight did not exceed one cwt, the fee increasing progressively to \$39 where the tare weight was thirty-one cwt, and thereafter by \$1 for each additional cwt. The annual fee for a motor cycle was \$5. The fee payable on transfer of a licence for any vehicle was \$2.

**MOTOR VEHICLE DRIVERS' LICENCES.** The *Traffic Act, 1919-1971* authorises the issue of drivers' licences to persons of a minimum age of seventeen years, specifies other conditions to be satisfied, and prescribes the fees to be paid on application for, and issue or renewal of, a licence. In 1971 the fee payable on application was \$4, and on issue or annual renewal, \$3 (or \$1 in the case of a licence to drive a passenger vehicle).

**MOTOR VEHICLE THIRD PARTY INSURANCE SURCHARGE.** The *Motor Vehicle (Third Party Insurance Surcharge) Act, 1962-1971* imposes a surcharge on premiums paid in respect of policies of insurance with The Motor Vehicle Insurance Trust. At 1 January 1972 the rate of the surcharge was \$5 per annum.

**TAXI CONTROL BOARD LICENCES.** The *Taxi-cars (Co-ordination and Control) Act, 1963-1970*, under which the Taxi Control Board is constituted, requires that taxi-cars operating in the Metropolitan Traffic Area and other areas as declared shall be licensed, and prescribes maximum fees payable. In 1971 these fees were \$30 on the issue or annual renewal of a licence, and \$4 on the transfer of a licence.

**TRANSPORT COMMISSION LICENCES.** The *Transport Commission Act, 1966-1970* provides for the licensing of public vehicles in the categories of omnibus, commercial goods vehicle, trailer or semi-trailer, and aircraft, as well as ships engaged in the coasting trade. Licence fees are as determined from time to time by the Commissioner of Transport, subject to certain maximum charges prescribed by the Act. In the case of an omnibus for example, the fee may not exceed 6 per cent of the gross earnings, or \$10 per annum for each unit of the maximum number of passengers which it is licensed to carry, the basis of assessment being that considered by the Commissioner to be the more appropriate.

**ROAD MAINTENANCE CONTRIBUTION.** The *Road Maintenance (Contribution) Act, 1965-1970* imposes a charge on the operations, subject to specified exemptions, of any commercial goods vehicle having a load capacity of more than eight tons. In 1971 the rate of the charge was five-eightieths of a cent per ton-mile calculated on the basis of the tare weight plus two-fifths of the load capacity. The Act provides that, in specified circumstances, the charge may be levied on vehicles having a load capacity of eight tons or less.

**METROPOLITAN REGION IMPROVEMENT TAX.** The *Metropolitan Region Improvement Tax Act, 1959-1966* authorises a tax, with certain specified exemptions, on every owner of land within the Metropolitan Planning Region. (The Region is coterminous with the Perth Statistical Division; see map at back of Year Book.) The rate of tax payable for the assessment year ended 30 June 1971 was one-quarter of a cent for every dollar of the unimproved value of all land chargeable with the tax.

**VERMIN RATE.** The *Vermin Act, 1918-1971*, in addition to prescribing levies imposed for the purposes of local Vermin Boards, authorises a special vermin rate, the revenue from which is used by the Agriculture Protection Board for the control or eradication

of animals, birds and insects declared to be vermin within the meaning of the Act. Subject to certain exemptions, every holding of an area of more than five acres is rateable. The rate, as prescribed by the Act, may not exceed two and one-half cents in the dollar of the unimproved capital value in the case of land held under pastoral lease, or five-twelfths of a cent in the dollar in the case of other holdings. For the assessment year 1969-70, the rate was two cents in the dollar on pastoral leases and 0·14 of a cent in the dollar on other holdings. (The *Vermin Act Amendment Act, 1970* suspends imposition of the rate with effect from 30 June 1970.)

**NOXIOUS WEEDS RATE.** The *Noxious Weeds Act, 1950-1971* contains provisions relating to noxious weeds which are generally similar to those of the Vermin Act in relation to declared vermin. The maximum rate as prescribed by the Act is, in the case of a pastoral lease, one and one-quarter cents and, in the case of other land, five twenty-fourths of a cent in the dollar of the unimproved value of the holding. In 1969-70 the rate was not levied in respect of pastoral land. The rate payable on other land was 0·07 of a cent in the dollar. (The noxious weeds rate was abolished, with effect from 1 July 1970, by the *Noxious Weeds Act Amendment Act, 1970*.)

**FRUIT FLY ERADICATION.** The *Plant Diseases Act, 1914-1969* provides for the compulsory registration of orchards and prescribes registration fees, which are paid to a fund to finance the control, prevention, and eradication of the fruit fly pest. In 1971 the annual fee payable for an orchard containing twenty-four trees or less was twenty cents; for an orchard containing more than twenty-four but less than one hundred trees, fifty cents; and for an orchard of not less than one acre, fifty cents per acre and fifty cents for each additional part of an acre.

**PAY-ROLL TAX.** Pay-roll tax, which was formerly levied by the Commonwealth Government (see page 273), has been collected by the States since September 1971. In Western Australia the enabling legislation comprises the *Pay-roll Tax Assessment Act, 1971* and the *Pay-roll Tax Act, 1971*. The tax is payable by each employer, with certain specified exceptions, on all wages and salaries paid in excess of \$1,733·33 per month (\$20,800 per annum). The rate of tax prescribed by the *Pay-roll Tax Act, 1971* is 3½ per cent of the taxable wages.

## STATE GOVERNMENT FINANCE

Moneys collected and expended by the State Government are dealt with through accounts based on funds of three types, the Consolidated Revenue Fund, the General Loan Fund and Trust Funds. The transactions of these Funds are summarised in the Public Accounts prepared each year by the Treasurer and in the Financial Statement presented to the Parliament by the Treasurer in introducing the annual budget.

Public finance statistics published by the States are limited generally to dissections of the revenue, loan and debt transactions of State Governments and local government authorities. Limited analysis of other State Government accounts, such as trust funds, and the revenue accounts and balance sheets of semi-government authorities, has made it difficult to obtain aggregations of receipts and outlay of public authorities taken as a whole.

Accordingly, a considerable amount of work has been done in recent years on the development of a new system with the aim of providing comprehensive statistics of the financial transactions of all public authorities. This information is required by government departments and many other users for economic analysis and social inquiries, and for a wide variety of other purposes.

Although comprehensive statistics compiled on the new basis have not yet been published for the several States, some information is available in *Public Authority Finance: 1963-64 to 1967-68*, issued 6 July 1970 by the Commonwealth Statistician, Canberra. Comprehensive data for Australia as a whole appear in *Australian National Accounts: National Income and Expenditure*, published annually by the Commonwealth Statistician, who also provides quarterly estimates.

**Consolidated Revenue Fund**

All State revenues, apart from those which are credited to trust or special accounts, are paid into the Consolidated Revenue Fund. Disbursements from the Fund are authorised by the Parliament, each year under an Appropriation Act, or under Special Acts subject to periodical review. Among the permanent appropriations by Special Acts are such items as the salaries of the Governor of Western Australia, the Judges of the Supreme Court and Members of Parliament, interest charges on the public debt, contributions to the Public Debt Sinking Fund, payments to the State Superannuation Fund and the annual subsidy to the University of Western Australia.

The principal sources of revenue, as shown in the following table, are the grants and other financial assistance received from the Commonwealth Government; the income of public utilities; taxation; departmental revenues from reimbursements, fees and services; and territorial revenues.

The payments made to Western Australia by the Commonwealth Government from Consolidated Revenue during each of the years from 1965-66 to 1969-70 appear in the table on page 272. Not all of these moneys are paid to the State Consolidated Revenue Fund, as some of them are provided for specific purposes and are therefore paid to trust or other accounts.

**CONSOLIDATED REVENUE FUND—SOURCES OF REVENUE**  
(£'000)

| Nature of revenue                                    | 1965-66        | 1966-67        | 1967-68        | 1968-69        | 1969-70        |
|------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Collected by the State—</b>                       |                |                |                |                |                |
| Taxation (a) .....                                   | 22,574         | 27,536         | 34,916         | 41,602         | 50,865         |
| Territorial revenues (b) .....                       | 4,598          | 7,655          | 11,845         | 17,301         | 23,633         |
| Public utilities—                                    |                |                |                |                |                |
| Railways .....                                       | 41,864         | 48,194         | 51,183         | 49,163         | 57,200         |
| Water supplies, sewerage and drainage .....          | 3,308          | 4,073          | 4,500          | 4,538          | 5,602          |
| Other public utilities .....                         | 511            | 520            | 543            | 706            | 120            |
| Departmental revenue—Reimbursements, fees, etc. .... | 28,753         | 31,461         | 33,135         | 33,035         | 36,905         |
| Other .....                                          | 1,589          | 1,959          | 1,999          | 2,115          | 2,538          |
| <b>Total .....</b>                                   | <b>103,196</b> | <b>121,398</b> | <b>138,121</b> | <b>148,460</b> | <b>176,863</b> |
| <b>Received from the Commonwealth (c)—</b>           |                |                |                |                |                |
| Interest on State debts .....                        | 947            | 947            | 947            | 947            | 947            |
| Special grants .....                                 | 24,038         | 19,406         | 15,518         | 582            | .....          |
| Financial assistance grants .....                    | 78,474         | 86,396         | 96,152         | (d) 123,796    | (d) 138,835    |
| Special financial assistance grant .....             | .....          | .....          | .....          | 1,296          | 1,545          |
| <b>Total .....</b>                                   | <b>103,459</b> | <b>106,748</b> | <b>112,617</b> | <b>126,621</b> | <b>141,326</b> |
| <b>GRAND TOTAL .....</b>                             | <b>206,655</b> | <b>228,146</b> | <b>250,738</b> | <b>275,081</b> | <b>318,189</b> |

(a) For further details, see table *State Government Taxation—Net Amounts Collected* on page 280. (b) Comprises revenue from royalties, sales, leases and licences relating to land, mining and timber. (c) See table on page 272. (d) Includes \$15.5 million in place of a 'Special Grant'; see letterpress *The Commonwealth Grants Commission* on page 271.

In the five-year period ended 30 June 1970, revenues collected by the State amounted to \$688 million. Of this total \$272 million (39.5 per cent) came from public utilities, the principal contributor being government railways which accounted for \$248 million. Departmental revenues amounted to \$163 million, or 23.7 per cent of the total collected by the State. The main contributing Departments in 1969-70 were Treasury (\$18.7 million, including \$17.2 million on account of interest and sinking funds), Harbour and Light (\$2.30 million), Police (\$1.94 million), Printing (\$1.65 million), Public Works (\$1.54 million), Forests (\$1.44 million), Education (\$1.17 million), and Companies Registration Office (\$1.03 million).

The figures appearing against the item 'Taxation' comprise Consolidated Revenue Fund receipts from probate and succession duties, stamp duties, land tax, liquor licences, totalisator duty and licences, bookmakers betting tax, bookmakers' licences, Totalisator Agency Board betting tax, betting investment tax, motor vehicle third party insurance surcharge, and certain licences in addition to those already mentioned. Some account of the rates and conditions applying to the several taxes and other levies is given in the section *State Taxation* on pages 275-8.

Territorial revenues are those derived from royalties, sales of Crown land, and the issue of leases, licences and permits in connection with land, mining and timber. Reference to the several types of tenure in these categories will be found in Chapter VII, Part 1—*Land Tenure and Settlement*.

There has been a considerable increase in recent years in revenue for mining royalties, due principally to greatly accelerated exploitation of iron-ore and nickel deposits and the commencement of oil drilling on a commercial scale. Reference to these developments will be found in the final section, *Mining*, of Chapter VIII, Part 1. Collections of royalties on all minerals amounted to \$0.48 million in 1965-66, \$2.64 million in 1966-67, \$6.24 million in 1967-68, \$11.0 million in 1968-69, and \$15.7 million in 1969-70. Total revenue from this source in 1970-71 was \$22.3 million, comprising \$19.0 million from iron ore, \$2.01 million from crude petroleum, \$0.77 million from nickel, \$0.29 million from bauxite, \$0.11 million from salt, and \$0.14 million from all other minerals.

The following table gives details of net amounts of tax collected by the State Government in the five-year period ended 30 June 1970. Payments to trust or special accounts as well as to Consolidated Revenue are shown.

STATE GOVERNMENT TAXATION—NET AMOUNTS COLLECTED (a)  
(£'000)

*Figures revised since previous issue*

| Nature of tax                                             | 1965-66       | 1966-67       | 1967-68       | 1968-69       | 1969-70       |
|-----------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Paid to Consolidated Revenue Fund—</b>                 |               |               |               |               |               |
| Stamp duties not elsewhere included                       | 8,709         | 11,681        | 16,669        | 21,173        | 23,832        |
| Probate and succession duties                             | 3,924         | 4,765         | 5,162         | 6,297         | 9,399         |
| Land                                                      | 3,324         | 3,514         | 4,702         | 4,746         | 6,737         |
| Racing (b)                                                | 2,854         | 3,122         | 3,318         | 3,802         | 4,389         |
| Liquor                                                    | 2,013         | 2,323         | 2,566         | 2,848         | 3,262         |
| Motor vehicle—                                            |               |               |               |               |               |
| Vehicle registration fees and taxes                       | 60            | 73            | 81            | 277           | 767           |
| Drivers' and riders' licences and fees                    | 168           | 693           | 756           | 838           | 881           |
| Road transport                                            | 24            |               |               |               |               |
| Stamp duty on registration and transfer of motor vehicles | 965           | 1,306         | 1,555         | 1,670         | 1,978         |
| Third party insurance surcharge                           | 609           | 661           | 700           | 755           | 816           |
| Licences not elsewhere included                           | 299           | 324           | 330           | 355           | 383           |
| <b>Total</b>                                              | <b>22,949</b> | <b>28,462</b> | <b>35,839</b> | <b>42,761</b> | <b>52,443</b> |
| <b>Paid to trust funds—</b>                               |               |               |               |               |               |
| Stamp duties not elsewhere included                       | 121           | 72            | 84            | 94            | 102           |
| Totalisator duty (c)                                      | 87            | 97            | 110           | 131           | 164           |
| Motor vehicle (d)—                                        |               |               |               |               |               |
| Vehicle registration fees and taxes (e)                   | 4,980         | 5,766         | 6,196         | 6,710         | 7,277         |
| Drivers' and riders' licences and fees                    | 891           | 545           | 588           | 641           | 681           |
| Road transport (f)                                        | 391           | 509           | 689           | 863           | 918           |
| Road maintenance contributions                            | 392           | 2,540         | 2,873         | 3,210         | 3,624         |
| Metropolitan region improvement                           | 489           | 550           | 1,101         | 1,656         | 1,325         |
| Vermis                                                    | 450           | 441           | 534           | 593           | 770           |
| Noxious weeds                                             | 82            | 140           | 205           | 235           | 352           |
| Licences and taxes not elsewhere included (g)             | 207           | 224           | 250           | 313           | 402           |
| <b>Total</b>                                              | <b>8,092</b>  | <b>10,886</b> | <b>12,630</b> | <b>14,447</b> | <b>15,615</b> |
| <b>GRAND TOTAL</b>                                        | <b>31,041</b> | <b>39,348</b> | <b>48,469</b> | <b>57,207</b> | <b>68,058</b> |

(a) For rates and conditions applying to the several taxes, see pages 275-8. (b) Includes revenue from Betting Investment Tax, Bookmakers Betting Tax, Totalisator Agency Board Betting Tax, Totalisator Duty, and Totalisator Licences. (c) Part collections only; amounts paid to Consolidated Revenue Fund are included under *Racing* above. (d) See letterpress *Finance for Roads*, Chapter IX, Part 3. (e) For amounts collected by local government authorities, see table on page 288. (f) Includes revenue from Taxi Control Board Licences and Transport Commission Licences. (g) Includes fees collected under the Plant Diseases Act; see letterpress *Fruit Fly Eradication* on page 278.

The amounts shown in the preceding table are grouped according to the nature of the tax rather than the method of collection. Thus stamp duties on betting tickets and revenue from bookmakers' licences and totalisator licences are included under the heading 'Racing' and not under 'Stamp duties' or 'Licences'. It will be seen that, although the figures represent net collections, the aggregates of the amounts shown as payments to the Consolidated Revenue Fund exceed those appearing as taxation revenue (gross) in the table on page 279. This is accounted for by the fact that some types of licences and other fees are not included under the heading of taxation in the Public Accounts, earnings from them being credited to departmental revenue. Items dealt with in this way include drivers' and riders' licences and fees as shown in the first part of the table,



as well as licences relating to firearms; factories and shops; fishing, pearling and game; and marine collectors. Other moneys paid to departmental revenue are fees collected under the provisions of the Companies Act and the Business Names Act.

**CONSOLIDATED REVENUE FUND  
EXPENDITURE ACCORDING TO NATURE OF SERVICE  
(\$'000)**

| Nature of expenditure                                                   | 1965-66        | 1966-67        | 1967-68        | 1968-69        | 1969-70        |
|-------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Expenditure on public utilities—</b>                                 |                |                |                |                |                |
| Railways .....                                                          | 40,300         | 45,397         | 52,173         | 51,377         | 56,956         |
| Water supplies, sewerage and drainage .....                             | 5,852          | 6,779          | 7,583          | 11,512         | 13,649         |
| State batteries .....                                                   | 444            | 474            | 447            | 512            | 498            |
| Other .....                                                             | 511            | 532            | 525            | 616            | 64             |
| <b>Total .....</b>                                                      | <b>47,106</b>  | <b>53,182</b>  | <b>60,728</b>  | <b>64,016</b>  | <b>71,166</b>  |
| <b>Departmental expenditure—</b>                                        |                |                |                |                |                |
| Agriculture .....                                                       | 3,519          | 3,967          | 4,359          | 5,013          | 5,824          |
| Audit .....                                                             | 240            | 268            | 289            | 306            | 342            |
| Automatic Data Processing Centre .....                                  | ....           | ....           | 143            | 73             | 80             |
| Bush Fires Board .....                                                  | 107            | 134            | 128            | 149            | 203            |
| Chief Secretary .....                                                   | 384            | 420            | 457            | 459            | 514            |
| Child Welfare .....                                                     | 1,879          | 2,130          | 2,272          | 2,649          | 3,476          |
| Crown Law .....                                                         | 2,189          | 2,596          | 2,831          | 3,232          | 3,864          |
| Education .....                                                         | 34,016         | 36,746         | 41,224         | 46,441         | 55,839         |
| Electoral .....                                                         | 75             | 88             | 282            | 111            | 142            |
| Factories .....                                                         | 87             | 88             | 100            | 104            | 123            |
| Fisheries and Fauna .....                                               | 353            | 434            | 513            | 595            | 747            |
| Forests (a) .....                                                       | 1,297          | 1,402          | 1,577          | 1,600          | 1,575          |
| Government Stores .....                                                 | 425            | 496            | 552            | 605            | 697            |
| Harbour and Light .....                                                 | 1,540          | 1,514          | 1,896          | 2,041          | 1,910          |
| Industrial Commission .....                                             | 116            | 131            | 139            | 160            | 185            |
| Industrial Development .....                                            | 761            | 866            | 970            | 874            | 1,009          |
| Inspection of Machinery .....                                           | ....           | ....           | ....           | ....           | 194            |
| Labour .....                                                            | 83             | 100            | ....           | 125            | 139            |
| Lands and Surveys .....                                                 | 2,616          | 3,087          | 3,535          | 3,857          | 4,309          |
| Library Board, Museum, and Art Gallery .....                            | 768            | 870            | 1,008          | 1,130          | 1,421          |
| Local Government .....                                                  | 130            | 148            | 180            | 181            | 201            |
| London Agency .....                                                     | 201            | 234            | 214            | 199            | 229            |
| Mental Health Services .....                                            | 3,481          | 4,215          | 4,800          | 5,304          | 6,393          |
| Metropolitan (Perth) Passenger Transport Trust—Recoup of loss .....     | 1,325          | 618            | 552            | 925            | 923            |
| Mines .....                                                             | 1,780          | 2,011          | 2,495          | 2,372          | 2,909          |
| Native Welfare .....                                                    | 2,131          | 2,245          | 2,670          | 3,056          | 3,349          |
| Observatory .....                                                       | 55             | 52             | 55             | 58             | 76             |
| Police .....                                                            | 5,529          | 6,119          | 6,879          | 7,936          | 9,396          |
| Premier's Department .....                                              | 225            | 246            | 298            | 365            | 333            |
| Printing .....                                                          | 1,631          | 978            | 1,077          | 1,188          | 1,337          |
| Prisons .....                                                           | 949            | 1,271          | 1,677          | 2,012          | 2,475          |
| Public Health .....                                                     | 19,605         | 22,213         | 24,494         | 28,310         | 34,950         |
| Public Service Commissioner .....                                       | 151            | 182            | 200            | 223            | 278            |
| Public Works .....                                                      | 6,196          | 7,252          | 8,092          | 9,404          | 10,805         |
| Registry and Friendly Societies .....                                   | 106            | 122            | 133            | 127            | 152            |
| Superannuation Board .....                                              | 60             | 60             | 66             | 66             | 93             |
| Taxation .....                                                          | 480            | 525            | 600            | 666            | 816            |
| Tourist Development Authority .....                                     | 267            | 309            | 345            | 606            | 649            |
| Town Planning .....                                                     | 204            | 240            | 296            | 298            | 388            |
| Treasury .....                                                          | 353            | 471            | 488            | 547            | 640            |
| University of Western Australia—Additional payments (a) .....           | 2,831          | 2,901          | 3,460          | 3,509          | 4,441          |
| War Service Land Settlement Scheme—Contribution to capital losses ..... | 1,382          | 1,400          | 1,400          | 1,400          | 1,297          |
| Western Australian Coastal Shipping Commission—Recoup of loss .....     | 2,481          | 2,357          | 2,629          | 3,251          | 3,651          |
| Western Australian Institute of Technology .....                        | ....           | 567            | 1,382          | 1,830          | 2,933          |
| Other .....                                                             | 11,993         | 12,613         | 9,143          | 11,520         | 13,534         |
| <b>Total .....</b>                                                      | <b>113,971</b> | <b>124,686</b> | <b>135,881</b> | <b>154,877</b> | <b>184,841</b> |
| <b>Expenditure under special Acts—</b>                                  |                |                |                |                |                |
| Agriculture Protection Board Act .....                                  | 258            | 441            | 534            | 593            | 770            |
| Forests Act (b) .....                                                   | 2,363          | 2,874          | 2,948          | 2,775          | 2,744          |
| Loan Acts (public debt) (c)—                                            |                |                |                |                |                |
| Interest .....                                                          | 31,023         | 34,217         | 36,032         | 38,709         | 42,539         |
| Sinking fund contributions .....                                        | 6,903          | 7,445          | 7,832          | 8,373          | 8,887          |
| Mine Workers' Relief Act .....                                          | 42             | 45             | 49             | 52             | 57             |
| Parliamentary salaries and allowances .....                             | 705            | 719            | 716            | 844            | 872            |
| State Transport Co-ordination Act .....                                 | ....           | ....           | 50             | 77             | 115            |
| Superannuation Acts—Government employees .....                          | 2,709          | 2,855          | 3,256          | 3,785          | 4,557          |
| University of Western Australia Act (b) .....                           | 500            | 500            | 500            | 500            | 500            |
| Other .....                                                             | 761            | 843            | 999            | 1,109          | 1,341          |
| <b>Total .....</b>                                                      | <b>45,264</b>  | <b>49,939</b>  | <b>52,916</b>  | <b>56,817</b>  | <b>62,383</b>  |
| <b>Other expenditure .....</b>                                          | <b>324</b>     | <b>366</b>     | <b>385</b>     | <b>427</b>     | <b>510</b>     |
| <b>GRAND TOTAL .....</b>                                                | <b>206,665</b> | <b>228,174</b> | <b>249,909</b> | <b>276,137</b> | <b>318,901</b> |

(a) For expenditure under Special Acts, see below.

(b) For additional payments, see *Departmental expenditure* above.

(c) From 1966-67, includes exchange on overseas payments previously charged to *Departmental expenditure*.

In the five-year period ended 30 June 1970, expenditure under the heading 'Departmental' amounted to \$714 million, or 55.8 per cent of all expenditure from the Consolidated Revenue Fund. Education (\$214 million) and Public Health (\$130 million) together accounted for 48.2 per cent of Departmental expenditure. Other large items were those attributable to Public Works (\$41.7 million), Police (\$35.9 million), Mental Health Services (\$24.2 million), Agriculture (\$22.7 million), and Lands and Surveys (\$17.4 million).

Expenditure on public utilities (\$296 million) amounted to 23.1 per cent of the total, the predominant item being Railways (\$246 million).

Commitments under Special Acts accounted for \$267 million, or 20.9 per cent of all expenditure. The principal amounts were those relating to Loan Acts (\$222 million) and legislation providing pensions for government employees (\$17.2 million).

The amount paid under the *Forests Act, 1918-1969* represents nine-tenths of the net annual revenue of the Department and is credited to a fund for forests improvement and reforestation. The *University of Western Australia Act, 1911-1970* provides for the payment of an annual subsidy of \$500,000 and 'such additional amounts as may be appropriated by Parliament from time to time'. In 1969-70 additional payments amounting to \$4.44 million were made from Departmental expenditure. Further details of University finance are given in Chapter V, Part 1.

The particulars shown in the preceding table and in the table on page 279 are an abridged form of the presentation given in the Public Accounts. It is, of course, possible to present the figures of income and expenditure of the Consolidated Revenue Fund on other bases for particular purposes. One such grouping is a dissection according to function as in the following table. The classification used has been summarised for the purposes of this table from a more detailed statement appearing in *Statistics of Western Australia—Finance*.

**CONSOLIDATED REVENUE FUND**  
**REVENUE AND EXPENDITURE CLASSIFIED ACCORDING TO FUNCTION**  
( '\$000 )

| Function                                                                           | 1968-69        |                |                  | 1969-70        |                |                |
|------------------------------------------------------------------------------------|----------------|----------------|------------------|----------------|----------------|----------------|
|                                                                                    | Revenue        | Expenditure    |                  | Revenue        | Expenditure    |                |
|                                                                                    |                | Gross          | Net              |                | Gross          | Net            |
| Legislation .....                                                                  | ....           | 1,532          | 1,532            | 2              | 1,690          | 1,689          |
| General administration and services, not elsewhere included .....                  | 173,589        | *9,633         | Cr. *163,957     | 197,424        | 10,561         | Cr. 186,861    |
| Law, order and public safety .....                                                 | 2,664          | *14,053        | *11,389          | 3,037          | 16,641         | 13,605         |
| Education .....                                                                    | 1,080          | 56,352         | 55,272           | 1,219          | 68,664         | 67,444         |
| Cultural and recreational facilities .....                                         | ....           | 2,889          | 2,889            | 17             | 3,206          | 3,190          |
| Public health .....                                                                | 1,520          | 34,321         | 32,801           | 1,869          | 42,279         | 40,410         |
| Welfare .....                                                                      | 408            | 6,734          | 6,325            | 478            | 8,373          | 7,896          |
| War and defence .....                                                              | ....           | 31             | 31               | ....           | 115            | 115            |
| Immigration .....                                                                  | ....           | 485            | 485              | 117            | 500            | 383            |
| Regulation of trade and industry and industrial safety .....                       | 657            | 1,000          | 343              | 645            | 1,200          | 555            |
| Development and conservation of natural resources and assistance to industry ..... | 26,696         | 38,316         | 11,620           | 34,023         | 42,372         | 8,349          |
| Transport and communication .....                                                  | 52,673         | 58,830         | 6,157            | 59,732         | 66,139         | 6,407          |
| Power, fuel and light .....                                                        | 315            | 46             | Cr. 269          | 233            | 160            | Cr. 74         |
| Housing .....                                                                      | 18             | 137            | 119              | 4              | 94             | 90             |
| Banking and insurance .....                                                        | 142            | 83             | Cr. 59           | 415            | 104            | Cr. 310        |
| Public debt charges .....                                                          | 14,687         | 47,434         | 32,746           | 18,167         | 51,875         | 33,708         |
| Miscellaneous .....                                                                | 630            | *4,261         | *3,631           | 808            | 4,927          | 4,119          |
| <b>Total .....</b>                                                                 | <b>275,081</b> | <b>276,137</b> | <b>(a) 1,056</b> | <b>318,189</b> | <b>318,901</b> | <b>(b) 712</b> |

(a) Published Budget deficit, \$1,055,618.

(b) Published Budget deficit, \$711,858.

\* Revised.

The table is designed to show (in respect of the Consolidated Revenue Fund only) the gross and net cost of each function of Government irrespective of the Department or Departments administering these functions. In cases where an activity is such that

it involves more than one function, each of its components has been included in that function which is considered to be the most appropriate. For example, in classifying expenditure attributable to child welfare, the custody and care of delinquent children is included under 'Law, order and public safety' and the education of children in institutions under 'Education', only the balance being assigned to the item 'Welfare'.

The amount shown as revenue under the heading 'General administration and services, not elsewhere included' is more than three-fifths of the total. The item includes receipts from the Commonwealth and taxation collected by the State (see table on page 279, amounting in all to \$169.4 million in 1968-69 and \$193.8 million in 1969-70).

By a provision of the *State Government Insurance Office Act, 1938-1965* the State Government Insurance Office is required to pay each year to the Treasury the equivalent of the amount of State taxes on profits or income that any insurance company, other than a life insurance company, would be liable to pay. The amounts shown as revenue under 'Banking and insurance' includes the sum of \$149,832 for 1969-70 in relation to such payments. The expenditure under the heading of 'Banking and insurance' comprises mainly reimbursements from the Treasury to The Rural and Industries Bank of Western Australia of administration expenses incurred in the conduct of its Government Agency Department. These recoups amounted to \$82,119 in 1968-69 and \$104,347 in 1969-70.

### General Loan Fund and Public Debt

**General Loan Fund.** The first Loan Act in Western Australia was assented to in 1872 and gave authority for the raising of a loan for public works, mainly in connection with harbours and rivers, for the purchase of the Perth-Fremantle telegraph line and for railway surveys in the Champion Bay district. A General Loan Fund was established by the Loans Consolidation Act of 1896 which provided for the merging in the Fund of all loan balances unexpended at 30 June 1896, and since that time the proceeds of each new loan have been paid to the credit of the General Loan Fund. Details of net loan expenditure from 1872 to 30 June 1970 are given in the following table.

NET LOAN EXPENDITURE  
(\$'000)

| Nature of expenditure                                     | From<br>1872 to<br>30 June<br>1965 | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 | From<br>1872 to<br>30 June<br>1970 |
|-----------------------------------------------------------|------------------------------------|---------|---------|---------|---------|---------|------------------------------------|
| Public works, services, etc.—                             |                                    |         |         |         |         |         |                                    |
| Railways, tramways and omnibuses ....                     | 171,264                            | 7,628   | 9,068   | 7,750   | 10,547  | 6,331   | 212,588                            |
| Electricity supply ....                                   | 43,441                             | 1,434   | 2,427   | 4,542   | 5,679   | 4,566   | 62,091                             |
| Harbours and rivers ....                                  | 47,063                             | 2,583   | 1,746   | 2,402   | 1,190   | 2,055   | 57,040                             |
| Public buildings—                                         |                                    |         |         |         |         |         |                                    |
| Schools ....                                              | 60,233                             | 7,690   | 8,450   | 8,580   | 9,585   | 11,756  | 106,294                            |
| Hospitals ....                                            | 44,657                             | 6,568   | 6,021   | 6,365   | 6,872   | 8,407   | 78,890                             |
| Other ....                                                | 26,481                             | 5,650   | 3,759   | 3,871   | 3,659   | 4,464   | 47,884                             |
| Housing (a) ....                                          | 37,349                             | 1,151   | 3,082   | 2,648   | 2,523   | 3,322   | 50,076                             |
| Water supplies, sewerage, drainage and<br>irrigation .... | 159,827                            | 12,667  | 13,642  | 14,552  | 12,560  | 13,330  | 226,578                            |
| Development of goldfields and mineral<br>resources ....   | 15,957                             | 401     | 128     | 334     | Cr. 26  | Cr. 105 | 16,689                             |
| Development of agriculture ....                           | 57,437                             | 463     | 443     | 697     | 682     | 916     | 60,638                             |
| Miscellaneous ....                                        | 74,980                             | 1,564   | 2,250   | 1,436   | 1,587   | 4,462   | 86,279                             |
| Total ....                                                | 738,692                            | 47,800  | 51,015  | 53,177  | 54,859  | 59,504  | 1,005,047                          |
| Other expenditure—                                        |                                    |         |         |         |         |         |                                    |
| Discounts and flotation expenses ....                     | 7,830                              | 293     | 735     | 241     | 109     | Cr. 157 | 9,050                              |
| Revenue deficits ....                                     | 37,907                             | ....    | ....    | ....    | ....    | 1,227   | 39,134                             |
| Total ....                                                | 45,737                             | 293     | 735     | 241     | 109     | 1,070   | 48,185                             |
| GRAND TOTAL ....                                          | 784,428                            | 48,093  | 51,751  | 53,418  | 54,968  | 60,575  | 1,053,232                          |

(a) Excludes expenditure from Commonwealth loans under Commonwealth-State Housing Agreement.

The principal net expenditures from the General Loan Fund during the five years ended 30 June 1970 were those relating to Public buildings (\$101·7 million), Water supplies, sewerage, drainage and irrigation (\$66·8 million), Railways, tramways and omnibuses (\$41·3 million), Electricity supply (\$18·6 million), Housing (\$12·7 million), Harbours and rivers (\$9·98 million) and Development of agriculture (\$3·20 million).

Of the total expenditure of \$101·7 million on *Public buildings*, \$46·1 million was spent on the construction of new schools, additions and improvements to existing schools, and technical education institutions, including The Western Australian Institute of Technology. Work on new regional hospitals at Bunbury, Geraldton and Northam, a new hospital at Bentley, new buildings at the Perth Medical Centre, mental health buildings including a training centre at Guildford, and other new or improved hospitals in both metropolitan and country areas accounted for \$34·2 million. Other expenditure included the cost of work on the construction of a new administrative office building to house Government Departments, the erection of regional gaols at Albany and Bunbury and new police headquarters at Perth, the new Police Academy at Maylands, new court houses and police stations, child welfare institutions, including a rehabilitation centre for girls at Bentley, native welfare buildings, government offices at a number of centres, a new museum building, landscaping of Parliament House grounds, construction of the Noalimba Reception Centre for migrants at Bull Creek, and additions to homes for the aged and infirm.

Expenditure on *Water supplies, sewerage and drainage* included the cost of work on the Goldfields and Agricultural Water Supply, the Great Southern Towns Water Supply and the Country Towns Water Supply, duplication of the Serpentine trunk main, the Ord River irrigation project, developmental and improvement work in northern and south-west irrigation districts including the completion of Waroona and Glen Mervyn Dams, sewerage works construction and extension of services in the metropolitan area and in country towns, water supplies for towns and stock routes in northern and north-western areas and maintenance and improvements to drainage systems throughout the State. An account of progress in the field of water conservation and supply is given in Chapter VII, Part 2.

Expenditure under the heading of *Railways, tramways and omnibuses* included amounts spent on maintenance and renewals of permanent way, new rolling stock, land resumptions for, and construction of, marshalling yards at Kewdale, and contribution to costs of railway standardisation. Advances were made to the Metropolitan (Perth) Passenger Transport Trust for the purchase of new omnibuses. Reference is made to the operations of the Trust in Chapter IX, Part 3.

Expenditure attributed to *Electricity supply* includes amounts spent by the State Electricity Commission on power stations at Muja on the Collie coalfield and at Kwinana. The figures do not represent all of the Commission's expenditure as they refer only to the General Loan Fund and therefore exclude moneys available to the Commission from its own public loan raisings. The activities of the State Electricity Commission are described in Chapter VIII, Part 2.

The amounts shown under the heading of *Housing* consist mainly of additional capital provided to The State Housing Commission for the erection of houses, land acquisition and development, and assistance to home builders. The expenditure, which relates only to the General Loan Fund, does not, of course, include moneys applied to the Commission's purposes from Commonwealth loans under the Commonwealth-State Housing Agreement. Reference to the Agreement and to the work of The State Housing Commission will be found in Chapter V, Part 4.

The principal works under the heading of *Harbours and rivers* were those undertaken at the Port of Fremantle, including the building of a container terminal, the development of the outer harbour to serve the industrial complex at Kwinana, the reconstruction of quays, dredging, and the installation of new mechanical equipment. Among other works were the construction of breakwaters and land-backed berths at Bunbury and Esperance, harbour improvements and a new berth at Geraldton, improvements at ports on the north and north-west coasts including a new berth and improvements at Port Hedland, and the construction of a fishing-boat harbour at Fremantle.

Expenditure under the heading of *Development of agriculture* includes the cost of additions to the buildings and laboratories of the Department of Agriculture at South Perth including a State Herbarium, improvements to research stations operated by the Department and to the Agricultural College at Muresk, and land regeneration at the Ord River.

Expenditure on the *Development of goldfields and mineral resources* relates to moneys spent on assistance to prospectors, loans to mine owners, drilling in connection with mineral exploration and miscellaneous works at various State Batteries. It also includes advances on account of the Wundowie Charcoal Iron and Steel Industry for expenditure on capital works.

From 1965-66 to 1969-70 the expenditure described as *Miscellaneous* aggregated \$11.3 million, of which \$2.28 million was used to finance advances by The Rural and Industries Bank of Western Australia to primary and secondary industries. A further sum of \$2.91 million was spent on account of the University of Western Australia for new buildings and alterations to existing buildings. The remaining expenditure relates to such items as loans and grants to a number of public bodies, pine planting and forest regeneration, assistance to industry including the resumption of land for industrial purposes and services to industry, and advances to the Western Australian Tourist Development Authority for improvement of tourist facilities.

The following table shows the amounts of loan raisings and redemptions by or on behalf of the State Government during the five-year period ended 30 June 1970.

LOAN RAISINGS AND REDEMPTIONS  
(\$'000)

| Particulars                              | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|------------------------------------------|---------|---------|---------|---------|---------|
| <b>Raisings—</b>                         |         |         |         |         |         |
| By Commonwealth Government—              |         |         |         |         |         |
| Loans subscribed in Australia ....       | 48,052  | 51,731  | 53,404  | 54,967  | 60,517  |
| Total, Raisings ....                     | 48,052  | 51,731  | 53,404  | 54,967  | 60,517  |
| <b>Redemptions—</b>                      |         |         |         |         |         |
| By National Debt Commission—             |         |         |         |         |         |
| Australian securities ....               | 6,598   | 7,130   | 7,403   | 4,480   | 6,749   |
| London securities ....                   | 1,049   | 1,059   | 1,139   | 2,659   | 6,891   |
| New York securities ....                 | 473     | 422     | 425     | 411     | 380     |
| Canadian securities ....                 | 37      | 33      | 33      | 8       | 26      |
| Netherlands securities ....              | ....    | ....    | 36      | 36      | 36      |
| Total, Redemptions ....                  | 8,158   | 8,644   | 9,036   | 7,594   | 14,082  |
| Excess of raisings over redemptions .... | 39,894  | 43,087  | 44,368  | 47,374  | 46,435  |

**Public Debt.** Western Australia's gross public debt at 30 June 1970, was \$887 million, compared with \$666 million at 30 June 1965, representing an increase of \$221 million during the five years. Total raisings in the financial years 1965-66 to 1969-70 amounted to \$269 million and the value of securities repurchased and redeemed in Australia, London, New York, Canada and the Netherlands by the National Debt Commission was \$47.5 million.

The following table presents a summary of public debt transactions in each year of the period between 30 June 1965 and 30 June 1970 and provides a reconciliation between public debt and the aggregate net loan expenditure to each of those dates as shown in the table on page 283.

Reference is made on page 270 to the Sinking Funds established by the Financial Agreement of 1927 designed to redeem the public debts of the States. Transactions of the National Debt Sinking Fund in respect of the public debt of Western Australia during the five-year period ended 30 June 1970 are shown in the second table on page 286.

### NET LOAN EXPENDITURE AND PUBLIC DEBT (\$'000)

| Particulars                                                                 | At 30 June—    |                |                |                |                |                  |
|-----------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|------------------|
|                                                                             | 1965           | 1966           | 1967           | 1968           | 1969           | 1970             |
| <b>Debits—</b>                                                              |                |                |                |                |                |                  |
| Aggregate net loan expenditure ....                                         | (a) 784,428    | 832,521        | 884,272        | 937,690        | 992,657        | (a) 1,053,232    |
| Inscribed stock issued under Agricultural Bank Act ....                     | 3,132          | 3,132          | 3,132          | 3,132          | 3,132          | 3,132            |
| The Rural and Industries Bank of Western Australia debenture stock (b) .... | 2,134          | 2,134          | 2,134          | 2,134          | 2,134          | 2,134            |
| Unexpended balance of General Loan Fund ....                                | 78             | 38             | 18             | 4              | 3              | ....             |
| <b>Total, Debits</b> ....                                                   | <b>789,773</b> | <b>837,825</b> | <b>889,556</b> | <b>942,960</b> | <b>997,927</b> | <b>1,058,498</b> |
| <b>Credits—</b>                                                             |                |                |                |                |                |                  |
| Aggregate redemptions ....                                                  | 124,153        | 132,310        | 140,954        | 149,990        | 157,584        | 171,666          |
| Bank overdraft ....                                                         | ....           | ....           | ....           | ....           | ....           | 54               |
| <b>Total, Credits</b> ....                                                  | <b>124,153</b> | <b>132,310</b> | <b>140,954</b> | <b>149,990</b> | <b>157,584</b> | <b>171,720</b>   |
| <b>Balance, Gross public debt</b>                                           | <b>665,620</b> | <b>705,514</b> | <b>748,601</b> | <b>792,969</b> | <b>840,343</b> | <b>886,778</b>   |
| <b>Amount of public debt maturing in—</b>                                   |                |                |                |                |                |                  |
| Australia ....                                                              | 591,340        | 632,794        | 677,807        | 723,808        | 774,295        | 835,541          |
| London ....                                                                 | 65,844         | 64,796         | 63,737         | 62,599         | 59,940         | 46,070           |
| New York ....                                                               | 6,890          | 6,417          | 5,582          | 5,156          | 4,746          | 3,867            |
| Canada ....                                                                 | 621            | 584            | 551            | 517            | 510            | 484              |
| Netherlands ....                                                            | 539            | 539            | 539            | 503            | 467            | 432              |
| Switzerland ....                                                            | 385            | 385            | 385            | 385            | 385            | 385              |
| <b>Total, Gross public debt</b> ....                                        | <b>665,620</b> | <b>705,514</b> | <b>748,601</b> | <b>792,969</b> | <b>840,343</b> | <b>886,778</b>   |
| <b>Sinking Fund available for further debt redemption (c) ....</b>          | <b>473</b>     | <b>267</b>     | <b>216</b>     | <b>408</b>     | <b>3,015</b>   | <b>182</b>       |
| <b>Net public debt</b> ....                                                 | <b>665,147</b> | <b>705,248</b> | <b>748,386</b> | <b>792,562</b> | <b>837,329</b> | <b>886,597</b>   |

(a) From table on page 283. (b) Representing stock issued in connection with the acquisition by the Government of the assets of The Midland Railway Company of Western Australia Limited. (c) Representing balance of Sinking Fund held by National Debt Commission.

### SINKING FUND TRANSACTIONS (\$'000)

| Particulars                              | 1965-66      | 1966-67      | 1967-68      | 1968-69       | 1969-70       |
|------------------------------------------|--------------|--------------|--------------|---------------|---------------|
| <b>Balance at beginning of year</b> .... | <b>473</b>   | <b>267</b>   | <b>216</b>   | <b>408</b>    | <b>3,015</b>  |
| <b>Receipts—</b>                         |              |              |              |               |               |
| Contributions by State ....              | 6,909        | 7,379        | 7,848        | 8,379         | 8,893         |
| Contributions by Commonwealth ....       | 1,726        | 1,844        | 1,986        | 2,105         | 2,258         |
| Interest ....                            | 14           | 7            | 17           | (a)           | 97            |
| <b>Total, Receipts</b> ....              | <b>8,649</b> | <b>9,230</b> | <b>9,851</b> | <b>10,483</b> | <b>11,249</b> |
| <b>Expenditure—</b>                      |              |              |              |               |               |
| Redemptions and repurchases (b) in—      |              |              |              |               |               |
| Australia ....                           | 6,598        | 7,130        | 7,403        | 4,480         | 6,749         |
| London ....                              | 1,162        | 1,191        | 1,283        | 2,510         | 6,512         |
| New York ....                            | 1,020        | 895          | 860          | 818           | 724           |
| Canada ....                              | 76           | 65           | 60           | 14            | 42            |
| Netherlands ....                         | ....         | ....         | 54           | 54            | 54            |
| <b>Total, Expenditure</b> ....           | <b>8,856</b> | <b>9,281</b> | <b>9,659</b> | <b>7,876</b>  | <b>14,082</b> |
| <b>Balance at end of year</b> ....       | <b>267</b>   | <b>216</b>   | <b>408</b>   | <b>3,015</b>  | <b>182</b>    |

(a) Less than \$500.

(b) At net cost including exchange.

### Trust Funds

Trust funds are divided into three groups, governmental, private, and those which deal with moneys advanced by the Commonwealth Government for specific purposes. A detailed list of trust fund transactions is published quarterly in the *Statement of the Receipts and Disbursements of Western Australia*. The following table contains a summary of the more important items selected from this list.

**SUMMARY OF TRUST FUNDS—RECEIPTS AND EXPENDITURE**  
(\$'000)

| Title of account                                             | 1968-69        |                | 1969-70        |                | Balance of fund at 30 June 1970 |
|--------------------------------------------------------------|----------------|----------------|----------------|----------------|---------------------------------|
|                                                              | Receipts       | Expenditure    | Receipts       | Expenditure    |                                 |
| <b>Governmental trust funds—</b>                             |                |                |                |                |                                 |
| Agriculture Protection Board .....                           | 618            | 792            | 832            | 630            | 300                             |
| Crown Law Advance .....                                      | 9,398          | 9,347          | 12,408         | 12,485         | 272                             |
| Forests Improvement and Reforestation .....                  | 4,815          | 4,830          | 4,853          | 5,051          | 257                             |
| Hospital Buildings and Equipment .....                       | 2,084          | 1,923          | 2,284          | 1,830          | 1,305                           |
| Hospital Fund Contributions .....                            | 36,788         | 36,788         | 41,625         | 41,625         | ....                            |
| <b>Housing—</b>                                              |                |                |                |                |                                 |
| Government Employees' Housing Authority .....                | 2,086          | 1,840          | 2,542          | 2,751          | 43                              |
| State Housing Commission .....                               | 29,750         | 27,354         | 32,591         | 35,619         | 8,320                           |
| <b>Insurance—</b>                                            |                |                |                |                |                                 |
| Government Fire and Marine Insurance .....                   | 1,196          | 1,176          | 1,823          | 1,841          | 741                             |
| Government Workers' Compensation .....                       | 1,307          | 1,184          | 1,370          | 1,515          | 220                             |
| Railway Accident and Fire Insurance .....                    | 315            | 468            | 446            | 252            | 506                             |
| State Insurance .....                                        | 11,029         | 11,117         | 12,782         | 12,663         | 154                             |
| Karratha Development—Reticulation Services .....             | 799            | 795            | 509            | 358            | 151                             |
| Library Board of Western Australia .....                     | 695            | 978            | 1,062          | 957            | 310                             |
| Main Roads Department Payroll Surcharge .....                | 2,938          | 2,557          | 4,212          | 4,727          | Dr. 216                         |
| Metropolitan Region Improvement .....                        | 408            | 414            | 486            | 495            | 21                              |
| Milk Board .....                                             | 333            | 324            | 373            | 384            | 1                               |
| National Parks Board .....                                   | 3,391          | 3,391          | 3,912          | 3,884          | 27                              |
| Native Welfare Administration .....                          | 660            | 557            | 946            | 725            | 525                             |
| Noxious Weeds .....                                          | 1,790          | 1,658          | 1,959          | 1,831          | 727                             |
| Plant Hire .....                                             | 10,483         | 7,876          | ....           | 2,833          | 182                             |
| Public Debt Sinking Fund .....                               | 1,522          | 1,215          | 1,521          | 1,366          | 881                             |
| Public Works Department Payroll Surcharge .....              | 1,027          | 1,420          | 1,067          | 1,453          | 44                              |
| Railways Rolling Stock Replacement .....                     |                |                |                |                |                                 |
| <b>Roads—</b>                                                |                |                |                |                |                                 |
| Central Road Fund .....                                      | 14,213         | 14,213         | ....           | ....           | ....                            |
| Main Roads .....                                             | 32,866         | 30,513         | 67,704         | 67,529         | 5,502                           |
| Main Roads—New Buildings .....                               | ....           | 767            | 100            | 1,662          | 762                             |
| Metropolitan Traffic .....                                   | 6,794          | 6,794          | ....           | ....           | ....                            |
| Roads Maintenance Trust .....                                | 3,241          | 3,117          | 3,660          | 3,593          | 278                             |
| Rural and Industries Bank .....                              | 1,710          | 1,442          | 3,296          | 2,879          | 717                             |
| State Electricity Commission Loans—Sinking Fund .....        | 423            | 614            | 224            | 469            | 738                             |
| Tourist Fund .....                                           | 826            | 608            | 2,505          | 636            | 578                             |
| Transport Commission .....                                   | 1,608          | 1,635          | 2,505          | 2,363          | 423                             |
| Vermion Act .....                                            | 1,601          | 1,175          | 1,593          | 1,461          | 1,121                           |
| Western Australian Museum .....                              | 284            | 279            | 404            | 381            | 53                              |
| Other .....                                                  | 5,230          | 3,943          | 5,771          | 5,395          | 11,331                          |
| <b>Total .....</b>                                           | <b>192,226</b> | <b>183,106</b> | <b>216,500</b> | <b>222,617</b> | <b>36,293</b>                   |
| <b>Funds financed from Commonwealth grants and advances—</b> |                |                |                |                |                                 |
| Aboriginal Advancement .....                                 | 841            | 702            | 1,450          | 1,527          | 62                              |
| <b>Science Buildings and Equipment—</b>                      |                |                |                |                |                                 |
| Government Schools .....                                     | 553            | 627            | 532            | 500            | 52                              |
| Independent Schools .....                                    | 391            | 344            | 391            | 394            | 58                              |
| <b>Housing—</b>                                              |                |                |                |                |                                 |
| Commonwealth-State Housing Agreement .....                   | 22,611         | 21,971         | 25,835         | 29,422         | 3,963                           |
| Home Builders .....                                          | 5,097          | 3,850          | 7,312          | 6,065          | 2,558                           |
| War Service Homes .....                                      | 4,133          | 4,140          | 4,455          | 4,443          | 16                              |
| Ord River Dam Construction .....                             | 5,125          | 5,217          | 5,891          | 5,984          | Dr. 85                          |
| Petroleum Products Subsidy .....                             | 3,066          | 3,189          | 3,851          | 3,749          | 189                             |
| Pharmaceutical Benefits .....                                | 2,053          | 2,053          | 2,320          | 2,320          | ....                            |
| <b>Roads—</b>                                                |                |                |                |                |                                 |
| Beef Cattle Roads .....                                      | 1,641          | 1,451          | 1,493          | 1,501          | 181                             |
| Commonwealth Aid Roads Acts .....                            | 34,577         | 33,825         | 42,349         | 38,995         | 4,376                           |
| Scholarship Scheme .....                                     | 950            | 23             | ....           | 600            | 609                             |
| Softwood Forestry Agreement .....                            | 2,050          | 600            | 859            | 2,000          | ....                            |
| South-West Region Water Supplies .....                       | 844            | 2,050          | 976            | 1,100          | Dr. 50                          |
| Technical Training—Buildings and Equipment .....             | 322            | 771            | 316            | 316            | ....                            |
| Water Resources .....                                        | 1,223          | 1,453          | 3,074          | 2,717          | 1,278                           |
| Other .....                                                  |                |                |                |                |                                 |
| <b>Total .....</b>                                           | <b>85,478</b>  | <b>82,589</b>  | <b>103,103</b> | <b>101,633</b> | <b>13,207</b>                   |
| <b>Private trust funds—</b>                                  |                |                |                |                |                                 |
| Charitable Institutions .....                                | 286            | 279            | 335            | 316            | 161                             |
| Clerk of Courts .....                                        | 5,709          | 5,728          | 7,464          | 7,197          | 405                             |
| Coal Mine Workers' Pensions .....                            | 577            | 578            | 604            | 595            | 9                               |
| Country High School Hostels Authority .....                  | 513            | 581            | 553            | 500            | 225                             |
| Public Trustee Common Fund .....                             | 8,911          | 8,480          | 10,333         | 10,791         | 312                             |
| Superannuation Fund .....                                    | 11,315         | 11,307         | 13,090         | 13,402         | 2                               |
| Superannuation Investment Reserve .....                      | 4,025          | 100            | 4,723          | 26             | 41,093                          |
| Workers' Compensation in Suspense .....                      | 636            | 656            | 510            | 522            | 41                              |
| Other .....                                                  | 3,946          | 3,353          | 5,886          | 5,275          | 6,458                           |
| <b>Total .....</b>                                           | <b>35,919</b>  | <b>31,063</b>  | <b>43,498</b>  | <b>38,624</b>  | <b>48,706</b>                   |
| <b>GRAND TOTAL .....</b>                                     | <b>313,623</b> | <b>296,759</b> | <b>363,101</b> | <b>362,874</b> | <b>98,207</b>                   |

## LOCAL GOVERNMENT FINANCE

The financial powers of local government authorities in Western Australia are derived principally from the *Local Government Act, 1960-1971*, the main provisions of which are outlined in Chapter III—*Constitution and Government*. Among other statutes affecting local government finance are the Traffic Act, the Health Act, the Water Boards Act, the Vermin Act and the Fire Brigades Act.

## General Revenue

SUMMARY OF LOCAL GOVERNMENT REVENUE (a)  
(\$'000)

| Source of revenue                                         | 1965-66       | 1966-67        | 1967-68        | 1968-69        | 1969-70       |
|-----------------------------------------------------------|---------------|----------------|----------------|----------------|---------------|
| <b>Taxation—</b>                                          |               |                |                |                |               |
| <b>Rates—</b>                                             |               |                |                |                |               |
| Municipal .....                                           | 13,436        | 14,982         | 16,819         | 19,500         | 22,530        |
| Water Board .....                                         | 198           | 226            | 240            | 253            | 291           |
| Vermin Board .....                                        | 44            | 57             | *74            | *77            | 71            |
| <b>Licences and fees—</b>                                 |               |                |                |                |               |
| Dog .....                                                 | 35            | 33             | 41             | 37             | 41            |
| Building .....                                            | 133           | 167            | 197            | 280            | 346           |
| Other (b) .....                                           | 62            | 77             | 97             | 109            | 134           |
| <b>Total (b) .....</b>                                    | <b>13,908</b> | <b>15,542</b>  | <b>*17,467</b> | <b>*20,255</b> | <b>23,414</b> |
| <b>Public works and services—</b>                         |               |                |                |                |               |
| <b>Income from property and plant—</b>                    |               |                |                |                |               |
| Parks, gardens and other recreational facilities .....    | 877           | 1,068          | 1,135          | 1,440          | 1,784         |
| Halls and other buildings .....                           | 645           | 695            | 802            | 829            | 1,005         |
| Vehicles and plant .....                                  | 805           | 1,004          | 1,153          | 1,215          | 1,252         |
| Land sales .....                                          | 1,060         | 998            | 1,565          | 2,356          | 2,319         |
| Other property .....                                      | 351           | 786            | 1,214          | 1,111          | 2,016         |
| Contributions for road construction, etc. (c) .....       | *2,227        | *3,509         | *3,545         | *3,811         | 4,641         |
| Sanitation charges (including garbage services) (d) ..... | 1,203         | 1,344          | 1,519          | 1,370          | 1,629         |
| <b>Other works and services—</b>                          |               |                |                |                |               |
| Municipalities .....                                      | 986           | 1,190          | 1,155          | 2,792          | 1,550         |
| Water Boards .....                                        | 41            | 50             | 89             | 87             | 85            |
| Vermin Boards .....                                       | 10            | 17             | 13             | *19            | 17            |
| <b>Total .....</b>                                        | <b>*8,204</b> | <b>*10,661</b> | <b>*12,190</b> | <b>*15,029</b> | <b>16,296</b> |
| <b>Government grants and reimbursements—</b>              |               |                |                |                |               |
| <b>Roads (e)—</b>                                         |               |                |                |                |               |
| Central Road Trust Fund .....                             | 2,630         | 3,292          | 4,813          | 4,912          | (f) 11,423    |
| Main Roads Trust Account .....                            | 3,383         | 3,696          | 3,998          | 4,554          | (g) 13        |
| Metropolitan Traffic Trust Account .....                  | 971           | 861            | 865            | 825            | 333           |
| Recreational facilities (h) .....                         | 198           | 260            | 289            | 309            | 13            |
| Electricity supply .....                                  | 15            | 23             | 21             | 11             | 1             |
| Water Boards .....                                        | 1             | 1              | 1              | 1              | 1             |
| <b>Vermin destruction bonuses—</b>                        |               |                |                |                |               |
| Municipalities .....                                      | 7             | 6              | 8              | 5              | 7             |
| Vermin Boards .....                                       | 5             | 11             | 9              | *7             | 13            |
| Other .....                                               | 107           | 111            | 100            | 188            | 230           |
| <b>Total .....</b>                                        | <b>*7,317</b> | <b>*8,262</b>  | <b>*10,104</b> | <b>*10,810</b> | <b>12,033</b> |
| <b>Vehicle licences and fees .....</b>                    | <b>3,914</b>  | <b>4,432</b>   | <b>4,602</b>   | <b>5,038</b>   | <b>5,075</b>  |
| <b>Electricity undertakings .....</b>                     | <b>2,271</b>  | <b>2,621</b>   | <b>3,068</b>   | <b>3,044</b>   | <b>3,660</b>  |
| <b>Other revenue—</b>                                     |               |                |                |                |               |
| <b>Fines and penalties—</b>                               |               |                |                |                |               |
| Traffic .....                                             | 217           | 264            | 340            | 480            | 750           |
| Other .....                                               | 17            | 24             | 20             | 22             | 33            |
| Interest .....                                            | 367           | 333            | 366            | 544            | 737           |
| Other .....                                               | 892           | 889            | 826            | 1,016          | 1,071         |
| <b>Total .....</b>                                        | <b>1,493</b>  | <b>1,509</b>   | <b>1,552</b>   | <b>2,061</b>   | <b>2,591</b>  |
| <b>GRAND TOTAL .....</b>                                  | <b>37,107</b> | <b>43,027</b>  | <b>*48,984</b> | <b>*56,239</b> | <b>63,070</b> |

(a) Loan receipts are excluded; for particulars see page 291. (b) Excludes revenue from vehicle licences (see 'Vehicle licences and fees' below) and sanitary and garbage fees (see 'Sanitation charges (including garbage services)' below). (c) Includes reimbursements from various government instrumentalities for road construction and repair. Excludes grants and reimbursements from the Main Roads Department, which are included in 'Government grants and reimbursements—Roads' shown below. (d) Excludes revenue received where the charge is incorporated in the general (municipal) rate. (e) Includes grants and reimbursements from the Main Roads Department; see also footnote (c). (f) From 1 July 1969 paid from Main Roads Trust Account as required by the *Main Roads Act Amendment Act, 1969*. (g) Arrears; see footnote (f). (h) Includes grants from the Western Australian Tourist Development Authority. \* Revised.

**TAXATION.** As may be seen from the previous table, revenue from taxation other than motor vehicle registration fees accounts for about one-third of the total receipts of local



authorities and is derived almost entirely from rates. During the five-year period ended 30 June 1970, the total revenue from municipal rates was \$87.3 million, equivalent to 35.1 per cent of revenue from all sources.

**PUBLIC WORKS AND SERVICES.** Revenue from 'Public works and services' amounted to \$62.4 million, or 25.1 per cent of all revenue during the five years to 30 June 1970. Income from property and plant, which includes rents and hire charges for buildings, plant and recreational facilities as well as sales of land, buildings, vehicles and plant, was \$29.5 million. Next in importance were receipts amounting to \$17.7 million from construction of roads, including driveways to premises, and \$7.06 million from sanitation charges, including garbage services.

**GOVERNMENT GRANTS AND REIMBURSEMENTS.** Grants for road works and recoups of road construction costs constitute the main item in this category, and amounted to \$46.2 million in the five years to 30 June 1970, equivalent to 18.6 per cent of total revenue. Local government moneys for road works are provided from State Government funds. Reference to the operations of these funds will be found in the section *Finance for Roads* in Chapter IX, Part 3. Revenue in the form of reimbursements consists of recoups of expenditure made to the local government authorities by the State Government for expenditure incurred on its behalf in road construction and maintenance, which is undertaken principally for the Main Roads Department but also for other State authorities as, for example, The State Housing Commission.

**MOTOR VEHICLE REGISTRATION FEES.** In Western Australia, there is no single authority responsible for the licensing of motor vehicles. The Traffic Branch of the Police Department licenses vehicles in the Metropolitan Traffic Area and other areas as prescribed (see the section *Vehicle Registration, Licences and Traffic Control* in Chapter IX, Part 3). In other parts of the State each local government authority licenses vehicles in its own district, but the *Traffic Act Amendment Act (No. 2), 1969* enables such powers to be transferred, subject to the approval of the Minister, to the Commissioner of Police if a local government authority, by resolution of its Council, so requires. During the five-year period ended 30 June 1970 revenue from vehicle licences and fees collected by local government authorities amounted to \$23.1 million. Moneys so collected are required by the *Main Roads Act Amendment Act, 1969* to be paid to the Mains Roads Trust Account, from which grants are made to the local government authorities under a scheme to which reference is made in the section *Finance for Roads* in Chapter IX, Part 3.

### General Expenditure

**GENERAL ADMINISTRATION.** Expenditure on administration during the five-year period ended 30 June 1970 amounted to \$18.6 million, equivalent to 7.5 per cent of the total expenditure of local government authorities.

**DEBT SERVICES.** Expenditure on debt services includes debt redemption charges, interest payable under hire purchase agreements and interest charges on loans and overdrafts. The total cost of these services (excluding those relating to electricity undertakings) was \$37.1 million in the five years to 30 June 1970.

**PUBLIC WORKS AND SERVICES.** Expenditure under the heading 'Public works and services' during the five-year period ended 30 June 1970 amounted to \$172 million, or 69.2 per cent of the total. 'Roads, paths and bridges', which constitutes the principal item, accounted for \$81.3 million. It includes construction and maintenance costs as well as moneys spent on other road work such as the cleaning and watering of thoroughfares, the provision of street nameplates and seats, street tree planting and street lighting. Other costs attributed to 'Public works and services' are those connected with health, sanitation and garbage services, capital and maintenance expenditure on property and on vehicles and other plant. Some of the items included under the heading 'Public works and services' are financed only partly from revenue, the remaining expenditure being from loan funds (see table on page 291).

GRANTS AND DONATIONS. Many of the local authorities make annual contributions as required by the Fire Brigades Act towards the maintenance of fire brigades, while grants are also made in some cases to hospitals and ambulances, to infant health clinics where they are not under the direct control of the local authority concerned, to other local organisations and to the Western Australian State Symphony Orchestra.

**SUMMARY OF LOCAL GOVERNMENT EXPENDITURE (a)**  
(£'000)

| Nature of expenditure                                    | 1965-66       | 1966-67       | 1967-68        | 1968-69        | 1969-70       |
|----------------------------------------------------------|---------------|---------------|----------------|----------------|---------------|
| General administration ....                              | 3,131         | 3,403         | 3,847          | 4,401          | (b) 3,779     |
| Debt services (c)—                                       |               |               |                |                |               |
| Interest—                                                |               |               |                |                |               |
| On loans—                                                |               |               |                |                |               |
| Municipalities .....                                     | 2,243         | 2,446         | 2,761          | 3,123          | 3,572         |
| Water Boards .....                                       | 30            | 35            | 35             | 42             | 43            |
| On overdraft .....                                       | 19            | 29            | 37             | 37             | 45            |
| Redemption—                                              |               |               |                |                |               |
| Municipalities .....                                     | 3,524         | 3,882         | 4,389          | 4,991          | 5,556         |
| Water Boards .....                                       | 48            | 52            | 57             | 66             | 69            |
| Total (c) .....                                          | 5,864         | 6,443         | 7,279          | 8,259          | 9,285         |
| Public works and services—                               |               |               |                |                |               |
| Roads, paths and bridges—                                |               |               |                |                |               |
| Construction and maintenance .....                       | 11,044        | 13,208        | 14,054         | 15,952         | 20,818        |
| Other road work .....                                    | 519           | 501           | 524            | 738            | 932           |
| Street lighting .....                                    | 509           | 547           | 595            | 658            | 735           |
| Property and plant—                                      |               |               |                |                |               |
| Parks, gardens and other recreational facilities .....   | 2,870         | 3,580         | 4,049          | 4,583          | 5,287         |
| Halls and other buildings .....                          | 2,578         | 1,878         | 2,448          | 2,224          | 2,681         |
| Vehicles and plant .....                                 | 2,358         | 2,674         | 3,381          | 3,116          | 3,126         |
| Other property .....                                     | 1,005         | 1,849         | 1,227          | 1,899          | 3,094         |
| Other public works and services—                         |               |               |                |                |               |
| Sanitary and garbage services .....                      | 1,461         | 1,648         | 1,865          | 2,039          | 2,569         |
| Other health services .....                              | 617           | 644           | 773            | 924            | 1,059         |
| Sundry works and services—                               |               |               |                |                |               |
| Municipalities (d) .....                                 | 2,697         | 3,167         | 4,192          | 4,722          | 4,769         |
| Water Boards .....                                       | 156           | 182           | 221            | 231            | 264           |
| Vermin Boards .....                                      | 49            | 104           | *87            | *89            | 97            |
| Total .....                                              | 25,863        | 29,982        | *33,417        | *37,175        | 45,430        |
| Grants and donations—                                    |               |               |                |                |               |
| Western Australian Fire Brigades Board (e) .....         | 335           | 364           | 390            | 468            | 561           |
| Hospitals and ambulances .....                           | 22            | 26            | 36             | 48             | 43            |
| Other .....                                              | 166           | 195           | 224            | 278            | 360           |
| Total .....                                              | 522           | 585           | 651            | 794            | 964           |
| Electricity undertakings (including debt services) ..... | 2,273         | 2,623         | 2,981          | 3,119          | 3,440         |
| Other expenditure .....                                  | 520           | 525           | 417            | 636            | 821           |
| <b>GRAND TOTAL</b> .....                                 | <b>38,174</b> | <b>43,562</b> | <b>*48,591</b> | <b>*54,384</b> | <b>63,720</b> |

(a) Loan expenditure is excluded; for particulars see page 291. (b) Figures not comparable with those for earlier years due to a change in accounting procedures allowing an increased proportion of certain administrative expenditure to be charged to expenditure on roads. (c) Excludes debt services of electricity undertakings. (d) Includes contributions to Regional Traffic Councils. (e) Contributions required under the Fire Brigades Act. \* Revised.

### Loan Transactions

Under the provisions of the local government legislation, local government authorities are constituted as corporate bodies and are authorised to raise loans for works and undertakings and for the liquidation of existing loan debts. The conditions imposed by the *Local Government Act, 1960-1971* in relation to loan raisings, the levying of loan rates, the expenditure of loan moneys and the repayment of loans are summarised on pages 126-7 under the heading *Financial Provisions*.

Loans are raised mainly from banks, insurance companies and superannuation funds. The State Government exercises a measure of supervision over the loan transactions of local government authorities and, where a loan is repayable in full at maturity, maintains the necessary sinking fund at the Treasury.

The following table gives a dissection of the loan receipts and expenditure of local government authorities in each financial year during the period from 1965-66 to 1969-70.

### LOCAL GOVERNMENT LOAN RECEIPTS AND EXPENDITURE (\$'000)

| Particulars                                            | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|--------------------------------------------------------|---------|---------|---------|---------|---------|
| <b>RECEIPTS</b>                                        |         |         |         |         |         |
| Municipalities—                                        |         |         |         |         |         |
| Ordinary services .....                                | 6,942   | 7,871   | 10,193  | 12,163  | 12,914  |
| Health services .....                                  | 81      | 61      | 77      | 419     | 410     |
| Electricity undertakings .....                         | 602     | 816     | 982     | 1,072   | 694     |
| Water Boards .....                                     | 139     | 83      | 60      | 174     | 72      |
| Total .....                                            | 7,764   | 8,831   | 11,313  | 13,828  | 14,089  |
| <b>EXPENDITURE</b>                                     |         |         |         |         |         |
| Municipalities—                                        |         |         |         |         |         |
| Public works and services—                             |         |         |         |         |         |
| Roads, paths and bridges .....                         | 1,910   | 2,097   | 2,222   | 2,818   | 3,049   |
| Parks, gardens and other recreational facilities ..... | 1,742   | 1,977   | 1,626   | 2,672   | 2,813   |
| Halls and other buildings .....                        | 2,071   | 2,425   | 3,036   | 3,309   | 3,263   |
| Vehicles and plant .....                               | 1,127   | 1,119   | 1,469   | 1,631   | 1,801   |
| Electricity undertakings .....                         | 783     | 667     | 1,087   | 976     | 921     |
| Other works and services .....                         | 296     | 266     | 268     | 487     | 1,118   |
| Redemptions .....                                      | 2       | ....    | 40      | 16      | 58      |
| Other loan charges, transfers, etc. ....               | 142     | 27      | 41      | 93      | 147     |
| Water Boards .....                                     | 117     | 98      | 99      | 148     | 70      |
| Total .....                                            | 8,190   | 8,676   | 9,889   | 12,150  | 13,240  |

The following table shows the aggregate local government loan debt outstanding at 30 June of each year during the period from 1966 to 1970.

### LOCAL GOVERNMENT LOAN DEBT (\$'000)

| Nature of debt                 | At 30 June— |        |        |         |        |
|--------------------------------|-------------|--------|--------|---------|--------|
|                                | 1966        | 1967   | 1968   | 1969    | 1970   |
| Loan debt outstanding .....    | 48,661      | 53,386 | 59,275 | *67,407 | 75,582 |
| Sinking fund balances .....    | 151         | 149    | 109    | 8       | 11     |
| Net loan debt .....            | 48,511      | 53,237 | 59,166 | *67,399 | 75,571 |
| Net loan debt on account of—   |             |        |        |         |        |
| Ordinary services .....        | 42,864      | 46,965 | 52,962 | *60,124 | 67,622 |
| Health services .....          | 1,500       | 1,453  | 1,407  | *1,615  | 1,918  |
| Electricity undertakings ..... | 3,536       | 4,140  | 4,106  | 4,903   | 5,271  |
| Water Boards .....             | 610         | 677    | 691    | *757    | 760    |
| Total, Net loan debt .....     | 48,511      | 53,237 | 59,166 | *67,399 | 75,571 |

\* Revised.

### PENSION AND SUPERANNUATION SCHEMES

The Western Australian Government and many local government and semi-government authorities have established pension and superannuation schemes for eligible employees and their dependants, to which both employers and employees contribute. These schemes are operated either through separately constituted funds or through life insurance offices.

The *Superannuation and Family Benefits Act, 1938-1970* applies to employees of State Government Departments, semi-government authorities and other government instrumentalities. The Act establishes The Superannuation Fund and a Provident Account under the management of a Superannuation Board. Contributions made by the State are paid from the Consolidated Revenue Fund.

The *Superannuation, Sick, Death, Insurance, Guarantee and Endowment (Local Governing Bodies' Employees) Funds Act, 1947-1950* enables local government authorities to establish funds to provide benefits for their employees. Contributions made by an authority are paid from its ordinary revenue.

## GOVERNMENT PENSION AND SUPERANNUATION SCHEMES (a)

| Particulars                                   | 1965-66       | 1966-67       | 1967-68       | 1968-69       | 1969-70       |
|-----------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| OPERATED THROUGH SEPARATELY CONSTITUTED FUNDS |               |               |               |               |               |
| Income—                                       | \$'000        | \$'000        | \$'000        | \$'000        | \$'000        |
| Contributions—                                |               |               |               |               |               |
| Employees .....                               | 2,640         | 2,887         | 3,218         | 3,603         | 4,089         |
| Employers .....                               | 3,134         | 3,277         | 3,723         | 4,340         | 5,121         |
| Interest, dividends and rents .....           | 1,522         | 1,494         | 2,040         | 2,240         | 2,541         |
| Other ....                                    | 108           | 175           | 206           | 57            | 236           |
| Total .....                                   | 7,404         | 7,833         | 9,187         | 10,240        | 11,987        |
| Expenditure—                                  |               |               |               |               |               |
| Pensions .....                                | 3,330         | 3,573         | 4,218         | 4,840         | 5,750         |
| Lump sum payments (b) .....                   | 645           | 737           | 846           | 949           | 1,273         |
| Other (c) .....                               | 33            | 50            | 57            | 96            | 64            |
| Total .....                                   | 4,007         | 4,360         | 5,121         | 5,885         | 7,086         |
| Assets at end of year—                        |               |               |               |               |               |
| Cash—                                         |               |               |               |               |               |
| Deposits with Treasury .....                  | 411           | ....          | 305           | 314           | 2             |
| Other deposits and cash .....                 | 384           | 418           | 382           | 706           | 200           |
| Commonwealth Government securities .....      | 127           | 101           | 103           | 106           | 89            |
| Local and semi-governmental securities .....  | 26,961        | 28,719        | 31,376        | 33,389        | 36,954        |
| Mortgages—                                    |               |               |               |               |               |
| Housing .....                                 | 36            | 137           | 301           | 760           | 1,383         |
| Other .....                                   | 122           | 121           | 264           | 306           | 336           |
| Loans to building societies .....             | 145           | 234           | 324           | 440           | 776           |
| Company shares .....                          | 122           | 256           | 291           | 454           | 453           |
| Company debentures and notes .....            | 234           | 401           | 491           | 673           | 791           |
| Other assets .....                            | 1,634         | 3,671         | 4,180         | 5,377         | 6,591         |
| Total .....                                   | 30,175        | 34,059        | 38,016        | 42,525        | 47,574        |
| less sundry creditors, etc. ....              | 115           | 399           | 176           | 216           | 364           |
| Accumulated funds .....                       | 30,060        | 33,660        | 37,841        | 42,309        | 47,210        |
| Contributors at end of year .....             | number 16,954 | number 17,835 | number 18,804 | number 19,330 | number 19,910 |
| Pensioners at end of year—                    |               |               |               |               |               |
| Ex-employees .....                            | 3,294         | 3,357         | 3,421         | 3,542         | 3,655         |
| Widows .....                                  | 2,116         | 2,184         | 2,259         | 2,327         | 2,427         |
| Children .....                                | 210           | 208           | 200           | 220           | 209           |
| OPERATED THROUGH LIFE INSURANCE OFFICES       |               |               |               |               |               |
| Income—                                       | \$'000        | \$'000        | \$'000        | \$'000        | \$'000        |
| Contributions—                                |               |               |               |               |               |
| Employees .....                               | 377           | 442           | 510           | 599           | 679           |
| Employers .....                               | 526           | 612           | 710           | 850           | 963           |
| Surrenders .....                              | 87            | 102           | 67            | 129           | 147           |
| Death claims and matured policies .....       | 95            | 109           | 184           | 151           | 223           |
| Other ....                                    | 5             | 8             | 10            | 9             | 12            |
| Total .....                                   | 1,091         | 1,273         | 1,480         | 1,738         | 2,023         |
| Expenditure—                                  |               |               |               |               |               |
| Premiums paid to insurance companies .....    | 831           | 1,029         | 1,191         | 1,423         | 1,712         |
| Benefits to contributors—                     |               |               |               |               |               |
| On retirement or death .....                  | 96            | 96            | 189           | 149           | 215           |
| On resignation or dismissal .....             | 73            | 86            | 54            | 106           | 133           |
| Other .....                                   | 76            | 29            | 35            | 27            | 31            |
| Total .....                                   | 1,076         | 1,239         | 1,469         | 1,705         | 2,090         |
| Contributors at end of year .....             | number 2,746  | number 2,921  | number 3,041  | number 3,294  | number 3,477  |

(a) Schemes established by State Government, local government and semi-government authorities, and the University of Western Australia. (b) On retirement, death, resignation or dismissal. Includes refunds of contributions. (c) Includes gratuities: \$4,444 in 1966-67; \$187 in 1968-69; and \$2,124 in 1969-70.

**Parliamentary Superannuation Fund.** The *Parliamentary Superannuation Act, 1970-1971* establishes a Parliamentary Superannuation Fund to provide superannuation, pensions and other benefits for former Members of the Parliament of Western Australia and their dependants. The Fund is financed from contributions paid by members and moneys appropriated from the Consolidated Revenue Fund.

## PARLIAMENTARY SUPERANNUATION FUND

| Particulars                                  | 1965-66   | 1966-67   | 1967-68   | 1968-69   | 1969-70   |
|----------------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Income—                                      | \$'000    | \$'000    | \$'000    | \$'000    | \$'000    |
| Contributions—                               |           |           |           |           |           |
| Members .....                                | 51        | 50        | 53        | 51        | 59        |
| Government .....                             | 50        | 50        | 50        | 56        | 95        |
| Interest .....                               | 21        | 31        | 24        | 31        | 34        |
| Other ....                                   | ....      | ....      | ....      | ....      | 1         |
| Total .....                                  | 122       | 131       | 126       | 138       | 189       |
| Expenditure—                                 |           |           |           |           |           |
| Pensions .....                               | 53        | 55        | 65        | 93        | 109       |
| Lump sum payments (a) .....                  | ....      | ....      | 12        | 6         | 6         |
| Total .....                                  | 53        | 55        | 77        | 100       | 116       |
| Assets at end of year—                       |           |           |           |           |           |
| Cash deposits with Treasury .....            | 2         | 3         | 7         | 11        | 8         |
| Commonwealth Government securities .....     | 45        | 45        | 45        | 45        | 45        |
| Local and semi-governmental securities ..... | 383       | 451       | 501       | 541       | 591       |
| Other ....                                   | 6         | 12        | 7         | 8         | 53        |
| Total .....                                  | 436       | 512       | 561       | 606       | 698       |
| less sundry creditors, etc. ....             | ....      | ....      | ....      | 6         | 24        |
| Accumulated funds .....                      | 436       | 512       | 561       | 600       | 674       |
| Contributors at end of year .....            | number 80 | number 79 | number 81 | number 81 | number 81 |
| Pensioners at end of year—                   |           |           |           |           |           |
| Ex-members .....                             | 19        | 17        | 29        | 29        | 26        |
| Widows .....                                 | 27        | 26        | 25        | 26        | 23        |

(a) On retirement, death, resignation or dismissal. Includes refunds of contributions.

**Coal Mine Workers' Pensions Fund.** The *Coal Mine Workers (Pensions) Act, 1943-1971* establishes a Coal Mine Workers' Pensions Fund to provide pensions and other benefits for persons formerly engaged in coal mining and for their dependants. The Fund is financed from contributions paid by employees and employers and moneys appropriated from the Consolidated Revenue Fund.

## COAL MINE WORKERS' PENSIONS FUND

| Particulars                                  | 1965-66    | 1966-67    | 1967-68    | 1968-69    | 1969-70    |
|----------------------------------------------|------------|------------|------------|------------|------------|
| Income—                                      | \$'000     | \$'000     | \$'000     | \$'000     | \$'000     |
| Contributions—                               |            |            |            |            |            |
| Employees .....                              | 47         | 56         | 54         | 51         | 51         |
| Employers .....                              | 164        | 191        | 183        | 186        | 191        |
| Government .....                             | 60         | 60         | 80         | * 80       | 90         |
| Interest, dividends and rents .....          | 104        | 110        | 119        | *129       | 140        |
| Total .....                                  | 376        | 418        | 436        | 446        | 472        |
| Expenditure—                                 |            |            |            |            |            |
| Pensions .....                               | 266        | 274        | 264        | 282        | 279        |
| Lump sum payments—                           |            |            |            |            |            |
| On retirement or death .....                 | 1          | 1          | 4          | ....       | 9          |
| On resignation or dismissal .....            | 6          | 5          | 4          | 6          | 8          |
| Other ....                                   | 6          | 7          | 6          | 6          | 8          |
| Total .....                                  | 279        | 287        | 277        | 294        | 296        |
| Assets at end of year—                       |            |            |            |            |            |
| Cash deposits with Treasury .....            | 11         | 38         | 2          | 1          | 9          |
| Commonwealth Government securities .....     | 118        | 118        | 118        | 118        | 118        |
| Local and semi-governmental securities ..... | 1,882      | 1,984      | 2,179      | 2,331      | 2,499      |
| Other ....                                   | 25         | 28         | 30         | 29         | 30         |
| Total .....                                  | 2,037      | 2,169      | 2,328      | 2,478      | 2,656      |
| less sundry creditors, etc. ....             | 3          | 4          | 5          | 3          | 5          |
| Accumulated funds .....                      | 2,034      | 2,165      | 2,323      | 2,475      | 2,651      |
| Contributors at end of year .....            | number 732 | number 697 | number 646 | number 628 | number 640 |
| Pensioners at end of year—                   |            |            |            |            |            |
| Ex-employees .....                           | 267        | 266        | 275        | 278        | 276        |
| Widows and children .....                    | 192        | 189        | 182        | 208        | 205        |

\* Revised.

## Chapter VI—continued

## Part 2—Private Finance

## CURRENCY

The power to legislate with respect to currency, coinage and legal tender and the issue of paper money is vested by the Constitution in the Commonwealth Parliament. This power was originally exercised by the Commonwealth Government under the Coinage Act of 1909 and the Australian Notes Act of 1910. These Acts, and later amendments, were superseded by the *Reserve Bank Act* 1965 and the *Currency Act* 1965, when a decimal currency system was adopted in Australia with effect from 14 February, 1966.

Prior to 14 February 1966 the Australian currency was based on the system then in use in the United Kingdom, and therefore had as its unit the pound (£) divided into twenty shillings (s.) each of twelve pence (d.). The *Currency Act* 1965, which replaced the *Coinage Act* 1909-1947, provides for the adoption of a monetary unit known as the 'dollar', equivalent in value to ten shillings in the currency previously in use. The dollar is divided into 100 minor units, or 'cents'. Coins are in the denominations of 50 cents, 20 cents, 10 cents, 5 cents, 2 cents and 1 cent. The *Reserve Bank Act* 1965 authorises the issue of notes in the denominations of one dollar, 2, 5, 10, 20 and 50 dollars, or in any other denomination that the Treasurer determines. Notes currently issued are in the denominations of 1, 2, 5, 10 and 20 dollars.

Australian notes are legal tender in Australia to any amount, coins of the denominations of 5, 10, 20 and 50 cents for amounts not exceeding five dollars, and two-cent and one-cent coins for amounts up to and including 20 cents.

## Rates of Exchange

At 30 June 1971 the par value of the Australian dollar (\$A1) as agreed with the International Monetary Fund was, in terms of sterling currency, 46·67 new pence (£stg 0·4667), and \$US 1·12 in terms of American currency.

The following table shows the average telegraphic transfer selling rates of exchange for Sydney (New South Wales) on a selection of overseas countries. The figures appearing in the table, which are averages of daily quotations, are based generally on rates quoted by the Commonwealth Trading Bank of Australia.

OVERSEAS EXCHANGE RATES—AVERAGE TELEGRAPHIC TRANSFER SELLING RATES SYDNEY ON OVERSEAS COUNTRIES: JUNE 1971

| Country                      | Basis of quotation          | Rate of exchange | Country                                      | Basis of quotation    | Rate of exchange |
|------------------------------|-----------------------------|------------------|----------------------------------------------|-----------------------|------------------|
| Austria ....                 | Schillings to \$A1 ....     | 27·92            | Netherlands ....                             | Guilders to \$A1 .... | 3·983            |
| Belgium ....                 | Francs to \$A1 ....         | 55·59            | New Zealand ....                             | \$A to \$NZ1 ....     | 1·002            |
| Canada ....                  | Dollars to \$A1 ....        | 1·15             | Norway ....                                  | Kroner to \$A1 ....   | 7·95             |
| Ceylon ....                  | Rupees to \$A1 ....         | 6·58             | Noumea ....                                  | Francs to \$A1 ....   | 109·00           |
| China (mainland) (a) ....    | New Yuan to \$A1 ....       | 2·72             | Pakistan ....                                | Rupees to \$A1 ....   | 5·285            |
| Denmark ....                 | Kroner to \$A1 ....         | 8·38             | Philippine Islands ....                      | Pesos to \$A1 ....    | 7·134            |
| Fiji ....                    | \$A to \$F1 ....            | 1·03             | Singapore ....                               | Dollars to \$A1 ....  | 3·406            |
| France ....                  | Francs to \$A1 ....         | 6·19             | South Africa ....                            | Rands to \$A1 ....    | 0·795            |
| Germany, Federal Republic of | Deutsche Marks to \$A1 .... | 3·93             | Spain ....                                   | Pesetas to \$A1 ....  | 77·81            |
| Greece ....                  | Drachmae to \$A1 ....       | 32·95            | Sweden ....                                  | Kronor to \$A1 ....   | 5·773            |
| Hong Kong ....               | Dollars to \$A1 ....        | 6·74             | Switzerland ....                             | Francs to \$A1 ....   | 4·585            |
| India ....                   | Rupees to \$A1 ....         | 8·33             | Union of Soviet Socialist Republics (a) .... | Roubles to \$A1 ....  | 1·004            |
| Italy ....                   | Lire to \$A1 ....           | 699·00           | United Kingdom ....                          | \$A to £ stg 1 ....   | 2·1514           |
| Japan ....                   | Yen to \$A1 ....            | 399·72           | United States of America                     | Dollars to \$A1 ....  | 1·1229           |

(a) Rate of exchange used in converting import values to Australian currency for the purpose of calculating customs duty.

## BANKING

The banking system in Western Australia comprises the Commonwealth banking institutions, The Rural and Industries Bank of Western Australia and the private trading banks.

**Commonwealth Banking Institutions**

Prior to the operation of the Reserve Bank Act and the Commonwealth Banks Act, passed by the Commonwealth Parliament in 1959, the Commonwealth banking institutions were the Commonwealth Bank, the Commonwealth Trading Bank and the Commonwealth Savings Bank. The Commonwealth Bank, in addition to performing the functions of a central bank, controlled the Australian note issue through a Note Issue Department and also provided special banking facilities through the Rural Credits Department, the Mortgage Bank Department and the Industrial Finance Department. The policy of the Banks was determined by a Commonwealth Bank Board.

The *Reserve Bank Act* 1959 repealed the Commonwealth Bank Acts, the first of which was passed in 1911, and established the Reserve Bank of Australia under the control of a Reserve Bank Board. The Reserve Bank was constituted as the central bank and took over the Note Issue Department and the Rural Credits Department of the former Commonwealth Bank. The function of the Rural Credits Department is to make available to statutory authorities or co-operative associations of primary producers advances to assist the marketing or processing of primary products.

The *Commonwealth Banks Act* 1959 constituted the Commonwealth Banking Corporation, which came into being on 14 January 1960 as the authority responsible for the operations of the Trading Bank, the Savings Bank and a new Development Bank. The Development Bank was formed basically from the Mortgage Bank Department and the Industrial Finance Department of the Commonwealth Bank, to provide finance and advice to persons to assist them in primary production or in the establishment or development of industrial undertakings, particularly small enterprises.

**The Rural and Industries Bank of Western Australia**

The Rural and Industries Bank of Western Australia was established by the State Government under the Rural and Industries Bank Act of 1944 to replace the former Agricultural Bank of Western Australia. The Bank consists of a Rural Department and a Government Agency Department, and management is vested in five Commissioners. The Rural Department provides general banking services and, since 1956, has also conducted savings bank business through a Savings Bank Division.

**Trading Banks**

At 30 June 1971 the trading banks conducting business in Western Australia comprised the Commonwealth Trading Bank of Australia, The Rural and Industries Bank of Western Australia (Rural Department), the Australia and New Zealand Banking Group Limited, The Bank of Adelaide, the Bank of New South Wales, the Banque Nationale de Paris, The Commercial Bank of Australia Limited, The Commercial Banking Company of Sydney Limited and The National Bank of Australasia Limited.

The operations of trading banks are governed by the *Banking Act* 1959-1967 (Commonwealth) which places them under a degree of control by the central bank, the Reserve Bank of Australia.

The following table shows the averages of total amounts on deposit with the trading banks and of their outstanding advances during each of the years 1966-67 to 1970-71. The figures relate to Western Australian business only and represent the annual average of amounts as at the close of business each Wednesday. The information is prepared from returns furnished under the requirements of the *Banking Act* 1959-1967 by all trading banks except The Rural and Industries Bank of Western Australia, which supplies information by special arrangement.

**TRADING BANKS—AVERAGES OF DEPOSITORS' BALANCES AND BANK ADVANCES  
(\$'000)**

| Particulars                                                        | 1966-67        | 1967-68        | 1968-69        | 1969-70        | 1970-71        |
|--------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Depositors' balances—</b>                                       |                |                |                |                |                |
| <b>Commonwealth and State Governments—</b>                         |                |                |                |                |                |
| Fixed .....                                                        | 3,126          | 5,527          | 3,356          | 3,627          | 4,163          |
| Current—                                                           |                |                |                |                |                |
| Bearing interest .....                                             | 2,189          | 3,920          | 1,008          | 10             | 2              |
| Not bearing interest .....                                         | 1,673          | 1,764          | 1,728          | 1,817          | 1,726          |
| <b>Other than Commonwealth and State Governments—</b>              |                |                |                |                |                |
| Fixed .....                                                        | 130,769        | 141,632        | 162,943        | 236,274        | 231,835        |
| Current—                                                           |                |                |                |                |                |
| Bearing interest .....                                             | 15,466         | 16,849         | 23,042         | 24,887         | 23,242         |
| Not bearing interest .....                                         | 202,679        | 229,146        | 270,481        | 291,402        | 283,764        |
| <b>Total .....</b>                                                 | <b>355,899</b> | <b>398,837</b> | <b>462,559</b> | <b>558,017</b> | <b>544,732</b> |
| <b>Loans, advances and bills discounted (a) .....</b>              | <b>212,023</b> | <b>252,627</b> | <b>280,147</b> | <b>323,824</b> | <b>351,110</b> |
| <b>Ratio of loans, advances, etc. to total balances (per cent)</b> | <b>59.6</b>    | <b>63.3</b>    | <b>60.6</b>    | <b>58.0</b>    | <b>64.5</b>    |

(a) Excludes loans to authorised dealers in the short-term money market.

In the following table, which relates to Western Australian business only, the average amount on deposit with each trading bank and the average of its outstanding advances during the month of June 1971 are shown, together with the number of branches and agencies of each bank at 30 June 1971.

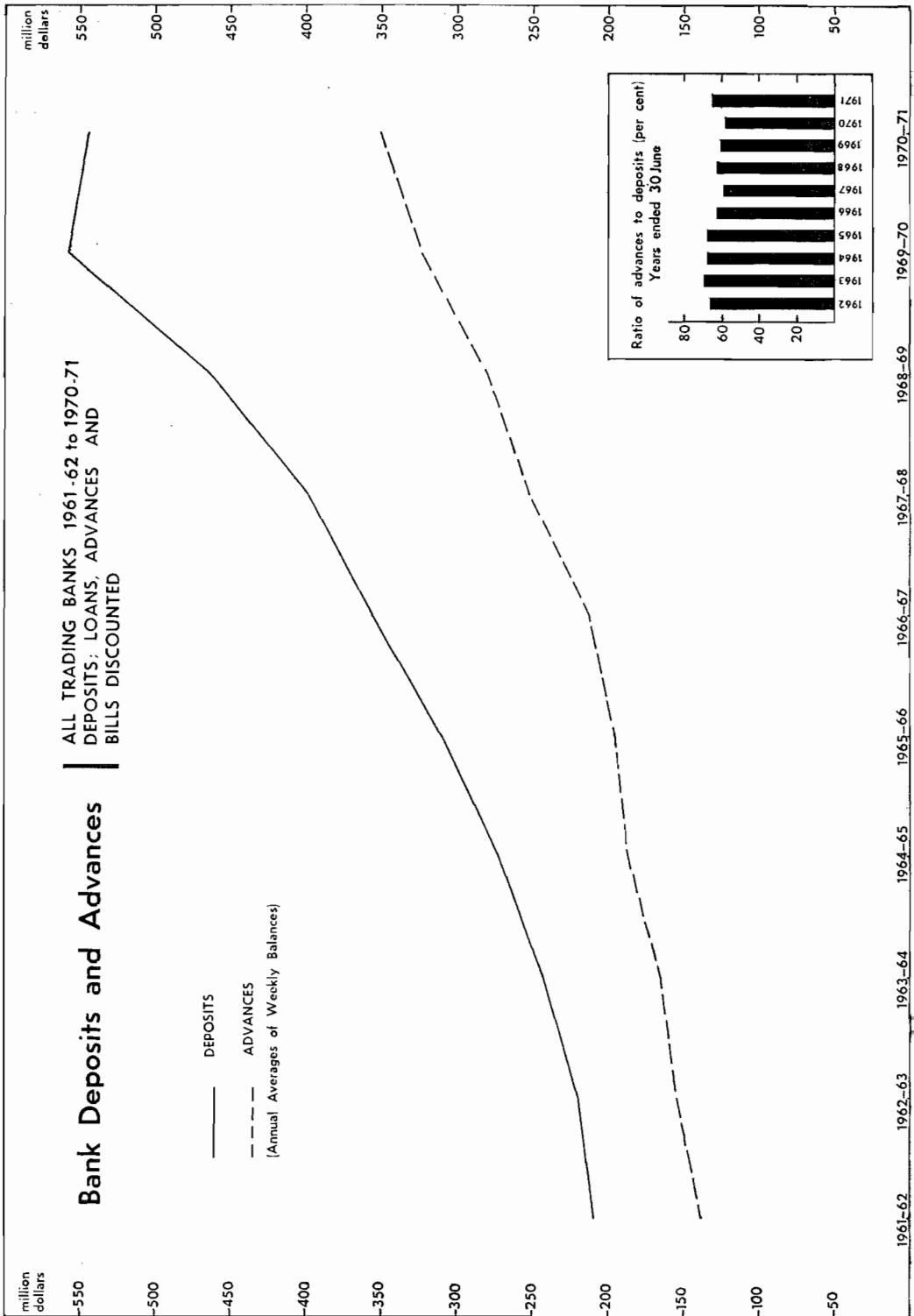
**TRADING BANKS—BRANCHES, AGENCIES, DEPOSITS AND ADVANCES: JUNE 1971**

| Bank                                                                        | Number of branches (a) | Number of agencies (a) | Depositors' balances (b) |                  |                  | Loans, advances, and bills discounted (b) (c) |
|-----------------------------------------------------------------------------|------------------------|------------------------|--------------------------|------------------|------------------|-----------------------------------------------|
|                                                                             |                        |                        | Not bearing interest     | Bearing interest | Total            |                                               |
| Commonwealth Trading Bank of Australia .....                                | 71                     | 32                     | \$'000<br>46,435         | \$'000<br>41,383 | \$'000<br>87,818 | \$'000<br>58,449                              |
| The Rural and Industries Bank of Western Australia (Rural Department) ..... | 58                     | 24                     | 29,847                   | 44,313           | 74,162           | 70,476                                        |
| <b>Other trading banks—</b>                                                 |                        |                        |                          |                  |                  |                                               |
| Australia and New Zealand Banking Group Limited .....                       | 74                     | 24                     | 52,805                   | 28,027           | 80,832           | 53,280                                        |
| The Bank of Adelaide .....                                                  | 2                      | 3                      | 2,698                    | 3,838            | 6,535            | 2,789                                         |
| Bank of New South Wales .....                                               | 106                    | 30                     | 76,069                   | 64,570           | 140,639          | 87,707                                        |
| Banque Nationale de Paris .....                                             | 1                      | ....                   | 673                      | 2,353            | 3,026            | 880                                           |
| The Commercial Bank of Australia Limited .....                              | 36                     | 19                     | 18,038                   | 14,794           | 32,833           | 22,656                                        |
| The Commercial Banking Company of Sydney Limited .....                      | 7                      | ....                   | 3,004                    | 2,864            | 5,868            | 2,441                                         |
| The National Bank of Australasia Limited .....                              | 76                     | 35                     | 44,184                   | 40,749           | 84,934           | 52,499                                        |
| <b>Total, Other trading banks .....</b>                                     | <b>302</b>             | <b>111</b>             | <b>197,472</b>           | <b>157,194</b>   | <b>354,666</b>   | <b>222,253</b>                                |
| <b>TOTAL, ALL TRADING BANKS .....</b>                                       | <b>431</b>             | <b>167</b>             | <b>273,754</b>           | <b>242,891</b>   | <b>516,646</b>   | <b>351,178</b>                                |

(a) At 30 June. (b) Averages based on amounts at close of business each Wednesday. (c) Excludes loans to authorised dealers in the short-term money market.

In July 1971 the outstanding advances of the trading banks, excluding The Rural and Industries Bank of Western Australia and the Banque Nationale de Paris, amounted in total to \$285.7 million. Business advances represented \$225.1 million, personal advances \$54.1 million, advances to non-profit organisations \$4.6 million, and to public authorities other than the Commonwealth and State Governments \$1.8 million. Business advances were mainly for rural industry (\$90.6 million), for retail and wholesale trade (\$48.2 million) and for manufacturing (\$20.3 million). Of the personal advances, loans for the building or purchasing of homes accounted for \$18.5 million.





The following table contains particulars of the average weekly debits to customers' accounts in each year from 1966-67 to 1970-71 and in each quarter of those years. The figures represent the total of all cheques drawn by customers of all trading banks and, in addition, the Rural Credits Department of the Reserve Bank of Australia and the Commonwealth Development Bank of Australia. Debits to Commonwealth and State Government accounts at city branches are excluded as they are subject to abnormal influences. The figures are derived by averaging the debits made during weeks ended on Wednesdays during the several periods shown.

#### TRADING BANKS—AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS (a)

| Particulars                    | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|--------------------------------|---------|---------|---------|---------|---------|
| WEEKLY AVERAGE<br>(\$ million) |         |         |         |         |         |
| Average for quarter ended—     |         |         |         |         |         |
| September ....                 | 123.4   | 146.5   | 182.6   | 227.8   | 267.6   |
| December ....                  | 138.8   | 168.8   | 210.2   | 254.8   | 310.7   |
| March ....                     | 144.7   | 177.8   | 221.6   | 246.9   | 297.9   |
| June ....                      | 147.5   | 183.2   | 221.8   | 255.7   | 307.3   |
| Average for year ....          | 138.6   | 169.1   | 209.0   | 246.4   | 295.3   |

#### PER HEAD OF MEAN POPULATION (b) (dollars)

|                            |       |       |       |       |       |
|----------------------------|-------|-------|-------|-------|-------|
| Average for quarter ended— |       |       |       |       |       |
| September ....             | 145.0 | 166.0 | 198.7 | 251.0 | 269.0 |
| December ....              | 161.6 | 189.4 | 226.0 | 263.1 | 308.9 |
| March ....                 | 166.7 | 197.4 | 235.6 | 252.2 | 293.1 |
| June ....                  | 168.5 | 201.5 | 233.7 | 259.3 | 299.9 |
| Average for year ....      | 160.6 | 188.8 | 223.7 | 253.3 | 292.2 |

(a) Excludes debits to Commonwealth and State Government accounts at city branches; see letterpress immediately preceding table. (b) Figures revised in accordance with the preliminary results of the 1971 Census.

**Bank Charges.** In October 1962 the trading banks discontinued the interstate exchange rates previously charged and instituted a system of charges on current accounts. The charges, comprising three separate elements, are calculated quarterly and debited as one composite item. In addition to a basic maintenance fee of 75c per quarter there is a ledger activity fee increasing with the number of transactions each quarter, and a collection fee on cheques deposited in excess of twenty per quarter. Rebates are allowable on ledger activity fees where credit balances are maintained at the level of \$1,000 or more throughout the quarterly period.

#### Savings Banks

At 31 December 1971, savings banks operating in Western Australia comprised the Commonwealth Savings Bank of Australia, The Rural and Industries Bank of Western Australia (Savings Bank Division), the Australia and New Zealand Savings Bank Limited, The Bank of Adelaide Savings Bank Limited, the Bank of New South Wales Savings Bank Limited, The Commercial Savings Bank of Australia Limited, the C.B.C. Savings Bank Limited and The National Bank Savings Bank Limited.

Individual depositors may not operate on their savings bank accounts by cheque, but cheque accounts are generally available to non-profit organisations such as friendly, co-operative and charitable societies. Interest is paid on deposits with savings banks and no charge is made for the keeping of accounts. A school savings bank service is provided and its operations, except for the number of accounts open at the end of each year, are included in the figures shown in the following table.

## SAVINGS BANK TRANSACTIONS

| Particulars                              | 1966-67        | 1967-68 | 1968-69   | 1969-70   | 1970-71   |
|------------------------------------------|----------------|---------|-----------|-----------|-----------|
| Deposits (a) ....                        | \$'000 467,401 | 557,289 | 663,653   | 719,324   | 781,226   |
| Withdrawals (a) ....                     | \$'000 439,255 | 525,387 | 637,254   | 714,719   | 763,788   |
| Excess of deposits over withdrawals .... | \$'000 28,146  | 31,703  | 26,399    | 4,605     | 17,438    |
| Interest added to accounts ....          | \$'000 9,790   | 11,093  | 12,983    | 14,288    | 15,295    |
| Accounts open at end of year (b) ....    | No. 905,349    | 970,120 | 1,036,180 | 1,096,466 | 1,153,420 |
| Depositors' balances at end of year—     |                |         |           |           |           |
| Total ....                               | \$'000 330,807 | 373,602 | 412,984   | 431,877   | 464,611   |
| Average per operative account ....       | \$ 365.5       | 385.1   | 398.6     | 393.9     | 402.8     |
| Average per head of population (c) ....  | \$ 376.5       | 408.8   | 433.4     | 436.7     | 452.2     |

(a) Includes inter-branch transfers but excludes transfers from and to other States.  
(i.e. accounts of less than \$2 which have not been operated on for more than two years).

(b) Excluding inoperative accounts  
(c) Figures based on the preliminary results of the 1971 Census.

The following table, which relates to Western Australian business only, shows the number of branches and agencies of each of the savings banks at 30 June 1971. The amount of depositors' balances held by each bank at the end of June 1971 is also shown. This information, together with similar particulars for each of the other Australian States, is published monthly in the *Commonwealth of Australia Gazette*, and is prepared from returns furnished under the requirements of the *Banking Act 1959-1967* by all savings banks except The Rural and Industries Bank of Western Australia (Savings Bank Division), which supplies information by special arrangement.

SAVINGS BANKS—BRANCHES, AGENCIES AND DEPOSITS  
JUNE 1971

| Bank                                                                            | Number of branches (a) | Number of agencies (a) | Depositors' balances (b) |
|---------------------------------------------------------------------------------|------------------------|------------------------|--------------------------|
| Commonwealth Savings Bank of Australia ....                                     | 92                     | 700                    | \$'000 218,644           |
| The Rural and Industries Bank of Western Australia (Savings Bank Division) .... | 58                     | 354                    | 82,582                   |
| Other savings banks—                                                            |                        |                        |                          |
| Australia and New Zealand Savings Bank Limited                                  | 74                     | 346                    | 41,093                   |
| The Bank of Adelaide Savings Bank Limited ....                                  | 2                      | 10                     | 1,197                    |
| Bank of New South Wales Savings Bank Limited....                                | 106                    | 346                    | 78,011                   |
| The Commercial Savings Bank of Australia Limited                                | 36                     | 42                     | 10,516                   |
| C.B.C. Savings Bank Limited ....                                                | 7                      | 10                     | 1,282                    |
| The National Bank Savings Bank Limited ....                                     | 76                     | 75                     | 31,286                   |
| Total, Other savings banks ....                                                 | 301                    | 829                    | 163,385                  |
| TOTAL, ALL SAVINGS BANKS ....                                                   | 451                    | 1,883                  | 464,611                  |

(a) At 30 June. (b) Particulars for the Commonwealth Savings Bank and The Rural and Industries Bank of Western Australia (Savings Bank Division) relate to 30 June, and those for other savings banks to the last Wednesday in June.

In December 1969 approval was given by the Reserve Bank of Australia to a proposal for the establishment of a new type of savings bank account on which interest could be paid at rates almost 1 per cent above the general deposit rate paid at that time by most savings banks. The holder of such an account is required to give three months' notice before a withdrawal may be made. The account must also have, at all times, a minimum balance of \$500 and transactions are in minimum amounts of \$100. The maximum rate of interest payable on these 'investment' accounts at 30 June 1971 was 5.25 per cent per annum.

## Bank Interest Rates

The following table shows bank interest rates current at 30 June 1971, the dates from which they became operative, and the rates which were applicable prior to those dates.

## BANK INTEREST RATES AT 30 JUNE 1971

| Particulars                                          | Rate per annum | Date from which operative | Previous rate per annum |
|------------------------------------------------------|----------------|---------------------------|-------------------------|
|                                                      | per cent       |                           | per cent                |
| LENDING RATES                                        |                |                           |                         |
| Trading banks—                                       |                |                           |                         |
| Overdraft (general) (a) ....                         | 8.25           | 1970—9 March              | 7.75                    |
| Unsecured personal loans (a) (b) ....                | 6.50           | 9 March                   | 6.25                    |
| Commonwealth Development Bank of Australia—          |                |                           |                         |
| Rural loans (c) ....                                 | 6.25           | 1969—1 August             | 6.00                    |
| Industrial loans (c) ....                            | 7.25           | 1970—6 April              | 6.75                    |
| Reserve Bank of Australia, Rural Credits Department— |                |                           |                         |
| Government-guaranteed loans ....                     | 5.00           | 1969—8 August             | 4.75                    |
| Other loans ....                                     | 5.25           | 8 August                  | 5.00                    |
| Savings banks—                                       |                |                           |                         |
| Housing loans (a) ....                               | 7.00           | 1970—1 April              | 6.25                    |
| Other loans (a) ....                                 | 8.25           | 1 April                   | 7.75                    |

## DEPOSIT RATES (a)

|                                               |          |                 |          |
|-----------------------------------------------|----------|-----------------|----------|
| Trading banks—                                |          |                 |          |
| Fixed deposits of less than \$50,000—         |          |                 |          |
| 3 months and less than 12 months ....         | 5.00     | 1970—8 December | 4.80     |
| 12 months and less than 18 months ....        | 5.00     | 9 March         | (d) 4.70 |
| 18 months up to and including 24 months ....  | 5.30     | 9 March         | (d) 5.00 |
| Over 24 months and less than 3 years ....     | 5.60     | 8 December      | ....     |
| 3 years and less than 4 years ....            | 6.00     | 8 December      | ....     |
| 4 years ....                                  | 6.50     | 8 December      | ....     |
| Fixed deposits of \$50,000 and over—          |          |                 |          |
| 30 days up to and including 24 months ....    | 5.50     | 1970—9 March    | (e) 5.00 |
| Over 24 months and less than 4 years ....     | 6.00     | 8 December      | ....     |
| 4 years ....                                  | 6.50     | 8 December      | ....     |
| Certificates of deposit of \$50,000 and over— |          |                 |          |
| 3 months to 24 months ....                    | 5.50     | 1970—9 March    | 5.00     |
| Savings banks ....                            | (f) 5.00 | 1970—1 April    | (g) 3.75 |

(a) Maximum rate. (b) Flat rate. (c) Basic rate. (d) On deposits of less than \$100,000. (e) On deposits of \$100,000 and over. (f) In respect of ordinary accounts the maximum interest-bearing amount in any one account is \$20,000 (\$10,000 from 1 March 1967 to 30 March 1970); this limit does not apply to cheque accounts of friendly and other societies. (g) The Rural and Industries Bank of Western Australia paid 4.00 per cent. See also footnote (f).

## INSURANCE

## General Insurance

General insurance is available to the public in Western Australia from a number of companies and, in some fields, from the State Government Insurance Office. There is also a Motor Vehicle Insurance Trust whose activities are confined to motor vehicle third party insurance.

During 1970-71, there were 165 companies operating in Western Australia. The majority of these were 'tariff' offices, being members of the Fire and Accident Underwriters' Association and issuing the standard policies of the Association at uniform premium rates. The remainder were 'non-tariff' companies effecting insurances at competitive rates and reinsuring direct with Lloyd's or other underwriters.

The State Government Insurance Office covers fire, marine and general insurance risks for State Government instrumentalities and semi-government and local government authorities. It also conducts some classes of insurance business for the general public, the principal transactions being workers' compensation and comprehensive motor vehicle insurance. By authority of amendments to the State Government Insurance Office Act in 1954 and 1958 the Office engages in personal accident insurance in respect of school children and students under a policy which indemnifies the parent or guardian against the cost of medical and surgical treatment and funeral and other expenses.

The following table gives details of revenue and expenditure relating to fire, marine and general insurance during each of the years from 1966-67 to 1970-71. It contains only selected items of statistics and is therefore not suitable for the construction of a

'Profit and Loss' statement or 'Revenue Account'. The amounts shown as 'Premiums' represent the full amount receivable in respect of policies issued or renewed during the year, less returns, rebates and bonuses paid or credited to policy holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year. The amounts shown as 'Claims' include provision for outstanding claims and represent claims or losses incurred during the year. Salvage and other amounts recoverable have been deducted. The transactions of The Motor Vehicle Insurance Trust are not included, but are shown in the table on page 303. The figures shown under the heading of 'Contributions to fire brigades' represent payments made to the Western Australian Fire Brigades Board for the operation and maintenance of fire brigades, as required by the Fire Brigades Act.

**FIRE, MARINE AND GENERAL INSURANCE (a)**  
(\$'000)

| Particulars                                        | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|----------------------------------------------------|---------|---------|---------|---------|---------|
| <b>REVENUE</b>                                     |         |         |         |         |         |
| Premiums—                                          |         |         |         |         |         |
| Motor vehicles ....                                | 11,852  | 13,530  | 15,697  | 18,073  | 20,290  |
| Fire .....                                         | 6,343   | 7,096   | 7,676   | 8,815   | 10,392  |
| Workers' compensation .....                        | 7,908   | 9,046   | 9,609   | 11,138  | 12,197  |
| Householders' comprehensive .....                  | 2,562   | 3,107   | 3,935   | 4,995   | 5,716   |
| Personal accident .....                            | 1,820   | 2,167   | 2,555   | 3,105   | 3,616   |
| Hailstone .....                                    | 1,545   | 1,489   | 1,479   | 1,065   | 1,065   |
| Marine .....                                       | 1,553   | 1,738   | 2,069   | *2,603  | 2,964   |
| Other classes .....                                | 2,953   | 3,552   | 4,546   | *5,847  | 7,633   |
| Total premiums .....                               | 36,535  | 41,724  | 47,566  | *55,641 | 63,873  |
| Other (interest, dividends, rents, etc.—net) ..... | 1,225   | 1,484   | 1,711   | 1,703   | 1,726   |
| Total revenue .....                                | 37,760  | 43,208  | 49,277  | *57,343 | 65,599  |
| <b>EXPENDITURE</b>                                 |         |         |         |         |         |
| Claims—                                            |         |         |         |         |         |
| Motor vehicles ....                                | 8,883   | 10,413  | 11,676  | 13,154  | 14,946  |
| Fire .....                                         | 1,922   | 1,752   | 2,614   | 3,096   | 4,210   |
| Workers' compensation .....                        | 6,461   | 7,801   | 8,192   | 8,528   | 8,616   |
| Householders' comprehensive .....                  | 606     | 832     | 1,961   | 1,516   | 1,663   |
| Personal accident .....                            | 766     | 827     | 1,019   | 1,094   | 1,336   |
| Hailstone .....                                    | 443     | 272     | 267     | 273     | 374     |
| Marine .....                                       | 587     | 802     | 1,117   | *1,177  | 1,342   |
| Other classes .....                                | 1,329   | 1,518   | 1,923   | 2,397   | 3,306   |
| Total claims .....                                 | 20,995  | 24,218  | 28,769  | *31,237 | 35,793  |
| Other—                                             |         |         |         |         |         |
| Management expenses ....                           | 7,286   | 8,352   | 9,410   | *11,259 | 12,711  |
| Commission and agents' charges .....               | 3,071   | 3,587   | 4,029   | *4,860  | 5,687   |
| Taxation .....                                     | 841     | 603     | 792     | *1,117  | 1,683   |
| Contributions to fire brigades .....               | 1,010   | 1,138   | 1,299   | *1,459  | 1,826   |
| Total expenditure .....                            | 33,203  | 37,898  | 44,299  | *49,931 | 57,700  |

(a) Excludes transactions of The Motor Vehicle Insurance Trust (see table on page 303). Operations of the State Government Insurance Office are included. \* Revised.

## Life Insurance

Life insurance business throughout Australia is regulated by the *Life Insurance Act* 1945-1965 (Commonwealth), which requires companies to be registered by the Insurance Commissioner appointed under the Act and to establish statutory funds in relation to their life insurance transactions. The purpose of the Act, which supersedes State legislation, is to place life insurance business on a uniform basis throughout the Commonwealth and to afford protection to policy holders. Under a previous Commonwealth Act, the *Insurance Act* 1932-1966, the companies were required to deposit money or approved securities with the Treasurer in order to guarantee the claims of insured persons, and this provision is continued by the present Act.

At 30 June 1971, there were thirty-eight life insurance companies or societies operating in Western Australia. In terms of total sums insured, life insurance policies relate predominantly to ordinary endowment or whole-of-life insurance and superannuation, although an appreciable volume of industrial business is also undertaken.

Details of policies, sums insured and annual premiums for each class of business are given in the following table for the years 1966-67 to 1970-71.

### LIFE INSURANCE

| Year                     | New policies issued |             |                 | Policies discontinued or reduced |             |                 | Policies, etc. existing at end of year |             |                 |
|--------------------------|---------------------|-------------|-----------------|----------------------------------|-------------|-----------------|----------------------------------------|-------------|-----------------|
|                          | Policies            | Sum insured | Annual premiums | Policies                         | Sum insured | Annual premiums | Policies                               | Sum insured | Annual premiums |
|                          | Number              | \$'000      | \$'000          | Number                           | \$'000      | \$'000          | Number                                 | \$'000      | \$'000          |
| <b>ORDINARY BUSINESS</b> |                     |             |                 |                                  |             |                 |                                        |             |                 |
| 1966-67                  | 34,435              | 166,375     | 3,625           | 16,909                           | 42,150      | 1,118           | 329,139                                | 917,819     | 23,817          |
| 1967-68                  | 37,621              | 203,244     | 4,546           | 17,359                           | 49,675      | 1,174           | 349,401                                | 1,071,388   | 27,189          |
| 1968-69                  | 42,467              | 264,783     | 5,583           | 17,959                           | 56,676      | 1,308           | 373,909                                | 1,279,496   | 31,465          |
| 1969-70                  | 45,621              | 316,911     | 6,470           | 21,120                           | 79,092      | 1,823           | 398,410                                | 1,517,315   | 36,112          |
| 1970-71                  | 50,911              | 371,518     | 7,265           | 23,699                           | 107,492     | 2,364           | 425,622                                | 1,781,341   | 41,013          |

### INDUSTRIAL BUSINESS

|         |        |        |     |        |       |     |         |        |       |
|---------|--------|--------|-----|--------|-------|-----|---------|--------|-------|
| 1966-67 | 10,899 | 10,614 | 435 | 13,041 | 4,979 | 220 | 167,501 | 60,653 | 2,518 |
| 1967-68 | 11,168 | 11,815 | 479 | 10,553 | 5,766 | 248 | 168,116 | 66,702 | 2,750 |
| 1968-69 | 11,266 | 12,650 | 521 | 10,742 | 6,765 | 288 | 168,640 | 72,587 | 2,984 |
| 1969-70 | 10,435 | 13,004 | 538 | 11,160 | 7,222 | 304 | 167,915 | 78,368 | 3,218 |
| 1970-71 | 9,447  | 16,462 | 561 | 10,785 | 8,033 | 333 | 166,577 | 86,798 | 3,446 |

### SUPERANNUATION BUSINESS

|         |       |         |       |       |        |       |        |         |        |
|---------|-------|---------|-------|-------|--------|-------|--------|---------|--------|
| 1966-67 | 5,910 | 40,368  | 1,475 | 4,690 | 19,406 | 519   | 37,451 | 163,990 | 5,766  |
| 1967-68 | 5,978 | 46,868  | 1,462 | 3,941 | 16,778 | 568   | 39,488 | 194,080 | 6,659  |
| 1968-69 | 6,212 | 61,713  | 2,069 | 4,813 | 19,904 | 577   | 40,887 | 235,889 | 8,151  |
| 1969-70 | 6,513 | 71,024  | 2,210 | 4,311 | 33,558 | 1,281 | 43,089 | 273,355 | 9,079  |
| 1970-71 | 7,237 | 108,457 | 3,488 | 4,880 | 43,304 | 1,427 | 45,446 | 338,508 | 11,140 |

### ORDINARY, INDUSTRIAL AND SUPERANNUATION BUSINESS

|         |        |         |        |        |         |       |         |           |        |
|---------|--------|---------|--------|--------|---------|-------|---------|-----------|--------|
| 1966-67 | 51,244 | 217,357 | 5,536  | 34,640 | 66,535  | 1,857 | 534,091 | 1,142,462 | 32,101 |
| 1967-68 | 54,767 | 261,927 | 6,487  | 31,853 | 72,220  | 1,990 | 557,005 | 1,332,170 | 36,598 |
| 1968-69 | 59,945 | 339,147 | 8,173  | 33,514 | 83,345  | 2,172 | 583,436 | 1,587,972 | 42,600 |
| 1969-70 | 62,569 | 400,938 | 9,218  | 36,591 | 119,872 | 3,409 | 609,414 | 1,869,038 | 48,409 |
| 1970-71 | 67,595 | 496,437 | 11,314 | 39,364 | 158,828 | 4,123 | 637,645 | 2,206,647 | 55,599 |

### Motor Vehicle Third Party Insurance

Third party insurance in connection with motor vehicle accidents became compulsory on 1 July 1944 under the provisions of the Motor Vehicle (Third Party Insurance) Act of 1943. The Motor Vehicle Insurance Trust was established by an amendment to the Act in 1948 and comprises the general manager of the State Government Insurance Office, three members nominated by the Fire and Accident Underwriters' Association of Western Australia, and one nominee of those participating approved insuring organisations which are not members of the Association.

The Trust administers a Motor Vehicle Insurance Fund in which approved insurers participate. Premiums received from motor vehicle third party insurance and revenue from other sources constitute annual 'pools' and, after payment of claims and other expenses appropriate to each pool, the resulting profit or loss is shared by the participating insurers, which include the State Government Insurance Office. These shares cannot be finally determined until the last claim is paid and it is usually several years before a

pool has satisfied all the claims attributable to it. For this reason, the figures given in the following table are subject to progressive revision as the business of each pool approaches finality.

**THE MOTOR VEHICLE INSURANCE TRUST**  
(\$'000)

| Revenue and expenditure        | Pool (a) for the year— |              |               |               |                   |
|--------------------------------|------------------------|--------------|---------------|---------------|-------------------|
|                                | 1966-67                | 1967-68      | 1968-69       | 1969-70       | 1970-71           |
| <b>Revenue—</b>                |                        |              |               |               |                   |
| Premiums .....                 | 6,795                  | 6,173        | 9,297         | 12,570        | (b) 18,328        |
| Interest received .....        | 993                    | 865          | 1,114         | 1,105         | 653               |
| <b>Total revenue .....</b>     | <b>7,788</b>           | <b>7,038</b> | <b>10,411</b> | <b>13,675</b> | <b>(b) 18,981</b> |
| <b>Expenditure</b>             |                        |              |               |               |                   |
| Claims (c) .....               | 7,168                  | 5,989        | 9,784         | 11,795        | (d) 14,461        |
| Commission .....               | 33                     | 48           | 51            | 64            | 68                |
| Management expenses .....      | 126                    | 192          | 241           | 289           | 361               |
| Taxation .....                 | 12                     | 18           | 17            | 20            | 16                |
| <b>Total expenditure .....</b> | <b>7,339</b>           | <b>6,247</b> | <b>10,092</b> | <b>12,168</b> | <b>(d) 14,905</b> |

(a) See accompanying letterpress *Motor Vehicle Third Party Insurance*. Figures are revised to 30 June 1971. (b) Inclusive of \$4.00 million unearned premiums. (c) Includes estimate for claims outstanding. (d) Includes estimate of \$3.91 million for claims not notified.

### Health Insurance Organisations

Voluntary health insurance is offered by a number of organisations which provide one or more types of benefit covering such items as hospital and medical fees, funeral expenses and sick pay to or on behalf of contributing members and their dependants. They include societies registered under the *Friendly Societies Act, 1894-1964* and other organisations registered under the *National Health Act 1953-1971* (Commonwealth).

Benefits are available in a wide range to meet the cost, either wholly or in part, of such services as treatment by a general or specialist medical practitioner (including surgical operations and obstetrical attention), X-ray, cardiographic and pathological examinations, physiotherapy, dental treatment, hospital care, home nursing and ambulance transport. In many cases, the Commonwealth Government pays a benefit additional to that received from the organisation. Reference to these additional benefits is made in Chapter V—*Social Conditions*. Members of friendly societies may contribute also for the supply of medicines and some societies maintain endowment assurance funds and supplementary death benefit funds.

The following tables give details, for the years 1966-67 to 1970-71, of the membership and the financial activities of friendly societies registered under the *Friendly Societies Act*. 'Benefit' members are those who contribute to the Sick and Funeral Fund of a society and 'honorary' members are principally those who pay only for medical and hospital benefits.

### FRIENDLY SOCIETIES—NUMBER, MEMBERS AND SICKNESS BENEFITS

| Particulars                       | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------|---------|---------|---------|---------|---------|
| Registered societies .....        | 11      | 11      | 11      | 11      | 11      |
| Branches .....                    | 249     | 249     | 248     | 246     | 246     |
| Members at end of year—           |         |         |         |         |         |
| Benefit members .....             | 15,964  | 15,715  | 15,465  | 15,175  | 14,841  |
| Honorary members .....            | 35,064  | 34,909  | 37,658  | 38,648  | 39,628  |
| Sickness benefits—                |         |         |         |         |         |
| Number of members paid .....      | 2,451   | 2,322   | 2,179   | 2,158   | 1,945   |
| Number of weeks of sick pay ..... | 54,808  | 54,623  | 51,857  | 50,580  | 48,633  |

### FRIENDLY SOCIETIES—REVENUE AND EXPENDITURE (\$'000)

| Particulars                                  | 1966-67      | 1967-68      | 1968-69      | 1969-70      | 1970-71      |
|----------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| <b>Revenue—</b>                              |              |              |              |              |              |
| Fees, contributions and levies .....         | 1,915        | 2,251        | 2,587        | 2,756        | 2,947        |
| Interest, dividends and rent .....           | 148          | 166          | 153          | 178          | 192          |
| Other .....                                  | 211          | 98           | 141          | 73           | 260          |
| <b>Total revenue .....</b>                   | <b>2,274</b> | <b>2,515</b> | <b>2,881</b> | <b>3,008</b> | <b>3,399</b> |
| <b>Expenditure—</b>                          |              |              |              |              |              |
| Sick pay.....                                | 42           | 41           | 38           | 39           | 38           |
| Medical attendance and medicine .....        | 1,632        | 1,925        | 2,337        | 2,521        | 2,660        |
| Death benefits .....                         | 43           | 45           | 51           | 44           | 44           |
| Administration .....                         | 162          | 178          | 194          | 202          | 227          |
| Other .....                                  | 124          | 104          | 144          | 134          | 114          |
| <b>Total expenditure .....</b>               | <b>2,002</b> | <b>2,293</b> | <b>2,764</b> | <b>2,940</b> | <b>3,082</b> |
| <b>Balance of funds at end of year .....</b> | <b>3,682</b> | <b>3,910</b> | <b>4,027</b> | <b>4,095</b> | <b>4,411</b> |

### REGISTERED BUILDING SOCIETIES

Building societies in Western Australia are registered under the provisions of the *Building Societies Act, 1920-1970* primarily for the purpose of raising funds to assist members by granting loans, secured on mortgage, to build or acquire homes. They also provide a means of investment for shareholder members, trustee funds and other depositors. The funds of the societies may be in the form of payment for fully-paid shares, subscriptions for contributing shares, money placed on deposit, or negotiated loans. Another important source of revenue became available to the societies in 1956-57 when, under the *Housing Agreement Act 1956* (Commonwealth), it was provided that moneys should be allocated to approved institutions from Commonwealth funds advanced to the States in terms of the Commonwealth and States Housing Agreement. A requirement of the Act was that these institutions should receive not less than 30 per cent of total advances made to the State during each of the financial years 1958-59 to 1960-61, and this provision has been continued by later Acts. The present legislation, the *States Grants (Housing Assistance) Act 1971*, provides for its extension to the year ending 30 June 1972.

### REGISTERED BUILDING SOCIETIES

| Particulars                              | 1965-66       | 1966-67       | 1967-68       | 1968-69        | 1969-70        |
|------------------------------------------|---------------|---------------|---------------|----------------|----------------|
| <b>Societies on register at 30 June—</b> |               |               |               |                |                |
| Permanent .....                          | 13            | 13            | 14            | 15             | 15             |
| Terminating .....                        | 131           | 179           | 220           | 266            | 303            |
| <b>Shareholders .....</b>                | <b>36,897</b> | <b>38,273</b> | <b>47,530</b> | <b>56,556</b>  | <b>92,152</b>  |
| <b>Borrowers .....</b>                   | <b>12,280</b> | <b>13,708</b> | <b>16,893</b> | <b>20,885</b>  | <b>27,513</b>  |
|                                          | \$'000        | \$'000        | \$'000        | \$'000         | \$'000         |
| <b>Loans paid over during year .....</b> | <b>12,611</b> | <b>14,031</b> | <b>24,436</b> | <b>48,650</b>  | <b>91,481</b>  |
| <b>Working expenses (a) .....</b>        | <b>1,501</b>  | <b>1,824</b>  | <b>2,438</b>  | <b>3,355</b>   | <b>4,479</b>   |
| <b>Liabilities—</b>                      |               |               |               |                |                |
| Investing members' funds .....           | 19,063        | 22,231        | 27,427        | 36,607         | 112,407        |
| Borrowing members' funds .....           | 1,289         | 1,674         | 2,024         | 2,122          | 2,187          |
| Deposits .....                           | 9,343         | 10,944        | 17,613        | 42,122         | 49,700         |
| Loans due to—Government .....            | 16,386        | 19,231        | 22,027        | 25,565         | 28,058         |
| Other .....                              | 10,029        | 12,779        | 17,547        | 26,127         | 27,403         |
| Other liabilities (b) .....              | 508           | 723           | 936           | 1,141          | 2,361          |
| <b>Total liabilities .....</b>           | <b>56,618</b> | <b>67,582</b> | <b>87,575</b> | <b>133,686</b> | <b>222,116</b> |
| <b>Assets—</b>                           |               |               |               |                |                |
| Advances on mortgages (b) .....          | 53,472        | 62,689        | 79,278        | 115,933        | 191,669        |
| Other assets .....                       | 3,146         | 4,893         | 8,297         | 17,752         | 30,446         |
| <b>Total assets .....</b>                | <b>56,618</b> | <b>67,582</b> | <b>87,575</b> | <b>133,686</b> | <b>222,116</b> |

(a) Includes administration expenses and interest on borrowed funds but not interest on investing members' funds, borrowing members' funds, or deposits. (b) Excludes loans in process and advances approved but not yet paid.



The Building Societies Act provides for the constitution of a Building Societies Advisory Committee of five members, comprising the Registrar of Building Societies as chairman, the President of the State branch of the Commonwealth Institute of Valuers, two persons who are qualified and experienced in building society management and practice, and an officer of the State Public Service nominated by the Minister.

The functions of the Committee, as set out in the Act, are to make recommendations and submit proposals to the Minister with respect to regulations and model rules to be made under the Act; any action to be taken for promoting, encouraging and assisting in the formation of societies; improving the methods of operation of societies; charges which societies may make on and require to be paid by their members, other than share subscriptions and repayment of advances; the financing of societies in their operations and the protecting of the finances of societies; promoting the building of dwelling-houses by co-operative effort; determining and specifying the minimum standards of construction of dwelling-houses and other buildings to be accepted before advances can be made; and such other matters as the Minister refers to the Committee from time to time, or as may be prescribed.

### INSTALMENT CREDIT FOR RETAIL SALES

The statistics in the following tables cover all types of instalment credit schemes which relate primarily to the financing of retail sales of goods in which repayment is made by regular predetermined instalments. Types of schemes covered include hire purchase, time payment, budget account and personal loans which relate primarily to the financing of retail sales of goods. In these statistics the term 'retail sales' relates not only to retail sales by retail establishments coming within the scope of the Censuses of Retail Establishments conducted periodically by the Commonwealth Statistician, Canberra (see Chapter IX, Part 2), but includes also other sales of goods to final purchasers (e.g. plant and machinery).

In the next two tables, two major classifications of instalment credit statistics are adopted: type of credit and type of business.

The term 'retail businesses' in the latter category relates to retailers who provide their own finance, and also to subsidiary finance businesses set up by retailers (or by groups engaged mainly in retail trading), primarily for the purpose of financing their retail sales. All other businesses engaged in instalment credit financing of retail sales, irrespective of whether their main activity is finance, constitute 'non-retail finance businesses'.

More detailed information regarding classifications used in the following tables may be found in the annual bulletin *Insurance and Other Private Finance* and in monthly and quarterly statements relating to instalment credit for retail sales issued by the Commonwealth Statistician, Canberra.

Details of the balances outstanding at 30 June 1967 to 1971, according to type of credit and type of business, are given in the following table.

INSTALMENT CREDIT FOR RETAIL SALES—BALANCES OUTSTANDING (a)  
(\$ million)

| At 30 June— | Type of credit |                         | Type of business |                    |       |
|-------------|----------------|-------------------------|------------------|--------------------|-------|
|             | Hire purchase  | Other instalment credit | Retail (b)       | Non-retail finance | Total |
| 1967        | 101.1          | 25.6                    | 25.4             | 101.3              | 126.7 |
| 1968        | 119.8          | 32.7                    | 26.8             | 125.8              | 152.6 |
| 1969        | 132.9          | 38.0                    | 27.6             | 143.3              | 170.9 |
| 1970        | 146.7          | 40.7                    | 24.7             | 162.6              | 187.4 |
| 1971        | 168.5          | 35.9                    | 23.2             | 181.2              | 204.4 |

(a) Includes hiring charges, interest and insurance.  
marily for financing their retail sales.

(b) Includes subsidiary finance businesses set up by retailers pri-

The following table shows for broad commodity groups the amount financed according to type of credit and type of business during the period 1966-67 to 1970-71.

**INSTALMENT CREDIT FOR RETAIL SALES—AMOUNT FINANCED (a)**  
(\$ million)

| Year                                  | Type of credit |                         | Type of business |                    |        |
|---------------------------------------|----------------|-------------------------|------------------|--------------------|--------|
|                                       | Hire purchase  | Other instalment credit | Retail (b)       | Non-retail finance | Total  |
| <b>MOTOR VEHICLES, TRACTORS, ETC.</b> |                |                         |                  |                    |        |
| 1966-67                               | 48.7           | 11.5                    | 5.0              | 55.2               | 60.2   |
| 1967-68                               | 55.6           | 19.1                    | 5.2              | 69.4               | 74.7   |
| 1968-69                               | 60.2           | 21.7                    | 6.2              | 75.7               | 81.9   |
| 1969-70                               | 73.2           | 20.2                    | 5.1              | 88.3               | 93.4   |
| 1970-71                               | 89.0           | 12.8                    | 4.2              | 97.6               | 101.8  |
| <b>PLANT AND MACHINERY</b>            |                |                         |                  |                    |        |
| 1966-67                               | 11.4           | 2.8                     | 1.8              | 12.4               | 14.2   |
| 1967-68                               | 13.8           | 4.1                     | 1.9              | 16.0               | 17.9   |
| 1968-69                               | 12.6           | 4.7                     | 2.0              | 15.3               | 17.3   |
| 1969-70                               | 11.4           | 5.2                     | 1.0              | 15.5               | 16.6   |
| 1970-71                               | 13.0           | 0.8                     | 0.6              | 13.2               | 13.8   |
| <b>HOUSEHOLD AND PERSONAL GOODS</b>   |                |                         |                  |                    |        |
| 1966-67                               | 11.4           | 11.5                    | 16.8             | 6.1                | 22.9   |
| 1967-68                               | 13.3           | 11.8                    | 17.9             | 7.1                | 25.1   |
| 1968-69                               | 14.0           | 11.4                    | 18.7             | 6.7                | 25.4   |
| 1969-70                               | 15.1           | 11.0                    | 19.0             | 7.1                | 26.1   |
| 1970-71                               | 16.0           | 11.1                    | 19.4             | 7.8                | 27.1   |
| <b>TOTAL</b>                          |                |                         |                  |                    |        |
| 1966-67                               | 71.5           | 25.8                    | 23.6             | 73.7               | 97.3   |
| 1967-68                               | 82.7           | 34.9                    | 25.1             | 92.5               | 117.6  |
| 1968-69                               | 86.8           | 37.8                    | 26.9             | 97.7               | *124.7 |
| 1969-70                               | 99.7           | 36.3                    | 25.1             | 110.8              | 136.0  |
| 1970-71                               | 118.0          | 24.8                    | 24.2             | 118.6              | 142.8  |

(a) Excludes hiring charges, interest and insurance.  
primarily for financing their retail sales.

\* Revised.

(b) Includes subsidiary finance businesses set up by retailers primarily for financing their retail sales.

### FINANCE COMPANIES

Information relating to the lending operations of finance companies in Western Australia is given in the following tables. A comprehensive account of the scope of the statistics, definitions, and more complete details of the transactions of finance companies are given in the annual bulletin *Finance Companies* and the monthly statement *Finance Companies*, published by the Commonwealth Statistician, Canberra.

For the purpose of these statistics, finance companies are defined as companies which are engaged mainly in providing to the general public (businesses as well as persons in their private capacity) credit facilities of the following types: hire purchase and other instalment credit for retail sales; wholesale finance; other consumer and commercial loans; and factoring. The finance companies covered in these statistics, in so far as they provide credit for retail sales, are also included in the statistics shown in the preceding section *Instalment Credit for Retail Sales*.

**Amount Financed.** The following table shows the amount financed, according to type of agreement, i.e. instalment credit for retail sales, wholesale finance, personal loans, other consumer and commercial loans and factoring, in Western Australia for the years 1966-67 to 1970-71.

**FINANCE COMPANIES—AMOUNT FINANCED : TYPE OF AGREEMENT**  
(\$ million)

| Year         | Instalment<br>credit for<br>retail sales | Wholesale<br>finance | Personal<br>loans | Other<br>consumer and<br>commercial<br>loans and<br>factoring | Total  |
|--------------|------------------------------------------|----------------------|-------------------|---------------------------------------------------------------|--------|
| 1966-67 .... | 62.2                                     | 61.7                 | 3.4               | 35.8                                                          | 163.0  |
| 1967-68 .... | 78.2                                     | 73.8                 | 3.7               | 59.1                                                          | 214.7  |
| 1968-69 .... | 83.0                                     | 81.9                 | 5.9               | 105.0                                                         | *275.8 |
| 1969-70 .... | *98.1                                    | 90.5                 | 5.8               | 106.3                                                         | *300.8 |
| 1970-71 .... | 107.7                                    | 102.3                | 3.5               | 73.8                                                          | 287.3  |

\* Revised.

**Collections and other Liquidations of Balances.** The following table shows the collections and other liquidations of balances, according to type of agreement, *i.e.* instalment credit for retail sales, wholesale finance, and other consumer and commercial loans and factoring, made by finance companies in Western Australia for the years 1966-67 to 1970-71.

**FINANCE COMPANIES—COLLECTIONS AND OTHER LIQUIDATIONS OF BALANCES**  
(\$ million)

| Year         | Instalment<br>credit for<br>retail sales | Wholesale<br>finance | Other consumer and commercial<br>loans and factoring |                      |                      | Total,<br>all<br>contracts |
|--------------|------------------------------------------|----------------------|------------------------------------------------------|----------------------|----------------------|----------------------------|
|              |                                          |                      | Personal<br>loans                                    | Other loans          |                      |                            |
|              |                                          |                      |                                                      | Including<br>charges | Excluding<br>charges |                            |
| 1966-67 .... | 67.9                                     | 59.7                 | (a)                                                  | 25.0                 | 9.3                  | 161.8                      |
| 1967-68 .... | 79.3                                     | 71.0                 | (a)                                                  | 33.4                 | 14.9                 | 198.6                      |
| 1968-69 .... | 90.3                                     | 80.9                 | (a)                                                  | 53.1                 | 33.6                 | 258.0                      |
| 1969-70 .... | *107.2                                   | 87.8                 | (a)                                                  | 60.6                 | 45.0                 | *300.6                     |
| 1970-71 .... | 123.0                                    | 100.5                | 5.6                                                  | 45.5                 | 52.7                 | 327.3                      |

(a) Not available separately; included in *Other loans*. \* Revised.

**Balances Outstanding.** The following table shows the balances outstanding in Western Australia, according to type of agreement, and the total balances outstanding at the end of each year from 1966-67 to 1970-71.

**FINANCE COMPANIES—BALANCES OUTSTANDING : TYPE OF AGREEMENT**  
(\$ million)

| Year         | Instalment<br>credit for<br>retail sales | Wholesale<br>finance | Other consumer and commercial<br>loans and factoring |                      |                      | Total,<br>all<br>contracts |
|--------------|------------------------------------------|----------------------|------------------------------------------------------|----------------------|----------------------|----------------------------|
|              |                                          |                      | Personal<br>loans                                    | Other loans          |                      |                            |
|              |                                          |                      |                                                      | Including<br>charges | Excluding<br>charges |                            |
| 1966-67 .... | 86.6                                     | 7.3                  | (a)                                                  | 44.4                 | 15.2                 | 153.4                      |
| 1967-68 .... | 106.6                                    | 10.5                 | (a)                                                  | 64.9                 | 26.7                 | 208.6                      |
| 1968-69 .... | 122.1                                    | 12.2                 | (a)                                                  | 95.9                 | 46.2                 | *276.3                     |
| 1969-70 .... | *143.3                                   | 16.1                 | (a)                                                  | 100.4                | 74.6                 | *334.4                     |
| 1970-71 .... | 164.2                                    | 19.6                 | 6.7                                                  | 91.1                 | 76.4                 | 358.0                      |

(a) Not available separately; included in *Other loans*. \* Revised.

**Business Equipment and Plant on Lease.** The following table shows the initial capital cost of business equipment and plant on lease and the balances outstanding in Western Australia at the end of each year from 1966-67 to 1970-71.

**FINANCE COMPANIES—BUSINESS EQUIPMENT  
AND PLANT ON LEASE**  
(\$ million)

| Year         | Initial capital cost<br>of goods newly leased<br>during year | Balances outstanding<br>at end of year |
|--------------|--------------------------------------------------------------|----------------------------------------|
| 1966-67 .... | 3.7                                                          | 6.0                                    |
| 1967-68 .... | 9.7                                                          | *12.0                                  |
| 1968-69 .... | 11.2                                                         | *18.4                                  |
| 1969-70 .... | 16.9                                                         | *27.4                                  |
| 1970-71 .... | 21.6                                                         | 37.7                                   |

\* Revised.

**Instalment Credit for Retail Sales.** The following table shows additional details, for Western Australia, of the total instalment credit for retail sales transactions of finance companies. Amount financed is dissected by type of commodity, and collections and other liquidations of balances are divided into cash collections and other liquidations.

**FINANCE COMPANIES—INSTALMENT CREDIT FOR RETAIL SALES**  
(\$ million)

| Year         | Amount financed during year        |                                     |                     |                              |       | Collections and other liquidations during year |                    |        | Balances outstanding at end of year |
|--------------|------------------------------------|-------------------------------------|---------------------|------------------------------|-------|------------------------------------------------|--------------------|--------|-------------------------------------|
|              | New motor vehicles, tractors, etc. | Used motor vehicles, tractors, etc. | Plant and machinery | Household and personal goods | Total | Cash collections                               | Other liquidations | Total  |                                     |
| 1966-67 .... | 24.3                               | 23.9                                | 9.1                 | 4.8                          | 62.2  | 65.3                                           | 2.6                | 67.9   | 86.6                                |
| 1967-68 .... | 31.9                               | 29.9                                | 10.8                | 5.6                          | 78.2  | 76.3                                           | 2.9                | 79.3   | 106.6                               |
| 1968-69 .... | 33.8                               | 34.2                                | 10.4                | 4.6                          | 83.0  | 86.1                                           | 4.2                | 90.3   | 122.1                               |
| 1969-70 .... | 36.1                               | 42.9                                | *11.9               | *7.3                         | *98.1 | *102.0                                         | *5.2               | *107.2 | *143.3                              |
| 1970-71 .... | 39.5                               | 50.9                                | 8.5                 | 8.8                          | 107.7 | 116.0                                          | 7.0                | 123.0  | 164.2                               |

\* Revised.

## BANKRUPTCY

Under the provisions of the *Bankruptcy Act* 1966-1970 (Commonwealth), which is administered by the Attorney-General, the State of Western Australia is a proclaimed Bankruptcy District and the Supreme Court of Western Australia has federal jurisdiction in bankruptcy matters. There is a Registrar in Bankruptcy whose duties include the holding of public sittings for the examination of bankrupts, the examination of witnesses, the issuing of bankruptcy notices and creditors' petitions, and such other duties as are specified in the Act or delegated to him by the Court. Another bankruptcy officer is the Official Receiver, who acts under the general authority and direction of the Court and whose duties relate to the conduct of the debtor and to the realisation and administration of his estate.

An order for the sequestration of an estate may result from a petition by either the debtor or the creditors. In cases where it appears certain that the assets of a deceased estate will be insufficient to meet the debts, the executor or a creditor may petition to have the estate administered in bankruptcy.

Compositions, deeds of assignment and deeds of arrangement are provided for in the Act. A debtor may call a meeting of his creditors and either compound with them to pay a certain sum in the \$ as full settlement of his debts or enter into a deed of arrangement allowing him a specified time in which to pay. On the other hand, his creditors may require him to execute a deed of assignment, by which control of his affairs passes to a trustee registered under the Act, or to file a petition in bankruptcy.

The following table relates to bankruptcy proceedings during each of the years from 1966-67 to 1970-71.

## BANKRUPTCY PROCEEDINGS

| Year    | Sequestration orders (a) |             |                 |                      | Compositions and assignments without sequestration (b) |                 |                      |
|---------|--------------------------|-------------|-----------------|----------------------|--------------------------------------------------------|-----------------|----------------------|
|         | On petition of—          |             | Assets (\$'000) | Liabilities (\$'000) | Number                                                 | Assets (\$'000) | Liabilities (\$'000) |
|         | Creditors                | Debtors (c) |                 |                      |                                                        |                 |                      |
| 1966-67 | 12                       | 183         | 303             | 898                  | 82                                                     | 632             | 850                  |
| 1967-68 | 4                        | 218         | 230             | 1,013                | 52                                                     | 745             | 941                  |
| 1968-69 | 18                       | 206         | 495             | 1,081                | 60                                                     | 896             | 1,100                |
| 1969-70 | 11                       | 218         | 847             | 1,924                | 64                                                     | 1,098           | 1,421                |
| 1970-71 | 3                        | 289         | 637             | 2,322                | 98                                                     | 2,483           | 2,702                |

(a) Includes orders for administration of deceased debtors' estates, petitions by legal personal representatives of deceased estates.

(b) Includes deeds of arrangement.

(c) Includes

## PUBLIC TRUST OFFICE

The *Public Trustee Act, 1941-1968* establishes the Public Trust Office administered by the Public Trustee.

The principal functions of the Public Trustee are the administration of the estates of deceased persons, including intestate estates; the management of the affairs of certain persons rendered incapable by mental illness or other infirmity; and the receipt of moneys under the control or order of the Supreme Court of Western Australia, to be invested and used for the maintenance, education or other benefit of the persons entitled thereto. The Public Trustee receives from the Workers' Compensation Board funds to be held in trust for investment and to be paid out at the direction of the Board. He may also act in the capacity of agent in cases of need.

## PUBLIC TRUST OFFICE

| Particulars                                           | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-------------------------------------------------------|---------|---------|---------|---------|---------|
| Matters accepted for administration—                  |         |         |         |         |         |
| Estates of—                                           |         |         |         |         |         |
| Deceased persons                                      | 1,255   | 1,287   | 1,283   | 1,354   | 1,262   |
| Mentally incapable persons                            | 549     | 471     | 477     | 414     | 339     |
| Infirm persons                                        | ....    | ....    | 10      | 21      | 23      |
| Uncared-for property                                  | ....    | ....    | 1       | ....    | 4       |
| Court trusts                                          | 111     | 145     | 175     | 230     | 262     |
| Workers' compensation                                 | 131     | 99      | 125     | 96      | 105     |
| Agencies                                              | 42      | 79      | 25      | 28      | 23      |
| Total                                                 | 2,088   | 2,081   | 2,096   | 2,143   | 2,018   |
| Matters on hand at 30 June                            | 5,145   | 5,349   | 5,604   | 6,069   | 6,279   |
| Value of transactions—                                | \$'000  | \$'000  | \$'000  | \$'000  | \$'000  |
| Trust moneys received                                 | 6,438   | 7,356   | 8,157   | 9,522   | 9,391   |
| Trust moneys paid                                     | 5,420   | 6,303   | 7,201   | 8,601   | 8,322   |
| Unclaimed moneys paid to Consolidated Revenue Fund    | 39      | 45      | 49      | 18      | 34      |
| Value of estates and other matters on hand at 30 June | 19,367  | 24,185  | 29,539  | 30,282  | 32,276  |

## OFFICE OF TITLES

The Office of Titles is established under the provisions of the *Transfer of Land Act, 1893-1969*. The Act provides for the appointment of a Commissioner of Titles and a Registrar of Titles. The principal functions of the Office are the registration and recording of all instruments and dealings affecting privately-owned land or land alienated from the Crown, the certification and issue of titles to land, and the maintenance of a register of legal ownership.

The number of documents accepted for registration during the year ended 30 June 1971 was 109,467, a decrease of 10 per cent from the number in 1969-70.

## OFFICE OF TITLES

| Particulars                       | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------|---------|---------|---------|---------|---------|
| Number of registrations—          |         |         |         |         |         |
| Certificates of title—            |         |         |         |         |         |
| Crown grant .....                 | 1,648   | 2,226   | 1,924   | 2,731   | 1,559   |
| Other .....                       | 14,823  | 16,524  | 20,939  | 19,363  | 19,095  |
| Leases—                           |         |         |         |         |         |
| Crown .....                       | 792     | 678     | 508     | 363     | 254     |
| Other .....                       | 67      | 30      | 10      | 18      | 47      |
| Transfers .....                   | 35,170  | 39,240  | 44,928  | 38,015  | 31,700  |
| Mortgages .....                   | 27,877  | 31,445  | 38,031  | 33,970  | 29,085  |
| Discharges of mortgages .....     | 21,535  | 23,486  | 29,481  | 27,075  | 24,126  |
| Caveats lodged .....              | 4,418   | 4,693   | 5,442   | 5,778   | 6,910   |
| Amount of consideration—          | \$'000  | \$'000  | \$'000  | \$'000  | \$'000  |
| Transfers .....                   | 254,610 | 336,504 | 494,271 | 482,253 | 385,759 |
| Mortgages .....                   | 184,278 | 244,349 | 370,314 | 398,059 | 410,195 |
| Fees collected .....              | 401     | 449     | 870     | 866     | 785     |
| Expenditure .....                 | 487     | 529     | 617     | 796     | 891     |
| Assurance Fund—                   |         |         |         |         |         |
| Amount of credit at 30 June ..... | 204     | 217     | 231     | 246     | 260     |

## COMPANIES REGISTRATION OFFICE

The Registrar of Companies is responsible, subject to the Minister, for the administration of the *Companies Act, 1961-1971*, the *Business Names Act, 1962*, the *Associations Incorporation Act, 1895-1969* and the *Bills of Sale Act, 1899-1971*.

The following table gives a summary of operations under these Acts during the five-year period ended 31 December 1970.

## COMPANIES REGISTRATION OFFICE

| Particulars                                                     | 1966          | 1967          | 1968          | 1969           | 1970           |
|-----------------------------------------------------------------|---------------|---------------|---------------|----------------|----------------|
| Number of registrations effected—                               |               |               |               |                |                |
| Local companies (a) .....                                       | 665           | 911           | 1,631         | 2,176          | 2,524          |
| Foreign companies (b) .....                                     | 225           | 228           | 315           | 422            | 623            |
| Business names .....                                            | 10,798        | 12,724        | 13,528        | 15,119         | 16,624         |
| Associations .....                                              | 65            | 72            | 79            | 111            | 113            |
| Bills of sale and liens—                                        |               |               |               |                |                |
| Registrations .....                                             | 56,835        | 57,120        | 44,674        | 48,287         | 71,467         |
| Satisfactions entered .....                                     | 676           | 647           | 561           | 638            | 562            |
| Nominal capital of local companies registered during year ..... | \$'000 42,372 | \$'000 77,045 | \$'000 87,480 | \$'000 195,145 | \$'000 389,706 |
| Amounts of bills of sale and liens—                             |               |               |               |                |                |
| Registrations .....                                             | 166,571       | 165,172       | 138,603       | 141,496        | 208,059        |
| Satisfactions entered .....                                     | 7,536         | 4,324         | 2,994         | 5,822          | 4,708          |
| Fees collected (c) .....                                        | 397           | 436           | 508           | 704            | 1,030          |

(a) Companies incorporated in Western Australia.

(b) A company incorporated outside Western Australia is required to register as a 'foreign' company if carrying on business in Western Australia.

(c) Year ended 30 June.

## THE STOCK EXCHANGE OF PERTH LIMITED

The Stock Exchange of Perth commenced operations in 1889, and conducted business at a number of locations before moving in December 1968 to its present quarters at Exchange House. These premises were designed and constructed to provide adequate space for total post trading which was introduced in July 1967, replacing the call system in which brokers made bids from their desks as stocks were called by a member of the Exchange staff.

The Stock Exchange of Perth was registered as a limited company under the provisions of the Companies Act on 30 June 1971. At that date there were thirty-five members of the Exchange and the number of companies registered on its official list was 420. Corresponding figures at 30 June 1970 were thirty-three and 384.

The following table gives details of turnover for the year ended 30 June 1971. A revised system of sales recording was introduced in 1970-71 to include both on and off-room sales, and comparable figures for earlier years are not available.

**THE STOCK EXCHANGE OF PERTH LIMITED  
TURNOVER OF STOCKS AND SHARES**  
(Figures supplied by The Stock Exchange of Perth Limited)

| Particulars                                 | Year ended<br>30 June<br>1971 |
|---------------------------------------------|-------------------------------|
| <b>NUMBER OF SHARES TRADED</b>              |                               |
|                                             | '000                          |
| Ordinary—                                   |                               |
| Industrial ....                             | 26,232                        |
| Oil ....                                    | 27,949                        |
| Mining ....                                 | 167,127                       |
| Preference ....                             | 68                            |
| Total ....                                  | 221,377                       |
| <b>VALUE OF TURNOVER</b>                    |                               |
|                                             | \$'000                        |
| Shares—                                     |                               |
| Ordinary—                                   |                               |
| Industrial ....                             | 29,500                        |
| Oil ....                                    | 5,081                         |
| Mining ....                                 | 112,162                       |
| Preference ....                             | 99                            |
| Total ....                                  | 146,843                       |
| Commonwealth and semi-government loans .... | 2,007                         |
| Debentures, unsecured notes, etc. ....      | 1,038                         |
| Total ....                                  | 3,044                         |
| Total value of turnover ....                | 149,887                       |

**LOTTERIES AND BETTING**

**Lotteries**

The Lotteries Commission was established under the provisions of the *Lotteries (Control) Act, 1932*. The legislation currently in force is the *Lotteries (Control) Act, 1954-1970*. The Commission, as constituted by the Act, consists of four members appointed by the Minister. The principal functions of the Commission are to conduct lotteries in Western Australia to raise money for charitable purposes, and to control lotteries conducted by other persons.

The Act requires that all prizes distributed in lotteries conducted by the Commission shall be cash prizes. It is further provided that the total expenses of conducting lotteries in any year, including commission payable on ticket sales and the remuneration of members of the Commission, shall not exceed 25 per cent of the gross amount received from the sale of tickets.

The Commission is required to pay 20 per cent of all moneys received in respect of lotteries that it conducts into a special account, which is kept at the Treasury in terms of the *Hospital Fund Act, 1930-1937*. Moneys remaining to the credit of the Commission after meeting all outgoings authorised by the Act may, with the consent of the Minister, be applied to any approved charitable purpose or in the purchase, improvement or maintenance of lands and buildings for the purposes of the Act.

The following tables show the number of lotteries conducted by the Commission during the five-year period ended 30 June 1971, the number of tickets sold, the receipts from ticket sales, and the financial transactions of the Commission.

# LOTTERIES COMMISSION—NUMBER OF CONSULTATIONS AND TICKET SALES

| Year                    | Type of lottery |      |      |      |     |     |      | Total |
|-------------------------|-----------------|------|------|------|-----|-----|------|-------|
|                         | \$5             | \$4  | \$3  | \$2  | \$1 | 50c | 25c  |       |
| NUMBER OF CONSULTATIONS |                 |      |      |      |     |     |      |       |
| 1966-67 ....            | 2               | .... | .... | 3    | 3   | 16  | 83   | 107   |
| 1967-68 ....            | 1               | .... | 1    | .... | 6   | 16  | 86   | 110   |
| 1968-69 ....            | ....            | 2    | 2    | .... | 8   | 26  | 72   | 110   |
| 1969-70 ....            | 1               | .... | 9    | 2    | 8   | 72  | .... | 92    |
| 1970-71 ....            | 1               | .... | 1    | 7    | 11  | 77  | .... | 97    |

|                               |      |      |      |      |       |       |       |        |
|-------------------------------|------|------|------|------|-------|-------|-------|--------|
| NUMBER OF TICKETS SOLD ('000) |      |      |      |      |       |       |       |        |
| 1966-67 ....                  | 200  | .... | .... | 300  | 300   | 1,600 | 8,300 | 10,700 |
| 1967-68 ....                  | 100  | .... | 100  | .... | 600   | 1,600 | 8,600 | 11,000 |
| 1968-69 ....                  | .... | 200  | 150  | .... | 800   | 2,600 | 7,200 | 10,949 |
| 1969-70 ....                  | 50   | .... | 450  | 100  | 800   | 7,200 | ....  | 8,600  |
| 1970-71 ....                  | 50   | .... | 50   | 450  | 1,100 | 7,700 | ....  | 9,350  |

|                                     |       |      |       |      |       |       |       |       |
|-------------------------------------|-------|------|-------|------|-------|-------|-------|-------|
| RECEIPTS FROM TICKET SALES (\$'000) |       |      |       |      |       |       |       |       |
| 1966-67 ....                        | 1,000 | .... | ....  | 600  | 300   | 800   | 2,075 | 4,775 |
| 1967-68 ....                        | 500   | .... | 300   | .... | 600   | 800   | 2,150 | 4,350 |
| 1968-69 ....                        | ....  | 800  | 450   | .... | 800   | 1,300 | 1,800 | 5,150 |
| 1969-70 ....                        | 250   | .... | 1,350 | 200  | 800   | 3,600 | ....  | 6,200 |
| 1970-71 ....                        | 250   | .... | 150   | 900  | 1,100 | 3,850 | ....  | 6,250 |

## LOTTERIES COMMISSION—FINANCIAL TRANSACTIONS (\$'000)

| Particulars                             | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------------|---------|---------|---------|---------|---------|
| GENERAL ACCOUNT                         |         |         |         |         |         |
| Receipts from ticket sales ....         | 4,775   | 4,350   | 5,150   | 6,200   | 6,250   |
| Expenses—                               |         |         |         |         |         |
| Prize money ....                        | 2,803   | 2,493   | 3,001   | 3,757   | 3,803   |
| Commission on ticket sales ....         | 391     | 367     | 421     | 479     | 485     |
| Salaries and superannuation ....        | 104     | 97      | 98      | 108     | 108     |
| Printing, stationery and equipment .... | 39      | 29      | 37      | 36      | 39      |
| Other ....                              | 121     | 128     | 155     | 177     | 221     |
| Total ....                              | 3,458   | 3,114   | 3,713   | 4,557   | 4,656   |
| Surplus available for distribution .... | 1,317   | 1,236   | 1,437   | 1,643   | 1,594   |

|                                         |       |       |       |       |       |
|-----------------------------------------|-------|-------|-------|-------|-------|
| ACCUMULATED FUNDS ACCOUNT               |       |       |       |       |       |
| Balance at beginning of year ....       | 233   | 238   | 236   | 243   | 276   |
| Surplus available for distribution .... | 1,317 | 1,236 | 1,437 | 1,643 | 1,594 |
| Unclaimed prizes ....                   | 62    | 66    | 78    | 118   | 92    |
| Rent and interest received ....         | 40    | 44    | 31    | 36    | 68    |
| Other ....                              | 25    | 10    | 9     | 83    | 37    |
| Total ....                              | 1,678 | 1,594 | 1,791 | 2,123 | 2,067 |
| Grants approved ....                    | 1,429 | 1,344 | 1,539 | 1,835 | 1,807 |
| Prizes paid ....                        | 5     | 8     | 6     | 6     | 7     |
| Other ....                              | 6     | 7     | 3     | 6     | 2     |
| Total ....                              | 1,440 | 1,359 | 1,548 | 1,847 | 1,816 |
| Balance at end of year ....             | 238   | 236   | 243   | 276   | 251   |

|                                                |       |       |       |       |       |
|------------------------------------------------|-------|-------|-------|-------|-------|
| AMOUNT OF GRANTS PAID                          |       |       |       |       |       |
| Hospitals and medical and health services .... | 776   | 984   | 1,298 | 1,089 | 1,334 |
| Homes, orphanages and mission centres ....     | 293   | 352   | 293   | 169   | 208   |
| Infant health services ....                    | 18    | 23    | 16    | 2     | 7     |
| Other charitable organisations ....            | 399   | 251   | 188   | 212   | 244   |
| Total ....                                     | 1,485 | 1,611 | 1,795 | 1,472 | 1,793 |



# Betting

The *Betting Control Act, 1954-1970* and the *Totalisator Agency Board Betting Act, 1960-1970* provide for the regulation and control of betting and bookmaking on horse racing in Western Australia.

The Betting Control Act authorises the Totalisator Agency Board to issue licences enabling the holder to carry on the business of bookmaking on a race-course or at registered premises, and betting by or with a person not so licensed is unlawful.

The Totalisator Agency Board Betting Act gives the Totalisator Agency Board authority to regulate and control off-course betting on totalisators through the Board and betting with the Board. The Board consists of seven members appointed by the Governor, and comprises a chairman nominated by the Minister, three persons nominated by The Western Australian Turf Club, and three persons nominated by the Western Australian Trotting Association.

The application of the Act is confined to areas declared by proclamation to be 'totalisator agency regions'. The first agency established by the Board was opened on 18 March 1961. At 31 July 1971 there were 162 agencies in operation.

The Board derives its principal revenues from commission on bets and from a duty of 1½ per cent on the gross takings of every totalisator, as provided by the *Totalisator Duty Act, 1905-1970*. The Board may also borrow money, subject to the approval of the Treasurer. It is required that the balance of the Board's funds, after meeting all taxes, expenses and allocations, shall be paid in specified proportions to The Western Australian Turf Club and the Western Australian Trotting Association.

Details of taxes, licence fees and duties payable in connection with horse racing are shown on page 276 and the amounts collected during the five-year period ended 30 June 1970 appear in the table *State Government Taxation—Net Amounts Collected* on page 280.

The following table shows the amounts invested on totalisators on race-courses and through agencies of the Totalisator Agency Board, and amounts invested with licensed bookmakers, during the five-year period ended 30 June 1971.

TOTALISATOR INVESTMENTS AND INVESTMENTS WITH LICENSED BOOKMAKERS

| Type of investment                    | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|---------------------------------------|---------|---------|---------|---------|---------|
|                                       | \$'000  | \$'000  | \$'000  | \$'000  | \$'000  |
| Totalisator investments—              |         |         |         |         |         |
| On course ....                        | 6,454   | 7,342   | 8,708   | 10,920  | 12,301  |
| Off course (a) ....                   | 36,624  | 38,838  | 44,229  | 49,993  | 55,351  |
| Total ....                            | 43,077  | 46,180  | 52,938  | 60,913  | 67,652  |
| Investments with licensed bookmakers— |         |         |         |         |         |
| On course ....                        | 24,442  | 27,048  | 31,836  | 38,625  | 39,656  |
| Off course ....                       | 375     | 284     | 353     | 347     | 122     |
| Total ....                            | 24,817  | 27,332  | 32,189  | 38,972  | 39,778  |
| All investments—                      |         |         |         |         |         |
| On course ....                        | 30,895  | 34,391  | 40,544  | 49,545  | 51,957  |
| Off course ....                       | 36,999  | 39,121  | 44,582  | 50,339  | 55,473  |
| Total ....                            | 67,894  | 73,512  | 85,126  | 99,884  | 107,430 |
| Per head of mean population (b) ....  | \$ 79   | \$ 82   | \$ 91   | \$ 103  | \$ 106  |

(a) Investments made through agencies of the Totalisator Agency Board.  
of the 1971 Census.

(b) Figures based on the preliminary results

## CHAPTER VII

### LAND TENURE AND SETTLEMENT, WATER SUPPLY AND SEWERAGE

#### Part 1—Land Tenure and Settlement

An outline of the origin and development of the land tenure system in Western Australia from the early years of settlement is given in Chapter VII of the *Official Year Book of Western Australia*, Nos. 1 and 2 (New Series).

The growth of land settlement in relation to particular agricultural and pastoral activities is dealt with in the relevant sections of Chapter VIII and in the *Statistical Summary from 1829* appearing after Chapter X.

#### LEGISLATION AND ADMINISTRATION

By the Land Act of 1898, earlier legislation relating to the sale, occupation and management of Crown lands was consolidated and amended. Under a series of Agricultural Lands Purchase Acts which were passed between 1896 and 1904 and consolidated by the *Agricultural Lands Purchase Act, 1909*, provision was made for the repurchase by the Crown of land suitable for closer settlement. The principal criteria applied in the purchase of such land were suitability for wheat or mixed farming and proximity to transport, especially the railways.

The operation of subsequent legislation has not greatly changed the pattern of land development which was created by the *Land Act, 1898* and the *Agricultural Lands Purchase Act, 1909*. The *Land Act, 1933-1971* is now the basic statute controlling the leasing and disposal of Crown land. Closer settlement legislation relates predominantly to schemes for the benefit of returned war-service personnel. Crown land is also leased under the *Mining Act, 1904-1971*, the *Petroleum Act, 1967* and the *Forests Act, 1918-1969*, but no alienations are made under these Acts. In most freehold or leasehold titles of a residential, agricultural or pastoral nature the mineral rights, petroleum rights and, in many instances, the timber rights are reserved to the Crown.

The Department of Lands and Surveys is responsible for the leasing and alienation of Crown land, except where mining and forestry tenures are involved, and is under the control of the Minister for Lands. In certain instances, advisory or partly-executive boards have been created to assist in administration. These include the Land Board, which deals with general applications for land, and the Pastoral Appraisal Board.

Permits and leases for mining purposes are issued by the Department of Mines and those for forestry and timber milling by the Forests Department.

#### METHODS OF LAND ALIENATION

The principal methods of alienation provided for in the *Land Act, 1933-1971* are conditional purchase, public auction, private tender, selection under Part VIII which supersedes the *Agricultural Lands Purchase Act*, endowment (including free Crown grants) and reservation for public purposes. In addition to these normal methods of alienation there is provision in the Land Act for the release of land under special circumstances, where particular developmental projects are envisaged. In such cases any agreement must be ratified by the State Parliament.

The various methods of land alienation are described in greater detail in Chapter VII of the *Western Australian Year Book*, No. 8—1969 and earlier issues.

## METHODS OF LEASING

Brief reference was made on page 314 to the work of the Department of Lands and Surveys, the Department of Mines and the Forests Department in granting leases of Crown lands in Western Australia. A summary of the activities of each Department in this field is given below, further details appearing in Chapter VII of the *Western Australian Year Book*, No. 8—1969, No. 6—1967 and earlier issues.

### Department of Lands and Surveys

Approximately 98 per cent of the Crown land held under lease is covered by tenures granted by the Department of Lands and Surveys under the Land Act, and consists mainly of pastoral leases, special leases, leases of reserves and leases of residential lots. In addition, areas of perpetually-leased farming land have been made available to ex-servicemen under War Service Land Settlement Acts.

### Department of Mines

Under the provisions of the *Mining Act, 1904-1971*, various special tenures, of which gold-mining leases, mineral leases and coal-mining leases are the most important, are granted by the Governor in connection with the mining of gold, coal and other minerals. The Act contains provisions relating to the payment of fees, rents and royalties. The Governor may exempt any person or class of persons from the payment of royalties.

Oil search permits and licences are granted by the Minister for Mines, and petroleum leases by the Governor under the provisions of the *Petroleum Act, 1967* and the *Petroleum (Submerged Lands) Act, 1967-1970*, with authority to charge fees, rents and royalties.

### Forests Department

While not designated as leases, certain of the tenures issued under the *Forests Act, 1918-1969*, such as Sawmilling Permits and Mill Site Permits, are similar in effect. A number of other leases, licences and permits are issued by the Forests Department, one of which, the Forest Produce Licence, authorises the licensee to collect various types of forest products other than millable timber. Permits are also granted for apiary sites of an area not exceeding three acres.

## LAND CLASSIFICATION

Large-scale as well as detailed soil survey measures have been developed progressively in Western Australia since the early days of settlement. Soil mapping of Crown lands in Western Australia has always been carried out as a function of the Department of Lands and Surveys. In the early years of land settlement the staff surveyors, when marking blocks, submitted classifications and commented generally on the probable yield and carrying capacity of the land, as a guide to pricing.

Modern survey techniques enable much use to be made of photogrammetric methods in the mapping and presentation of the soil survey, particularly in definition of vegetation and topographical detail such as rivers, creeks, swamps, hills, valleys, features such as rock outcrops and sand drifts, and the general contours of the land. Much topographical detail is available from the State mapping activities and this information is always used in conjunction with the field work of the soil survey.

The soils are graded into eight categories, to facilitate pricing procedure, due regard being given to the agricultural potential as determined by analysis and experimentation by the Department of Agriculture. This enables release of land in such a manner that each unit is adequate if developed on economic methods. At the same time, the soil

maps assist in the overall planning for provision and extension of services such as roads, water and power supplies, townsites and all the services essential to regional development. Pastoral potential appraisements are presented with more emphasis on the grazing potential of natural vegetation in order to assess estimated carrying capacities, rather than detailed soil types.

In addition to the soil and pastoral mapping surveys which are carried out under the direction of the Surveyor General, similar methods are used by other Government Authorities and private organisations, for forestry assessment, classification and control, and for geological mapping.

It has been estimated by the Surveyor General that, of the State's total area of 975,920 square miles about 11 per cent is represented by the agricultural areas, 52 per cent by the pastoral regions and the remaining 37 per cent by practically unoccupied areas of the interior. Soil mapping investigations have enabled a broad assessment of the total area and a detailed assessment of the bulk of the agricultural areas and pastoral regions.

### OCCUPATION OF LAND

The following table shows, for a selection of years during the period from 1900 to 1970, the areas of land absolutely alienated or in process of alienation and of Crown land held under certain types of lease or licence. For the years 1900, 1910 and 1920 the basis of classification according to Department has been made to conform to current practice in the issue of leases and licences. For example, tenures relating to forests, which were originally issued by the Department of Lands and Surveys and later by the Department of Mines, have been shown for those years under the heading of Forests Department. For 1930 and later years the figures are as recorded by the Departments concerned. The types of tenure included under the several departmental headings are indicated in the footnotes to the table.

LAND ALIENATED AND LAND HELD UNDER LEASE  
(<sup>000</sup> acres)

| At 31 December— | Area absolutely alienated | Area in process of alienation | Area of leases or licences in force on Crown land and issued (a) by— |                  |                         |                        |
|-----------------|---------------------------|-------------------------------|----------------------------------------------------------------------|------------------|-------------------------|------------------------|
|                 |                           |                               | Department of Lands and Surveys                                      |                  | Department of Mines (c) | Forests Department (d) |
|                 |                           |                               | Pastoral leases                                                      | Other leases (b) |                         |                        |
| 1900 ....       | 3,462                     | 3,157                         | 86,429                                                               | 11               | 84                      | 852                    |
| 1910 ....       | 4,534                     | 13,716                        | 166,060                                                              | 554              | 106                     | 1,291                  |
| 1920 ....       | 8,953                     | 14,722                        | 258,024                                                              | 2,469            | 103                     | 1,640                  |
| 1930 ....       | 14,671                    | 21,275                        | 224,106                                                              | 885              | 84                      | 1,333                  |
| 1940 ....       | 18,305                    | 13,843                        | 204,787                                                              | 2,084            | 94                      | 2,357                  |
| 1950 ....       | 21,564                    | 11,831                        | (e) 195,736                                                          | 3,460            | 101                     | 3,578                  |
| 1960 ....       | 27,572                    | 12,813                        | 218,194                                                              | 6,635            | 91                      | 3,995                  |
| 1966 ....       | 30,912                    | 15,387                        | 235,112                                                              | 7,029            | 87                      | 4,292                  |
| 1967 ....       | 31,936                    | 15,490                        | 237,165                                                              | 7,106            | 99                      | 4,168                  |
| 1968 ....       | 32,951                    | 15,244                        | 238,232                                                              | 7,128            | 103                     | 4,052                  |
| 1969 ....       | 34,312                    | 14,170                        | 238,590                                                              | 6,402            | 142                     | 3,739                  |
| 1970 ....       | 34,419                    | 14,411                        | 244,590                                                              | 6,295            | 121                     | 3,403                  |

(a) See letterpress preceding table. (b) Comprises special leases, leases of reserves, leases of residential lots and perpetual leases. (c) Comprises gold-mining leases, mineral leases and miners' homestead leases. (d) Predominantly sawmilling permits. Includes permits for cutting wandoo for tannin extraction but excludes permits and licences for cutting timber and firewood in Goldfields areas. (e) Apparent decrease in area due mainly to revision in the records of the Department of Lands and Surveys.

Land which is shown as 'absolutely alienated' consists mainly of farming areas, acquired originally as conditional purchase leases and subsequently alienated under Crown grant. While held under lease prior to alienation they account for most of the land shown as 'in process of alienation'. These two sets of figures taken together consequently give a broad indication of the increased use of land for agricultural purposes during the period under review. Similarly, variations in the area occupied as sheep and cattle stations may be gauged by reference to the area of pastoral leases issued by the Department of Lands and Surveys.

The passing of the Homesteads Act in 1893 and of a comprehensive Land Act in 1898 provided the basis for a rapid increase in the settlement of agricultural land. Under the Homesteads Act, any man over the age of 18 years who did not already own an area of 100 acres or more in this State could apply for a free homestead farm of 160 acres, on condition that he resided on his land during at least six months of each of the first five years and carried out prescribed improvements. With a lower minimum age of 16 years, a similar provision is contained in the *Land Act, 1933-1971*, and this provision, operating in conjunction with the conditional purchase lease system, has also been a factor in the increase in land settlement, particularly in the wheat-growing areas.

About 1905 the Department of Lands and Surveys, by implementing a system of survey and subdivision before selection, partially checked the indiscriminate selection of land by inexperienced farmers. A further stabilising influence on agricultural development was the introduction in 1909 of a system of grading Crown lands into classes, First, Second and Third according to suitability for farming.

The movement of population from the goldfields to the wheat belt contributed to the increase in the area of land in process of alienation from 3,156,798 acres in 1900 to 12,880,195 in 1910. The ultimate alienation of about one-third of this land by Crown grant is reflected in the greatly increased figures for 'absolutely alienated' land in 1920. Settlement of the wheat belt developed rapidly during and after the period 1910 to 1920, in spite of serious droughts which occurred in 1911 and 1914. Although the increased totals at 30 June 1930 were principally due to this development, they resulted in part from the acquisition during the previous ten years of farmland, mainly for dairying, in the south-west of the State under the Group Settlement Scheme. These holdings were individually much smaller than those in the wheat-growing districts, because of the type of farming and the heavy clearing costs, but the numbers involved made the total area taken up under the Scheme of some significance.

Pastoral leases, which comprise the greatest proportion of Crown land held under lease or licence, increased threefold between 1900 and 1920. The area actually held under pastoral lease conditions represents approximately one-third of the whole State. The aggregate area of gold-mining leases, mineral leases and miners' homestead leases, appearing in the table under the heading of Department of Mines, shows comparatively little variation since 1900. However, in recent years very large areas have been included in tenures issued under the provisions of the *Petroleum Act, 1967* and in temporary reserves under the *Mining Act, 1904-1971*.

From 1930 the demand for land for agricultural purposes declined considerably, the principal reason being the lower farm commodity prices which prevailed for several years prior to the second World War. After 1945, however, the demand for land again increased, stimulated by the sharp rise in export prices, notably of wheat and wool, and later by the War Service Land Settlement Scheme. The area conditionally alienated in any one year reached a post-war peak of 1,707,894 acres in 1953. During the next decade the area fluctuated between 705,874 acres in 1956 and 1,234,516 acres in 1962. The area then declined and in 1968 it was 795,105 acres. In 1969 and 1970 the areas conditionally alienated fell further to 303,880 acres and 375,735 acres, respectively, due to restrictions imposed on the release of Crown land by conditional purchase.

The following table gives details of areas of land for which applications were approved, during each of the years 1966 to 1970, by the Department of Lands and Surveys for conditional alienation or allocation under lease or licence. The figures shown for any year do not necessarily represent land allotted for the first time, as they may include land previously held under any of the several forms of land tenure.

**CROWN LANDS—AREA OF ALLOCATIONS**  
**APPROVED BY DEPARTMENT OF LANDS AND SURVEYS (a)**  
(Acres)

| Particulars                        | 1966             | 1967             | 1968             | 1969             | 1970             |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Conditional alienation—</b>     |                  |                  |                  |                  |                  |
| Conditional purchase .....         | 916,263          | 1,088,014        | 788,976          | 298,773          | 373,790          |
| Agricultural land purchases .....  | ....             | 611              | ....             | ....             | ....             |
| Town and suburban lots .....       | 400              | 792              | 344              | 310              | 457              |
| Miscellaneous (b) .....            | 44,487           | 43,769           | 5,785            | 4,797            | 1,488            |
| <b>Total .....</b>                 | <b>961,150</b>   | <b>1,133,186</b> | <b>795,105</b>   | <b>303,880</b>   | <b>375,735</b>   |
| <b>Leases and licences—</b>        |                  |                  |                  |                  |                  |
| Pastoral leases and licences ..... | 3,593,254        | 4,232,887        | 1,933,357        | 2,728,400        | 9,185,275        |
| Special leases .....               | 179,972          | 143,857          | 63,903           | 188,588          | 76,122           |
| Miscellaneous leases (c) .....     | 452,730          | 56,041           | 38,119           | 50,372           | 43,594           |
| <b>Total .....</b>                 | <b>4,225,956</b> | <b>4,432,785</b> | <b>2,035,379</b> | <b>2,967,360</b> | <b>9,304 991</b> |

(a) See Letterpress immediately preceding table. (b) Comprises free homestead farms and reserves, perpetual leases, leases of reserves and leases of town and suburban lots. (c) Comprises

### GOVERNMENT LAND SETTLEMENT SCHEMES

Although, generally, the method of land alienation and settlement in the agricultural areas of Western Australia has been by independent applications by individual settlers for conditional purchase leases, there has also been a series of government land settlement schemes. The more important of these are the Soldiers' Settlement Scheme following the 1914-18 war, the Group Settlement Scheme introduced in 1921, the War Service Land Settlement Scheme which was initiated in 1945 and other lesser schemes for the settlement of civilians. An outline of each of these schemes appears in Chapter VII of the *Western Australian Year Book*, No. 7—1968 and earlier issues.

## *Chapter VII—continued*

### **Part 2—Water Supply and Sewerage**

The principal water supply and sewerage systems of Western Australia are under the control of two State authorities, the Metropolitan Water Supply, Sewerage, and Drainage Board and the Public Works Department.

The Metropolitan Water Supply, Sewerage, and Drainage Board is constituted under the provisions of the *Metropolitan Water Supply, Sewerage, and Drainage Act, 1909-1970*. It came into being on 1 July 1964 and replaced the former Metropolitan Water Supply, Sewerage and Drainage Department as the authority responsible, subject to the Minister, for the general administration of the Act. The Board consists of seven members appointed by the Governor. One member is appointed Chairman on the nomination of the Governor and the remaining members comprise the General Manager of the Board; a qualified engineer; the Under-Treasurer or an officer of the Treasury nominated by him; and three representatives of ratepayers of municipal districts within the Metropolitan Water, Sewerage and Drainage Area. This area of approximately 1,600 square miles constitutes the territory under the Board's administration. It embraces Perth and the metropolitan area southward to Warnbro Beach and Serpentine, northward to Mullaloo and Herne Hill and eastward to Swan View-Sawyers Valley, Kalamunda, Bickley and Carmel, and also incorporates approximately 900 square miles of the water catchment areas of the Canning, Serpentine, North Dandalup and South Dandalup Rivers and streams of the Darling Range.

The Public Works Department controls the Goldfields and Agricultural Water Supply and the Great Southern Towns Water Supply as well as 125 local water supplies. It also provides water for irrigation purposes in the three South-West Irrigation Districts (Waroona, Harvey and Collie River), the Camballin Irrigation District and the Ord Irrigation District. In addition, a small pilot scheme supplying twenty-six growers in the Carnarvon Non-Artesian Area is being operated.

Four independent town schemes are controlled by local Water Boards in country areas under the *Water Boards Act, 1904-1969* and some local authorities supply water under the provisions of the *Local Government Act, 1960-1971*. Private companies engaged in mining in the North-West of the State provide their own water supply for mining operations, power supply and domestic use. Individual water supplies serve railways, timber mill towns, isolated mines, pastoral properties, stock routes and agricultural areas, mainly from dams, tanks, wells and bores.

The principal water storages in Western Australia are shown in the next table. Supplies for the metropolitan area and environs are drawn almost entirely from Serpentine Reservoir and Serpentine Pipehead Reservoir, Canning Reservoir, Wungong Brook Diversion Weir, Churchman Brook Reservoir and Victoria Reservoir. Mundaring Weir, which is the source for the Goldfields and Agricultural Water Supply, is linked to Kalgoorlie by pipeline and serves the more populous parts of the Eastern Goldfields as well as certain towns and farming areas north and south of the main pipeline. As occasion arises Mundaring Weir supplies to or draws from the Metropolitan Water Supply. Stirling Dam, with a supplementary catchment at Harvey Weir, serves part of the irrigation area of the South-West. Drakes Brook Dam, Samson Brook Dam, Logue Brook Dam, Waroona Dam and Glen Mervyn Dam are also used for this purpose. Wellington Dam, on the Collie River, has been enlarged to meet not only the needs of the southern parts of the irrigation area but also of towns included in the Great Southern Towns Water Supply.

The storage capacities of the principal dams and reservoirs at 30 June 1970 were as shown below.

**DAMS AND RESERVOIRS—STORAGE CAPACITY (a)**  
(Million gallons)

| Dam or reservoir                  | Storage capacity | Dam or reservoir                    | Storage capacity |
|-----------------------------------|------------------|-------------------------------------|------------------|
| Canning Reservoir .....           | 20,550           | Samson Brook Dam .....              | 2,021            |
| Churchman Brook Reservoir .....   | 480              | Serpentine Pipehead Reservoir ..... | 850              |
| Drakes Brook Dam .....            | 504              | Serpentine Reservoir .....          | 39,000           |
| Fitzroy Dam .....                 | 1,025            | 17-Mile Dam (d) .....               | 1,209            |
| Glen Mervyn Dam .....             | 329              | Stirling Dam .....                  | 12,552           |
| Harvey Weir .....                 | (b) 1,765        | Victoria Reservoir .....            | 189              |
| Logue Brook Dam .....             | 5,358            | Waroona Dam .....                   | 3,290            |
| Mundaring Weir .....              | 16,966           | Wellington Dam .....                | 40,790           |
| Ord River Diversion Dam (c) ..... | 21,467           | Wungong Brook Diversion Weir .....  | (e)              |

(a) At 30 June 1970. (b) Excludes flashboard storage. (c) Bandicoot Bar Dam. (d) On Uralla Creek, an anabranch of the Fitzroy River. (e) Diversion weir only.

**METROPOLITAN WATER SUPPLY**

The sources of the metropolitan water supply are Serpentine Reservoir and Serpentine Pipehead Reservoir, Canning Reservoir, Wungong Brook Diversion Weir, Churchman Brook Reservoir and Victoria Reservoir. The supply from these sources is supplemented as necessary from a pipeline link with Mundaring Weir and from a number of artesian bores. The amount of bore water used, however, is now low in proportion to total metropolitan consumption, being rarely more than 10 per cent during a severe summer and usually considerably less.

**METROPOLITAN WATER SUPPLY—QUANTITIES OF WATER DRAWN (a)**  
(Million gallons)

| Source                             | 1965-66       | 1966-67       | 1967-68       | 1968-69       | 1969-70       |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Canning Reservoir .....            | 7,462         | 8,071         | 5,328         | 9,315         | 11,392        |
| Churchman Brook Reservoir .....    | 661           | 635           | 933           | 839           | 526           |
| Mundaring Weir .....               | 226           | 282           | 148           | 332           | 234           |
| Serpentine Reservoir (b) .....     | 11,736        | 13,773        | 16,123        | 14,551        | 14,840        |
| Victoria Reservoir .....           | 271           | (c)           | 120           | 253           | 251           |
| Wungong Brook Diversion Weir ..... | 822           | 1,772         | 1,064         | 1,832         | 1,435         |
| Metropolitan bores .....           | 804           | 1,579         | 1,437         | 1,228         | 3,551         |
| <b>Total</b> .....                 | <b>21,982</b> | <b>26,112</b> | <b>25,152</b> | <b>28,350</b> | <b>32,230</b> |

(a) Including supplies to railways and shipping.  
(c) Not in use during 1966-67.

(b) Includes water drawn from Serpentine Pipehead Reservoir.

Victoria Reservoir, which was completed in 1891 with a capacity of 189 million gallons, was the first of the existing water conservation projects to be completed in the Darling Range. In 1921 a 23-million gallon reservoir, which is no longer used for water supply, was constructed at Bickley Brook to replace a pipehead dam, and in 1928 one with a capacity of 480 million gallons was completed at Churchman Brook. During the same period pipehead dams were built across the upper course of the Canning River and its tributary, Wungong Brook, preliminary to the construction of Canning Reservoir, which was begun in 1933 and completed in 1940. Canning Reservoir has a storage capacity of 20,550 million gallons retained by a concrete wall 218 feet high and 1,534 feet long at the crest. Serpentine Pipehead Reservoir was completed in 1957 and Serpentine Reservoir, commenced in 1957, was completed in 1961. Serpentine Reservoir is constructed of rolled earth fill and the embankment rises 171 feet above the stream bed, the length at the crest being 1,390 feet. Its capacity, which is slightly less than that of Wellington Dam on the Collie River, is 39,000 million gallons. Supplies to the metropolitan system are augmented by the North Dandalup Pipehead Dam which is the first stage of the Dandalup Rivers Scheme and was completed in December 1970. The major storage component of the scheme, the 45,800 million gallon capacity South Dandalup Dam, is under construction and is scheduled for completion by late 1973.



Water from the storages in the Darling Range is conveyed to the metropolitan area by large trunk mains and then distributed by feeder, distribution and reticulation mains, either directly from the trunk mains or from large service reservoirs at Mount Yokine, Mount Eliza, Bold Park, Mount Hawthorn, Richmond, Melville, Buckland Hill, Hamilton Hill, Thompson Lake and Greenmount and from summit tanks and water towers situated at high points throughout the area supplied. To meet the peak demand during the summer months, supplies from these sources are supplemented from a system of artesian bores which can provide a daily maximum of 21 million gallons. On 30 June 1970, the number of consumer services was 193,360. The previous table shows the quantities of water which were drawn from the various sources during each of the five years ended 30 June 1966 to 1970.

## COUNTRY WATER SUPPLIES

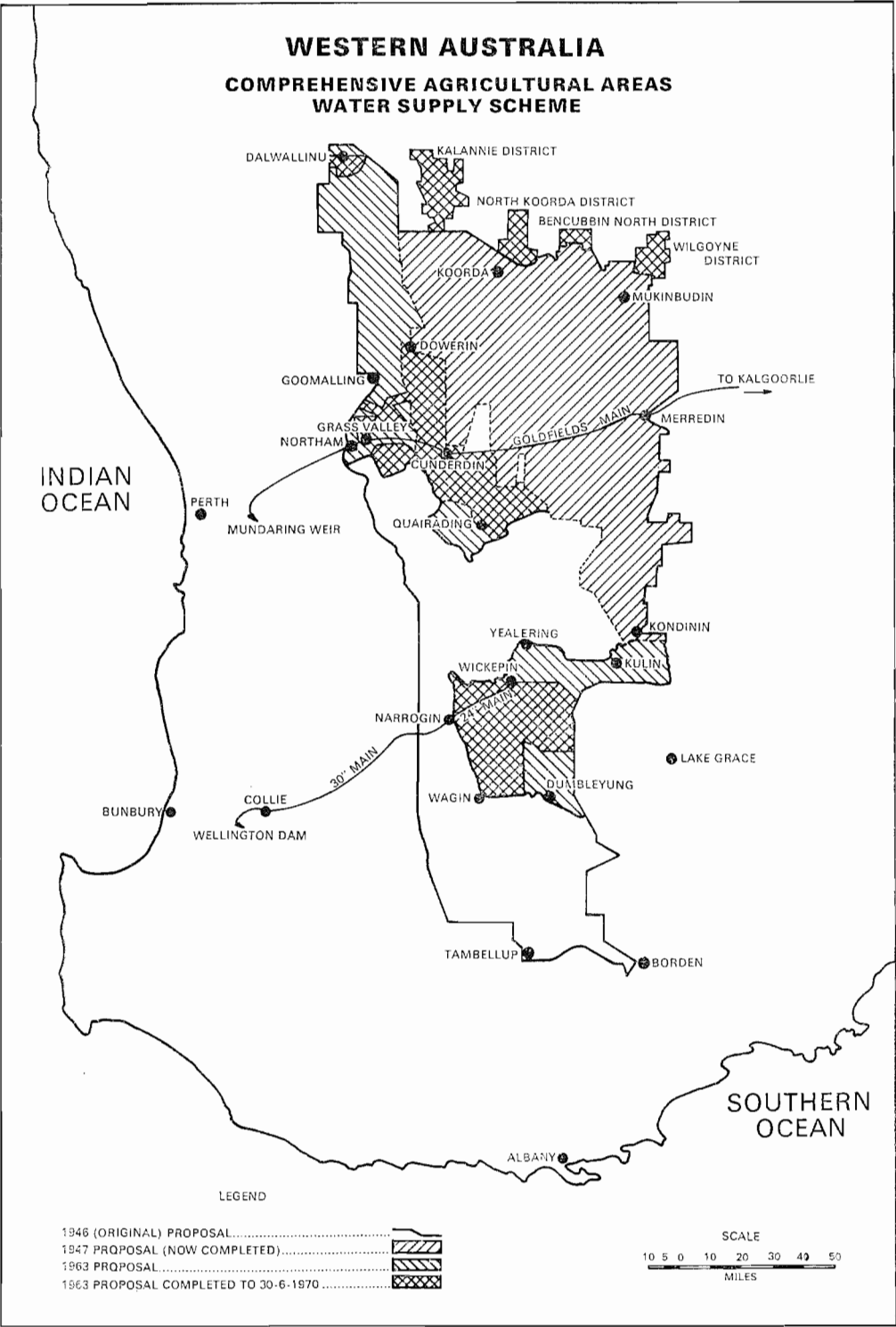
### Supplies controlled by the Public Works Department

Since 1947 enlargement and extension of the Goldfields and Agricultural Water Supply and the development of the Great Southern Towns Water Supply have been carried out mainly in accordance with a project known as the Modified Comprehensive Scheme. A proposal for a comprehensive water supply scheme was first submitted by the State Government to the Commonwealth Government in January 1946 when applying for financial assistance in its construction. The initial plan was intended to supply water to towns and farms in an area of 11.6 million acres in mixed farming (cereal and sheep) districts of Western Australia, as well as to increase the supply to the Eastern Goldfields. A committee appointed by the Commonwealth Government to consider the State's submission reported that certain areas within the scheme had a higher priority than others. As a result, the project was greatly reduced in scope and a modified scheme, to embrace 4.1 million acres, was agreed to by both Governments and adopted in October 1947. The extent of the scheme as originally proposed, and as modified, is shown on the map on page 322. A description of the boundary of the modified scheme is contained in a schedule to the *Agricultural Areas, Great Southern Towns, and Goldfields Water Supply Act, 1947* (State), which gave parliamentary approval of the undertaking. Commonwealth financial aid was provided by means of the *Western Australia Grant (Water Supply) Act 1948* (Commonwealth) and later amendments, which authorised reimbursement to the State of one-half of its expenditure on the scheme, up to a maximum grant of \$10 million.

The modified scheme was completed in 1961, the total expenditure amounting to \$20.6 million. A request made by the State Government in 1960 for a grant equal to half the cost of extending the scheme virtually to the boundary as first proposed in 1946 was rejected by the Commonwealth Government. Following this rejection the State Government embarked on a necessarily limited programme financed from its own loan moneys, the policy being to restrict extensions to supply certain towns within the original area and farm lands adjacent to pipelines. A further request was made by the State Government in 1963 for a grant of \$10.5 million payable over a seven-year period and representing one-half of the estimated cost of proposed extensions which would increase by 3.7 million acres the area served by the scheme. The Commonwealth agreed to provide assistance in the form of an interest-bearing loan up to a maximum of \$10.5 million, advances to be made during a period of eight years commencing with the financial year 1965-66. Legislative authority for the loan is given by the *Western Australia (South-west Region Water Supplies) Agreement Act 1965* (Commonwealth). The map on page 322 shows the additional areas to be reticulated under the 1963 proposals and the portion completed at 30 June 1970.

### Goldfields and Agricultural Water Supply

The original purpose of this undertaking, which was formerly known as the Goldfields Water Supply was to supply water for the Coolgardie and the Kalgoorlie-Boulder areas. To provide conservation, the Helena River was dammed near Mundaring, and on completion of the reservoir in 1902 it had a capacity of 4,655 million gallons. The increasing demand for water in the area served made it necessary to augment supplies.



This was achieved by raising the wall 32 feet to a height of 132 feet and when the work was completed in 1951 the enlarged capacity of the reservoir was 15,154 million gallons. The capacity has since been further increased to 16,966 million gallons by the erection of adjustable steel crest gates four feet in height. The main pipeline between Mundaring and Kalgoorlie is 344 miles long. It is for the most part 30 inch diameter steel but has 42 inch and 36 inch pipe in the western portion. The pipeline is equipped with thirteen pump stations. The maximum pumping capacity from Mundaring Weir is 21 million gallons per day. The total capacity of all receiving, regulating, standby and service tanks (including three standby reservoirs at Kalgoorlie with a combined capacity of 60 million gallons) is 227 million gallons.

At 30 June 1970 the Goldfields and Agricultural Water Supply was serving 109 towns and water was being reticulated to farms in an area of 5.4 million acres. The number of services, length of water mains and consumption for the years 1965-66 to 1969-70 are given in the following table.

GOLDFIELDS AND AGRICULTURAL WATER SUPPLY

| Year    | Number of services (a) | Mileage of water mains (a) | Consumption (a) (million gallons) |            |                                 |        |                          |       |       |
|---------|------------------------|----------------------------|-----------------------------------|------------|---------------------------------|--------|--------------------------|-------|-------|
|         |                        |                            | Domestic                          | Commercial | Industrial (including railways) | Mining | Farms and market gardens | Other | Total |
| 1965-66 | 25,094                 | 3,992                      | 930                               | 114        | 246                             | 538    | 517                      | 257   | 2,602 |
| 1966-67 | 25,554                 | 4,029                      | 1,026                             | 138        | 285                             | 569    | 694                      | 262   | 2,974 |
| 1967-68 | 26,305                 | 4,187                      | 1,130                             | 142        | 251                             | 579    | 689                      | 285   | 3,077 |
| 1968-69 | 24,973                 | 4,197                      | 1,139                             | 191        | 259                             | 620    | 734                      | 294   | 3,237 |
| 1969-70 | 25,742                 | 4,268                      | 1,259                             | 246        | 238                             | 803    | 800                      | 319   | 3,665 |

(a) Figures include amounts consumed from local supplies at Waddouring-Barbalin-Knungajin, Bruce Rock, Narembeen and Kondinin.

Extensions to country towns and agricultural areas have been made from several points along the main pipeline. Norseman is connected by an extension southward from Coolgardie. A branch from this main supplies the nickel mining town of Kambalda. From a point west of Merredin water is taken northward to supplement local schemes at Waddouring-Barbalin-Knungajin. Other extensions north and south of the main pipeline provide water for a number of towns and surrounding districts, including Toodyay, Goomalling, York, Beverley and Bullfinch. A pipeline southward from Merredin to serve Bruce Rock, Narembeen, Kondinin and surrounding districts and Kulin and surrounding districts is linked to an extension south-west from Doodlakine and taken westward to supply Corrigin. A main south from Cunderdin serves Quairading and the intermediate farmlands. Areas north-west of Burracoppin are served by an extension northward from a point east of Merredin, and districts north of Kellerberrin by a pipeline connecting Kellerberrin to the Waddouring-Barbalin-Knungajin system already mentioned. Water is taken northward from Cunderdin through Minnivale to a point near Kokardine. Extensions westward, eastward and northward from this pipeline serve a number of towns and localities, including Dowerin, Wyalkatchem, Yelbeni, Koorda, Kalannie, Pithara, Ballidu, Dalwallinu and Wongan Hills, and surrounding farm lands. An extension northward from the main pipeline serves Koolyanobbing, where iron ore is mined.

### Great Southern Towns Water Supply

The Great Southern Towns Water Supply serves towns on the Great Southern Railway from Brookton to Katanning, as well as a number of other towns. Water is drawn from Wellington Dam which also supplies the Collie River Irrigation District. Work on the raising of the wall of the Dam was completed in 1960 and, with a capacity of 40,790 million gallons, it is now the largest in the State. Water is taken through Narrogin to Wickepin by means of a main pipeline 106 miles long. In addition to the pumping installation at the dam site, there are stations at a point twenty-eight miles east of the dam and at Narrogin. From Narrogin, pipelines extend forty miles northward to Brookton

and fifty-nine miles southward to Katanning. A branch westward from Katanning serves the town of Kojonup and a second branch extends south-eastward through Broomehill to Gnowangerup. From Wickopin the pipeline extends southward to Dumbleyung, eastward to Kulin and northward to Bullaring through Yealering. A pipeline eleven miles long supplies water to a power station constructed for the State Electricity Commission at Muja, south-eastward from Collie.

At 30 June 1970 the Great Southern Towns Water Supply was serving twenty-nine towns. Details of the number of services, length of water mains and consumption for the years 1965-66 to 1969-70 are given in the following table.

#### GREAT SOUTHERN TOWNS WATER SUPPLY

| Year          | Number of services | Mileage of water mains | Consumption (million gallons) |            |                                 |                          |           | Total |
|---------------|--------------------|------------------------|-------------------------------|------------|---------------------------------|--------------------------|-----------|-------|
|               |                    |                        | Domestic                      | Commercial | Industrial (including railways) | Farms and market gardens | Other (a) |       |
| 1965-66 ..... | 7,958              | 450                    | 286                           | 35         | 207                             | 24                       | 59        | 611   |
| 1966-67 ..... | 8,161              | 452                    | 341                           | 41         | 354                             | 33                       | 69        | 840   |
| 1967-68 ..... | 8,507              | 530                    | 361                           | 46         | 179                             | 35                       | 69        | 689   |
| 1968-69 ..... | 8,891              | 536                    | 392                           | 49         | 144                             | 42                       | 87        | 714   |
| 1969-70 ..... | 9,584              | 690                    | 460                           | 52         | 291                             | 59                       | 106       | 969   |

(a) Excludes mining, for which no services were provided by the Public Works Department.

#### Supplies to other Country Towns

One hundred and twenty-five towns and localities are supplied with water from stream flow, dams, tanks, wells and bores, the schemes being administered under the provisions of the *Country Areas Water Supply Act, 1947-1964*. The following table gives, for these local schemes, the number of services, length of water mains and consumption for the years 1965-66 to 1969-70.

#### PUBLIC WORKS DEPARTMENT: LOCAL SCHEMES

| Year          | Number of services | Mileage of water mains | Consumption (million gallons) |            |                                 |                     |                          | Total |
|---------------|--------------------|------------------------|-------------------------------|------------|---------------------------------|---------------------|--------------------------|-------|
|               |                    |                        | Domestic                      | Commercial | Industrial (including railways) | Mining and shipping | Farms and market gardens |       |
| 1965-66 ..... | 22,389             | 796                    | 918                           | 234        | 237                             | 18                  | 28                       | 1,689 |
| 1966-67 ..... | 23,745             | 833                    | 1,173                         | 281        | 262                             | 20                  | 34                       | 2,061 |
| 1967-68 ..... | 25,372             | 857                    | 1,254                         | 254        | 210                             | 17                  | 16                       | 1,615 |
| 1968-69 ..... | 27,481             | *945                   | 1,515                         | 364        | 292                             | 15                  | 56                       | 2,597 |
| 1969-70 ..... | 30,182             | 1,013                  | 1,949                         | 464        | 353                             | 26                  | 59                       | 3,240 |

\* Revised.

The Public Works Department is also responsible for the provision and maintenance of tanks and wells as a source of cartage water for a number of small communities in gold-mining and agricultural areas.

#### Other Country Water Supplies

As well as the schemes controlled by the Public Works Department, there are four local Water Boards operating under the *Water Boards Act, 1904-1969* which also draw supplies from stream flow, dams, tanks, wells and bores. In addition, some local authorities exercise powers under the *Local Government Act, 1960-1971* to supply water within their boundaries. There are still, however, a large number of individual farms and pastoral stations which are not connected to public schemes and are therefore obliged to provide their own supplies. The Forests Department and sawmilling companies operate schemes to supply water to their mill towns. In a number of ports and mining towns in the North-West of the State, mining companies are responsible for the provision of their own water supplies, and while the principal source of supply is underground reserves, desalination of sea water is also being used.

Railways of the Commonwealth and State Governments make independent provision for supplies of water for their own purposes, although considerable additional quantities are consumed by the railways from other sources, such as those controlled by the Public Works Department and the Metropolitan Water Supply, Sewerage, and Drainage Board.

### UNDERGROUND WATER

Considerable use is made of groundwater by individual farmers, pastoralists, market gardeners, etc. and it is estimated that over 50,000 bores are in use in the State. The quality of the water varies from place to place and much of it is too saline for irrigation or even stock. Both pressure waters and non-pressure waters are used to supply or augment the supplies of numerous towns, including such major centres as Perth, Albany, Bunbury, Busselton, Carnarvon, Dampier, Esperance, Exmouth, Geraldton and Port Hedland, and the list is growing.

Industries also are using groundwater in substantial quantities, particularly in the processing of titanium, iron, and alumina. Recent mineral discoveries in several areas have given rise to very large demands for water, the search for which has had to be intensified. Marked advances in the knowledge of aquifers and quality of water in the main sedimentary basins have been made as a result of extensive geological surveys and exploratory drilling by the Geological Survey (a branch of the Department of Mines), several oil companies, and developmental drilling by the Public Works Department, and the Metropolitan Water Supply, Sewerage, and Drainage Board.

The Public Works Department and the Metropolitan Water Supply, Sewerage, and Drainage Board are responsible for all developmental works. The Geological Survey is responsible for all exploratory works, as well as for investigating and assessing the State's groundwater resources, and advising local government authorities, private industry and individuals on groundwater problems.

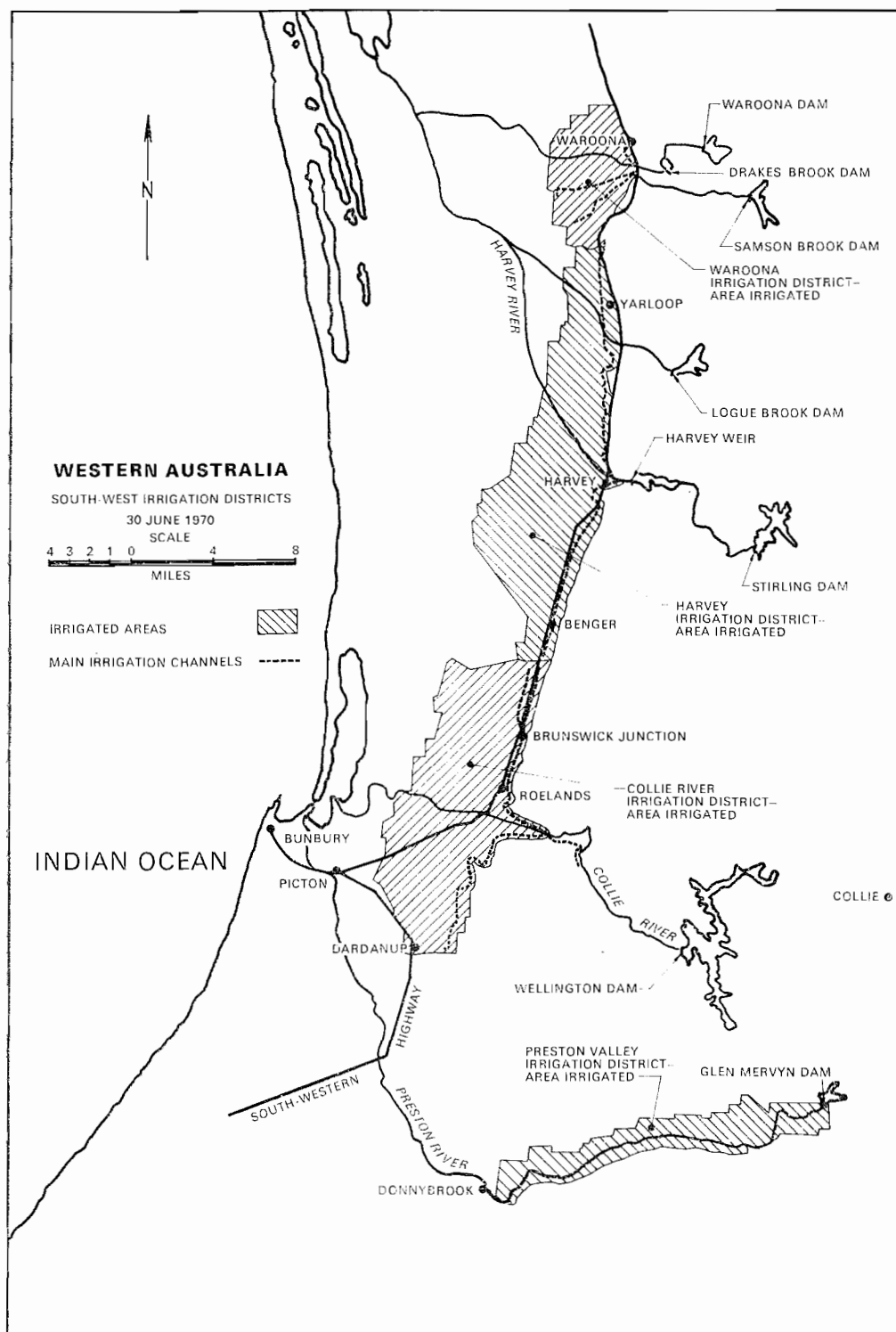
### SOUTH-WEST IRRIGATION SCHEMES

Irrigation schemes have been established by the State Government on the coastal plain south of Perth in the Waroona, Harvey, Collie River and Preston Valley Irrigation Districts between Waroona and Donnybrook, the water being channelled from dams in the adjacent Darling Range.

Specialist advice on irrigation farming methods is available through the Department of Agriculture and the properties are watered on a rotational plan, according to the 'Zone', or section of the District, within which the farms are situated. Three free waterings are given each season on all rated land. All other waterings are charged for and special waterings, out of rotation, are available at a higher fee.

The Harvey Irrigation District, opened in 1916, was the first large-scale project. Harvey Weir, with a capacity of 520 million gallons on completion, was constructed as the source of water supply and the service initially provided was for 3,000 acres of land for citrus growing.

The success of dairying and stock raising and to a lesser extent vegetable growing, which have replaced citrus culture, has led to gradual but substantial extensions of the South-West irrigation area. The damming of Drakes Brook in 1931 and Samson Brook in 1941 provided a storage capacity of 2,281 million gallons which, by alterations to Samson Brook Dam in 1960, has been increased to 2,525 million gallons and is used for the irrigation of 3,526 rated acres in the Waroona Irrigation District. Construction of a third storage to serve the Waroona District was begun in 1963. Known as Waroona Dam, it was built on Drakes Brook about three miles up-stream from the existing Drakes Brook Dam. Its capacity is 3,290 million gallons and storage, which commenced in June 1966, was available for the 1966-67 irrigation season. In 1931 the capacity of Harvey Weir was enlarged to 2,275 million gallons (including flashboard storage) and in 1948 Stirling Dam, with an original capacity of 12,060 million gallons (increased to 12,552 million gallons by alterations in 1958), was completed further up-stream on the Harvey River. These works enabled the Harvey Irrigation District to be extended northward



to link with the Waroona District. Logue Brook Dam, with a capacity of 5,358 million gallons, was completed in 1963 and provides additional supplies for the Harvey Irrigation District, the rated area of which is now 13,536 acres.

During 1969 construction of the Glen Mervyn Dam on a tributary of the Preston River near Mumballup was completed. Water from this dam will be available each summer for controlled release into the Preston River when the natural stream flow is insufficient for the irrigation of orchards downstream from Donnybrook.

Concurrently with developments in the Harvey and Waroona Irrigation Districts, action was taken to conserve water for the Collie River Irrigation District and Wellington Dam on the Collie River was completed in 1933. In view of its importance, not only to irrigation projects but also to the Great Southern Towns Water Supply, the wall of this reservoir has been raised and when work was completed in 1960 its capacity of 8,000 million gallons was increased to 40,790 million gallons. It serves an area of 11,739 rated acres in the Collie River Irrigation District, which extends from Brunswick Junction to Dardanup.

Details of irrigation in each district in the years 1968-69 and 1969-70 are given in the following table.

## IRRIGATION: SOUTH-WEST SCHEMES

| Particulars                                              | Irrigation district |         |         |         |              |         |                       |         | Total   |         |
|----------------------------------------------------------|---------------------|---------|---------|---------|--------------|---------|-----------------------|---------|---------|---------|
|                                                          | Waroona             |         | Harvey  |         | Collie River |         | Preston Valley<br>(a) |         |         |         |
|                                                          | 1968-69             | 1969-70 | 1968-69 | 1969-70 | 1968-69      | 1969-70 | 1968-69               | 1969-70 | 1968-69 | 1969-70 |
| Area watered—                                            |                     |         |         |         |              |         |                       |         |         |         |
| Pasture .... acres                                       | 4,012               | 4,499   | 14,158  | 14,237  | 13,512       | 14,279  | ....                  | ....    | 31,682  | 33,015  |
| Fodder crops ..                                          | 227                 | 350     | 222     | 115     | 624          | 720     | ....                  | ....    | 1,073   | 1,185   |
| Potatoes ..                                              | ....                | ....    | ....    | ....    | 232          | 153     | ....                  | ....    | 232     | 153     |
| Other vegetables ..                                      | 275                 | 245     | 36      | 49      | 14           | 31      | ....                  | ....    | 325     | 325     |
| Orchards ....                                            | ....                | ....    | 188     | 203     | 47           | 57      | ....                  | 497     | 235     | 757     |
| Total ..                                                 | 4,514               | 5,094   | 14,604  | 14,604  | 14,429       | 15,240  | ....                  | 497     | 33,547  | 35,435  |
| Acre waterings (b)....                                   | 27,154              | 36,453  | 97,429  | 120,096 | 84,405       | 107,900 | ....                  | 2,205   | 208,988 | 266,654 |
| Average number of waterings (c)                          | 6.0                 | 7.1     | 6.6     | 8.3     | 5.8          | 7.7     | ....                  | 4.4     | 6.1     | 27.5    |
| Total water gauged at entry to district .... million gal | 4,095               | 4,521   | 13,822  | 16,287  | 13,238       | 16,419  | ....                  | 92      | 31,155  | 37,319  |
| Dam capacity (d) .... " "                                | 5,815               | 5,815   | 19,675  | 19,865  | 40,790       | 40,790  | ....                  | 329     | 66,280  | 66,799  |
| Length of channels .... miles                            | 46                  | 46      | 155     | 154     | 127          | 125     | ....                  | ....    | 328     | 325     |

(a) Commenced in 1969-70. (b) Area watered multiplied by number of waterings. Figures shown represent the sum of acre waterings for individual holdings in each district. (c) Total acre waterings divided by total area watered. (d) Excludes flashboard storage.

## NORTHERN IRRIGATION SCHEMES

Although not yet comparable in size with the South-West undertakings, the irrigation areas at Carnarvon and on the Ord and Fitzroy Rivers in the northern portion of the State are of increasing significance.

**Carnarvon.** During the past thirty-five years a centre of tropical agriculture has been developed at Carnarvon, near the mouth of the Gascoyne River. At first a number of tropical fruits were grown but, until recent years, production consisted mainly of bananas. A considerable quantity of early beans is now grown for the metropolitan market and for export interstate, and production of tomatoes and a variety of other vegetables has also increased in importance.

Agricultural development has been made possible only by irrigation, as the rainfall is extremely variable and averages little more than nine inches per annum. Each holding has its own irrigation plant and, wherever possible, the pumping unit is installed on a bank of the Gascoyne River. Usually the river bed is exposed, as surface flow does not occur regularly each year. Concrete-lined wells have been sunk into the river sands and

the water obtained is pumped either to storage tanks or direct to the plantation feeder channels, from which it is distributed among the plants by furrows. Because of the limitations of supply from the river sands, the State Government has instituted controls over the quantity of water pumped by growers, has commenced to develop up-river sources and is delivering supplementary water by pipeline to forty-three plantations on the south bank of the river at the eastern extremity of the Carnarvon Irrigation District. A tropical research station is maintained at Carnarvon by the Department of Agriculture. To the early activities of this research station may be credited much of the success of the Carnarvon plantations, notably in the field of plant selection and pest control, and experimental work is being continued.

**Ord River.** The Ord River in the Kimberley Division traverses a tropical area which receives monsoonal rains of irregular incidence and quantity, varying from an annual mean of twenty inches in the south to thirty inches in the north. Investigations at the Kimberley Research Station, established in 1945 and operated by the Department of Agriculture in conjunction with the Commonwealth Scientific and Industrial Research Organization, have shown that the climate and soil conditions are favourable for the cultivation of sorghum, sugar-cane, rice, cotton, safflower and various oil seeds. As a result of these investigations the State Government, with Commonwealth financial assistance, has embarked on a project to provide water supplies for irrigation in the area.

The Ord Irrigation Project provides for the development of 178,000 acres of land agriculturally and topographically suitable for irrigation. The project comprises four stages, the first being the construction of a diversion dam to supply water for an area of 30,000 acres and the second, the building of a main storage dam with a capacity of 4.6 million acre-feet (equivalent to more than 1,256,000 million gallons). The other stages are the progressive development of the whole 178,000 acres and the construction of a hydro-electric power station.

The diversion dam, situated at Bandicoot Bar about sixty-five miles by road south-east of Wyndham and thirty miles downstream from the site of the proposed Ord Dam, was officially opened on 20 July 1963. The capacity of the diversion dam is 21,467 million gallons and irrigation from the dam commenced in April 1963.

There are thirty farms included in the first stage of the project and each has an approximate area of 660 acres. Cotton is the principal crop, although small areas of other crops are being grown. Fattening of cattle on irrigated fodder crops shows promise as another alternative.

An area of 2,400 acres formerly used as a pilot farm is now being developed privately. Under an agreement with the Government, the company concerned is conducting experiments in large-scale grain sorghum growing and integration of sorghum growing with the existing cattle industry in the area.

The diversion dam was recognised by the Commonwealth Government in August 1959 as an approved project within the meaning of the *Western Australia Grant (Northern Development) Act 1958-1959* (Commonwealth). This legislation provides for payment by the Commonwealth to the State Government of a non-repayable grant of \$10 million for development of the part of the State north of 20°S. latitude. Of this grant \$8.2 million was spent on the diversion dam. In February 1963 a further approach was made to the Commonwealth requesting an amount of \$3.3 million for the completion of channels and drains required to develop the whole of the 30,000 acres included in the first stage of the project. The request was approved in August 1963 and moneys made available by way of grant in terms of the *Western Australia (Northern Development) Agreement Act 1963*.

In November 1967, the Commonwealth Government approved the plan for the second phase of the Ord River Irrigation Scheme and agreed to provide financial assistance to the State for the works involved. Agreement as to the terms and conditions for financing the second phase of the scheme was announced in March 1968. In terms of the *Western Australia Agreement (Ord River Irrigation) Act 1968* the Commonwealth agreed to provide financial assistance to the State in an amount equivalent to expenditure on the works, up to a maximum of \$48.18 million. The assistance will take the form of a non-repayable



grant for the construction of the main Ord dam (estimated to cost \$20.93 million) and an interest-bearing loan for the associated irrigation and drainage facilities (estimated to cost \$27.25 million).

Construction of the Ord Dam commenced in 1969 and completion is planned for June 1972. A pump station and irrigation supply facilities, planned to bring 5,000 acres of new irrigated farmland into production on Packsaddle Plain, was completed in December 1971.

**Fitzroy River.** On the Liveringa flood plain, grain and fodder sorghums are being produced at Camballin, sixty-five miles south-east of Derby. Irrigation water from the Fitzroy River is diverted by means of a weir with a capacity of 1,025 million gallons constructed across the river. It is diverted through Uralla Creek, an anabranch, for seventeen miles to another dam with a storage of 1,209 million gallons constructed on Uralla Creek. Later it will be necessary to construct a storage dam on the upper reaches of the Fitzroy River for the large-scale developments envisaged for this area.

During 1969-70 the company concerned with the development used 958 acre feet of water for the irrigation of large-scale sorghum trials with a view to the production of grain sorghum and quality beef.

Details of irrigation in the Ord and Camballin Irrigation Districts for the years 1968-69 and 1969-70 are given in the following table.

IRRIGATION: ORD AND CAMBALLIN DISTRICTS

| Particulars                                         | Irrigation district |         |           |           | Total      |            |
|-----------------------------------------------------|---------------------|---------|-----------|-----------|------------|------------|
|                                                     | Ord                 |         | Camballin |           |            |            |
|                                                     | 1968-69             | 1969-70 | 1968-69   | 1969-70   | 1968-69    | 1969-70    |
| Area watered ....                                   | 10,142              | 9,497   | 814       | 600       | 10,956     | 10,097     |
| Acre waterings (a) ....                             | 67,888              | 91,826  | (b)       | (b)       | (c)        | (c)        |
| Average number of waterings (d) ....                | 6.7                 | 9.7     | (b)       | (b)       | (c)        | (c)        |
| Total water gauged at entry to district million gal | 8,804               | 14,294  | 1,233     | 261       | 10,037     | 14,555     |
| Dam capacity ....                                   | 21,467              | 21,468  | (e) 2,560 | (e) 2,560 | (e) 24,027 | (e) 24,027 |
| Length of channels ....                             | 65                  | 69      | 20        | 20        | 85         | 89         |

(a) Area watered multiplied by number of waterings. Figures shown represent the sum of acre waterings for individual holdings in each district. (b) Not applicable as irrigation is continuous. (c) See footnote (b). (d) Total acre waterings divided by total area watered. (e) Includes 326 million gallons of natural storage.

**Dunham River.** In addition to the government irrigation undertakings mentioned above, a private scheme is now in course of development in the Dunham River valley south of its confluence with the Ord River. An agreement between the Government of Western Australia and Goddard of Australia Pty. Ltd., subsequently ratified by the *Irrigation (Dunham River) Agreement Act, 1968*, authorises the company to construct a dam on Arthur Creek, a tributary of the Dunham River, to irrigate the pilot area. The company, in terms of the agreement, is required to subdivide the pilot area into not more than ten holdings each containing an area of approximately 1,000 acres, of which some 600 acres will be irrigated.

If the company demonstrates to the Government that it is both practical and economically sound to develop the pilot area for agricultural purposes by way of closer settlement in holdings of about 1,000 acres, the company will be authorised to proceed with phase 2 of the plan—the construction of a dam on the Dunham River and a suitable water distribution system. The additional area involved in the second phase of the scheme amounts to approximately 34,000 acres.

## WATER RESOURCES INVESTIGATION AND MEASUREMENT

Work on the investigation and measurement of the water resources of Western Australia, both surface and underground, has been accelerated in recent years partly due to the activities of the Australian Water Resources Council, which was established by joint

action of the Commonwealth and State Governments in 1962. The Council comprises Commonwealth and State Ministers primarily responsible for water resources, with the Commonwealth Minister for National Development as Chairman.

The primary objective of the Council is the provision of a comprehensive assessment on a continuing basis of Australia's water resources, and the extension of measurement and research so as to provide a sound basis for the planning of future development.

In terms of its main objective, the Council in 1964 recommended, and the Commonwealth and State Governments agreed, that there should be an accelerated programme of establishment of stream gauging stations and investigation of underground water. Financial assistance to the States was rendered by the Commonwealth under the *States Grants (Water Resources) Act 1964*, subject to certain qualifying expenditure by each State, and during the three-year period ended 30 June 1967, non-repayable grants totalling \$581,342 were received by Western Australia.

Under the *States Grants (Water Resources Measurement) Act 1967*, financial assistance to the States was continued for a further three years until 30 June 1970. The amount of grant payable to Western Australia over this period totalled \$844,650. In addition to grants received in respect of 1969-70 for measurement of discharge of rivers (\$230,400) and investigation and measurement of underground water resources (\$81,150), expenditure financed by the State amounted to \$268,119 and \$694,861, respectively.

Financial assistance by the Commonwealth is extended to 30 June 1973 under the *States Grants (Water Resources Measurement) Act 1970*. Subject to specified qualifying expenditure by the State, the maximum amount of grant payable to Western Australia under the Act is \$1,951,800, comprising \$864,300 for measurement of discharge of rivers and \$1,087,500 for investigation and measurement of underground water resources.

### Surface Water

To enable rivers and streams to be utilised efficiently, the quantity and quality of water flowing in many rivers and streams throughout Western Australia are being measured. These vary from comparatively small streams, to relatively large rivers such as the Ord River in the Kimberley.

The number of stream-gauging stations in operation is increasing each year and at 30 June 1971 totalled 180, compared with 164 at 30 June 1970. All stations are now under the control of the Public Works Department, a small number being operated previously by the Metropolitan Water Supply, Sewerage, and Drainage Board and the Department of Agriculture.

The distribution of the gauging stations in the various drainage divisions is as follows:

|                                         |      |      |      |      |      |      |     |
|-----------------------------------------|------|------|------|------|------|------|-----|
| South-West Coast Division               | .... | .... | .... | .... | .... | .... | 117 |
| (Esperance to the Hill River)           |      |      |      |      |      |      |     |
| Indian Ocean Division                   | .... | .... | .... | .... | .... | .... | 29  |
| (Arrowsmith River to the De Grey River) |      |      |      |      |      |      |     |
| Timor Sea Division                      | .... | .... | .... | .... | .... | .... | 34  |
| (Broome to the Ord River)               |      |      |      |      |      |      |     |
| Total                                   | .... | .... | .... | .... | .... | .... | 180 |

### Underground Water

To locate and measure the quantity and quality of underground water available to supply the ever-growing needs of town water supplies, industries, farmers, pastoralists, etc. a considerable amount of investigation, including drilling, is in progress in Western Australia. The work is being carried out by the Department of Mines, the Public Works Department, and the Metropolitan Water Supply, Sewerage, and Drainage Board, with the Department of Mines assuming the major responsibility for hydro-geological work.

Underground water exploration projects in course during 1970-71 included a major investigation of the Coorow-Watheroo area, where it is hoped to locate large quantities of underground water which may be pumped inland to serve towns and farms in agri-

cultural areas, and an investigation of the large calcrete aquifer on Millstream Station which may prove a suitable source for a regional water supply for industry, etc. in the southern Pilbara. Investigations to locate underground water to provide or augment the water supplies of Perth, Albany, Bremer Bay, Cervantes, Cranbrook, Eneabba, Nabawa, Kalbarri, Carnarvon and Port Hedland, were also carried out during 1970-71.

## SEWERAGE SCHEMES

### Metropolitan Sewerage

There are three major sewerage systems and four smaller systems administered by the Metropolitan Water Supply, Sewerage, and Drainage Board within the metropolitan area.

Sewage from the major systems either gravitates or is pumped through the pipe systems to treatment works at Subiaco, Swanbourne and Woodman Point. After treatment the effluent is discharged into the Indian Ocean, some distance from the coast under a substantial depth of water.

The four smaller systems are served by treatment plants at Canning Vale, Westfield, Eden Hill and Kelmscott, the treated effluent being disposed of in sandy soil in the vicinity of the plant sites.

The following table shows the number of services, population served and the length of sewer mains under the control of the Metropolitan Water Supply, Sewerage, and Drainage Board at 30 June for each of the years 1966 to 1970.

METROPOLITAN SEWERAGE SYSTEMS

| At 30 June— | Services | Population served | Length of sewers |
|-------------|----------|-------------------|------------------|
|             | number   | persons           | miles            |
| 1966 ....   | 70,283   | 243,500           | 816              |
| 1967 ....   | 71,188   | 260,000           | 848              |
| 1968 ....   | 72,177   | 280,048           | 886              |
| 1969 ....   | 74,018   | 281,651           | 931              |
| 1970 ....   | 76,638   | 296,000           | 988              |

### Country Towns Sewerage

A number of towns outside the metropolitan area have sewerage schemes which were constructed pursuant to the *Country Towns Sewerage Act, 1948-1967*. In addition, a further eight schemes have been provided by local government authorities or as private development in mining areas by certain mining companies.

Some expansion in local authority construction can be anticipated because of a recent subsidy proposal of the State designed to assist local government authorities in developing this service.

The following table shows the number of towns sewered, the area sewered and the number of services controlled by the Public Works Department at 30 June for each of the years 1966 to 1970.

COUNTRY SEWERAGE SYSTEMS

| At 30 June— | Number of towns sewered | Area sewered | Length of sewers | Services |
|-------------|-------------------------|--------------|------------------|----------|
|             | number                  | acres        | miles            | number   |
| 1966 ....   | 19                      | 3,956        | 151              | 5,774    |
| 1967 ....   | 20                      | 4,317        | 162              | 6,417    |
| 1968 ....   | 21                      | 4,525        | 173              | 7,201    |
| 1969 ....   | 22                      | 4,882        | 186              | 7,967    |
| 1970 ....   | 25                      | 5,374        | 209              | 8,796    |

## CHAPTER VIII—PRODUCTION

Secondary industry in Western Australia has become increasingly important and in recent years almost equalled primary industry in terms of net value of production. This relationship, however, is being materially affected by the development of recent major discoveries of minerals, including iron ore, nickel, oil and bauxite. Primary production, and in particular the agricultural, pastoral and mining sectors, may therefore still be regarded as having the greater influence on the economy of the State.

Farming has been carried on from the earliest years of settlement but its development was originally restricted by inadequate transport, shortage of labour and a limited local consumption. These difficulties were partly overcome by the introduction of convict labour during the period from 1850 to 1868, but the Colony was still dependent on the importation of many items of foodstuffs when the position was aggravated by a great influx of people attracted by the discovery of gold in the Kimberley in 1885 and by the spectacular finds in the 1890s at Coolgardie and Kalgoorlie and at other places on the eastern goldfields. Between 1890 and 1905 the population increased from 48,502 to 250,138 and, despite an increase in the area under crop from 69,700 acres to 364,700 acres during these years, agricultural production remained insufficient to meet local demands.

A decline in gold mining which began after 1903 caused a growing interest in farming as an alternative pursuit and by 1911 the area under crop had increased to more than 1 million acres, of which 612,000 were sown to wheat for grain. Since that time, although there have been some fluctuations in agricultural activity, the area under crop has risen to almost 9·7 million acres in 1969-70 of which 6·8 million acres are sown to wheat for grain.

Circumstances similar to those applying to agriculture stimulated the growth of the pastoral industry and large cattle and sheep stations were established on land leased from the Crown, mainly in the northern and north-western areas and in parts of the eastern goldfields. The number of cattle in the State increased from 131,000 to 825,000 and of sheep from 2,525,000 to 5,159,000 between 1890 and 1910, when nearly three-fifths of the sheep were in the pastoral areas and little more than two-fifths in the agricultural areas as defined on pages 360-1. With the development of mixed wheat and sheep farming the total number of sheep has risen and in 1970 was 33·6 million, but only about 11 per cent are now in the pastoral areas. Of the total of 1,681,090 cattle in the State in 1970 over 38 per cent were in the Kimberley Division where cattle are raised almost exclusively for meat production.

The contribution of mining to the Western Australian economy is substantial and in 1969-70 the major minerals in terms of value of production were iron ore, oil, nickel, gold, construction materials, mineral beach sands, bauxite, coal, salt and tin. Production of minerals is expected to increase still further as deposits of petroleum, nickel, iron ore and bauxite in particular are developed.

Dairying with an average annual milk production over the last five years of over 57 million gallons, is a significant factor in primary industry.

The demand for jarrah and karri hardwoods has long been a feature of the State's economy. Indiscriminate cutting in earlier years and disregard of the need for preservation and regeneration threatened the survival of the timber industry. However, governmental controls over forestry operations and a policy of reforestation introduced in 1918 have proved to be effective and the industry is now established on a firm basis, timber forming an important component of primary production.

The overseas demand for rock lobsters, which developed in post-war years, gave great impetus to the fishing industry. The total value of the take of fish, crustaceans and molluscs in 1969-70 was \$15,848,000, a very substantial increase on the figure for 1947.

Interest in whaling was evident in the first years of colonisation, exports of oil and whale-bone being recorded in the earliest of the colonial Blue Books. Whaling activity since then has fluctuated widely and at times ceased altogether. The latest large-scale revival of the industry began in 1949 when a station at Point Cloates on the north-west coast was reopened after a lapse of more than twenty years. Since the 1963 season, activity has declined considerably following the imposition by the International Whaling Commission of a total ban on the taking of humpback whales. The only station now operating is at Frenchman Bay near Albany where sperm whaling is conducted.

Secondary industry has expanded substantially in recent years and may be expected to expand even more rapidly in future. There are a growing number of factories which rely mainly on the interstate and overseas export of their products and this recent trend indicates that dependence primarily on local demand is becoming less serious as an obstacle to development than it has been in the past.

### GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

The following brief survey of production in the Statistical Divisions of the State should be read in conjunction with the map appearing at the back of the Year Book. Reference should also be made to the *Note on Statistical Divisions* preceding the Index.

The Perth Division (2,073 square miles), which has an estimated population of 663,000 (30 June 1970) or over two-thirds of the State total, is the principal centre of manufacturing activity with establishments engaged in most types of secondary industry. Many of the larger industrial establishments located in the Perth Division are concentrated in the Kwinana area where development has been encouraged by the dredging of a deep-water channel and the construction of harbour facilities to meet the requirements of large-scale projects.

Farm activity for the Division is confined mainly to the production of citrus, pome and stone fruits, eggs, poultry, vegetables and whole milk. Production is principally for consumption within the metropolitan area but small quantities are exported. In addition, most of the State's viticultural industry is carried on in this region. Table grapes, currants, raisins and sultanas are produced for the local market and for export, and wine-making grapes are grown for use in local wineries. A well-established fishing industry operates from the port of Fremantle, the main catch being rock lobsters. Bauxite is mined at Jarrahdale for treatment at an alumina refinery at Kwinana.

The South-West Division (11,031 square miles) is the main dairying area of the State and produces a large proportion of the total output of whole milk and of butter, cheese and condensery products. Pig raising is carried on both separately and as an ancillary activity to dairying. The rearing of cattle for meat production is also of major importance. Apples, pears, stone fruits, potatoes and other vegetables are grown extensively. Vegetable crops (principally peas and beans for processing) are grown in the Manjimup area. Timber is one of the main products, being milled over a wide area, and coal, ilmenite, zircon and tin are the principal minerals produced. Commercial fishing is centred on Mandurah, Bunbury and Busselton. The factories of the Division include sawmills, butter, cheese and milk-processing plants, meat works, a superphosphate works, a large chemical factory producing titanium oxide pigments and two major electricity generating stations. A major bauxite-alumina complex is under construction in the Pinjarra area.

The Southern Agricultural, Central Agricultural and Northern Agricultural Divisions, which together cover 84,356 square miles, comprise the principal cereal-growing districts and produce the bulk of the State's wheat, oats and barley crops. The development of clover ley farming over a wide area has led to a remarkable increase in the number of sheep carried on farms in these Divisions and the total, 25.9 million, comprises over three-quarters of the State's sheep population. There has been a corresponding rise in wool production which now represents over 78 per cent of the State's clip. The raising of cattle, principally for meat production, has also increased in importance and the number kept for all purposes is now 342,386 or more than 20 per cent of the State total. Tomatoes and other vegetables are grown in the area around Geraldton and citrus fruits in the

Chittering area. Cattle for dairying and meat production, apple and pear growing and potato growing are important in the districts around Denmark, Albany and Mount Barker while large quantities of peas for processing are produced around Mount Barker and Gnowangerup. Other crops of increasing importance are lupins and rapeseed. Whaling and fishing are carried on from Albany, on the south coast, and the important rock lobster-fishing industry on the lower west coast is based on the Abrolhos Islands, Geraldton, Dongara, Jurien Bay, Cervantes and Lancelin Island. Lead has been mined near Northampton for many years and the mining of iron ore, which is being shipped to Japan from Geraldton, commenced at Koolanooka in 1966.

Factories in these Divisions include flour-mills, superphosphate works, butter factories, sawmills, a woollen mill, a charcoal iron and wood-distillation plant, a fish cannery and a meat works.

The North-West Division (77,611 square miles) has 1·39 million sheep, representing 4 per cent of the State total, and 34·3 thousand cattle. Tropical agriculture has been developed on the Gascoyne River at Carnarvon where bananas and beans and other vegetables are grown. An important prawn-fishing industry has been established in the Division, the principal areas being Carnarvon, Exmouth Gulf and Point Samson. Commercial fishermen operate also from Shark Bay. Solar salt projects have been established at Port Hedland and also at Lake MacLeod, about forty miles north of Carnarvon.

The Kimberley Division (162,363 square miles), with over 624 thousand cattle, or almost 39 per cent of the State total, and meat works at Wyndham, Derby and Broome, is an important source of beef for export from Western Australia to overseas markets. Broome is also the centre of pearl-shell fishing. Culture pearls are being successfully produced at Kuri Bay in Brecknock Harbour, Cygnet Bay in King Sound and at Exmouth Gulf. Iron ore is mined at Cockatoo and Koolan Islands in Yampi Sound. Reference is made on pages 328-9 to agricultural developments at Kununurra on the Ord River and Camballin on the Fitzroy River.

The Eastern Goldfields, Central and Pilbara Divisions, covering a total area of 638,486 square miles, contain the principal gold and mineral fields of the State and almost all the gold produced in Western Australia comes from this area. Iron ore, which is used for the production of pig-iron at Wundowie in the Darling Range, east of Perth, has been mined since 1950 at Koolyanobbing, east of Bullfinch in the Yilgarn district. Deposits in this area are being mined on a large scale for the supply of ore to the blast furnace at Kwinana and for export. Other large-scale deposits of iron ore in the Pilbara Division are being mined for export or are under development for production. Further reference to these operations will be found on pages 393-4. A plant producing iron ore pellets from iron ore fines commenced operations at Dampier in 1968. Other minerals and ores produced elsewhere in these Divisions include crude petroleum, nickel, beryl, felspar, gypsum, and ores of copper, manganese, silver, tin and tanto-columbite. Although mining is the main industry, these Divisions contribute also to pastoral output, the area containing 13 per cent of the sheep and 10 per cent of the cattle in the State. Cereals are grown in the south-western portion of the Eastern Goldfields Division, which produced 6·9 million bushels of wheat, oats and barley in 1969-70.

## Part 1—Primary Production

### LAND UTILISATION ON RURAL HOLDINGS

In 1969-70 there were 22,937 rural holdings in the State, comprising 280·8 million acres of land or just over 44 per cent of the total area of Western Australia.

The total area of rural holdings consisted of 35·0 million acres of cleared land and 245·8 million acres uncleared. Of the cleared land, 9·7 million acres were used for crop, 16·5 million acres were under established pastures, 1·0 million acres were newly cleared during the season and 1·4 million acres were in fallow. The balance of the cleared area, 6·5 million acres, comprised land which was used for grazing or was resting during the season. The uncleared land is mainly pastoral leases held by sheep and cattle stations.

Land development in the post-war period was stimulated by generally favourable prices for agricultural and pastoral commodities. Special concessions to primary producers under the provisions of the taxation legislation also contributed to the increased capital investment in primary industry. This development, undertaken principally by established farmers and by the War Service Land Settlement Board, was aided by the introduction of modern mechanical methods of land clearing. As a result, the area of cleared land on rural holdings more than doubled, from 14.6 million acres in 1946-47 to 35.0 million acres in 1969-70. In the same period land used for crops increased from 3.5 million acres to 9.7 million acres and the area under established pastures from 2.1 million to 16.5 million acres. The area in fallow, which was 2.1 million acres in 1946-47, has decreased and in 1969-70 it was 1.4 million acres.

## LAND UTILISATION

| Season       | Cleared land      |                           |                                         |            |                             |            | Active rural holdings |            |
|--------------|-------------------|---------------------------|-----------------------------------------|------------|-----------------------------|------------|-----------------------|------------|
|              | Used for crop (a) | Under established pasture | Newly cleared, prepared for next season | In fallow  | Used for grazing or resting | Total      | Number                | Area       |
|              | '000 acres        | '000 acres                | '000 acres                              | '000 acres | '000 acres                  | '000 acres |                       | '000 acres |
| 1965-66 .... | 8,449             | 11,382                    | 1,194                                   | 1,942      | 7,931                       | 30,898     | 22,853                | 270,054    |
| 1966-67 .... | 8,558             | 13,018                    | 1,300                                   | 2,023      | 6,970                       | 31,869     | 23,181                | 274,765    |
| 1967-68 .... | 8,883             | 14,528                    | 1,357                                   | 1,846      | 6,193                       | 32,806     | 23,116                | 275,334    |
| 1968-69 .... | 9,490             | 15,363                    | 1,298                                   | 1,828      | 5,784                       | 33,762     | 23,004                | 276,174    |
| 1969-70 .... | 9,676             | 16,472                    | 990                                     | 1,353      | 6,493                       | 34,984     | 22,937                | 280,819    |

(a) Excludes meadow hay.

## LAND UTILISATION IN EACH STATISTICAL DIVISION: 1969-70

| Statistical Division       | Cleared land      |                           |                                         |           |                             |            | Active rural holdings |             |
|----------------------------|-------------------|---------------------------|-----------------------------------------|-----------|-----------------------------|------------|-----------------------|-------------|
|                            | Used for crop (a) | Under established pasture | Newly cleared, prepared for next season | In fallow | Used for grazing or resting | Total      | Number                | Area        |
|                            | acres             | acres                     | acres                                   | acres     | acres                       | acres      |                       | acres       |
| Perth ....                 | 24,632            | 202,346                   | 9,316                                   | 6,649     | 48,472                      | 291,415    | 3,721                 | 430,043     |
| Southern-West ....         | 91,875            | 1,467,396                 | 58,084                                  | 13,628    | 163,278                     | 1,794,261  | 4,342                 | 2,636,430   |
| Southern Agricultural .... | 1,456,738         | 4,814,396                 | 236,991                                 | 317,079   | 986,855                     | 7,812,059  | 4,689                 | 10,499,152  |
| Central Agricultural ....  | 4,364,412         | 5,214,601                 | 181,677                                 | 405,070   | 2,443,231                   | 12,608,991 | 4,977                 | 15,518,648  |
| Northern Agricultural .... | 2,865,601         | 3,681,371                 | 278,947                                 | 330,069   | 2,213,588                   | 9,369,576  | 3,366                 | 15,986,553  |
| Eastern Goldfields ....    | 851,207           | 1,082,179                 | 221,377                                 | 275,562   | 572,058                     | 3,002,383  | 1,245                 | 51,054,233  |
| Central ....               | 3,692             | 164                       | 625                                     | ....      | 5,978                       | 10,459     | 159                   | 64,367,129  |
| North-West ....            | 1,793             | 65                        | 88                                      | 341       | 761                         | 3,048      | 248                   | 41,290,439  |
| Pilbara ....               | 6                 | ....                      | 6                                       | 6         | 35                          | 53         | 57                    | 23,466,863  |
| Kimberley ....             | 15,692            | 9,541                     | 2,678                                   | 4,800     | 58,593                      | 91,304     | 133                   | 55,569,090  |
| Total ....                 | 9,675,648         | 16,472,059                | 989,789                                 | 1,353,204 | 6,492,849                   | 34,983,549 | 22,937                | 280,818,580 |

(a) Excludes meadow hay.

## EMPLOYMENT AND POPULATION

The permanent male work force on rural holdings in the State has been reasonably stable since the end of World War 2. This has been due partly to the rapid development of power farming, which is indicated by the rise in the number of farm tractors from 25,612 in 1960 to 35,870 in 1970. The result has been that, in spite of greatly increased production, there has been little change in the permanent male work force which has decreased from 30,580 in 1960 to 28,590 in 1970. Permanent male workers in 1970 consisted of 18,658 owners, lessees, tenants and share farmers, 1,783 farmers' relatives who were not receiving wages and 8,149 paid employees. Full information is not available regarding temporary, casual or seasonal employment and details are excluded from the following table. Female employment is also excluded because of the difficulty in separating domestic from farm activities.

## MALE EMPLOYMENT, POPULATION AND TRACTORS ON RURAL HOLDINGS

| At 31 March— | Males working permanently full-time on holdings |                               |                                     |        | Population of rural holdings |         |         | Farm tractors |
|--------------|-------------------------------------------------|-------------------------------|-------------------------------------|--------|------------------------------|---------|---------|---------------|
|              | Owners, lessees, tenants and share-farmers      | Relatives not receiving wages | Employees, including paid relatives | Total  | Males                        | Females | Persons |               |
| 1966 ....    | 20,530                                          | 1,173                         | 8,506                               | 30,209 | 50,126                       | 41,581  | 91,707  | 32,312        |
| 1967 ....    | 20,215                                          | 1,289                         | 8,051                               | 29,555 | 50,000                       | 41,596  | 91,596  | 33,997        |
| 1968 ....    | 19,132                                          | 1,206                         | 9,332                               | 29,670 | 49,956                       | 41,336  | 91,292  | 35,158        |
| 1969 ....    | 18,866                                          | 1,346                         | 8,640                               | 28,852 | 48,509                       | 40,403  | 88,912  | 35,005        |
| 1970 ....    | 18,658                                          | 1,783                         | 8,149                               | 28,590 | 46,807                       | 38,867  | 85,674  | 35,870        |

## MACHINERY

The following table shows the principal items of machinery on rural holdings at 31 March in each of the years from 1966 to 1970. The most significant change in machinery on rural holdings has occurred in relation to tractors. Not only have the numbers of tractors continued to increase but the trend is towards tractors of larger horsepower.

## MACHINERY ON RURAL HOLDINGS

| Type                                                                         | At 31 March— |        |        |        |        |
|------------------------------------------------------------------------------|--------------|--------|--------|--------|--------|
|                                                                              | 1966         | 1967   | 1968   | 1969   | 1970   |
| Cultivating machines—                                                        |              |        |        |        |        |
| Mouldboard ploughs—                                                          |              |        |        |        |        |
| Trailing type ....                                                           | (a)          | 2,755  | (a)    | (a)    | 2,038  |
| Tractor-mounted type ....                                                    | (a)          | 1,787  | (a)    | (a)    | 1,434  |
| Disc implements (including disc ploughs, disc cultivators and disc harrows)— |              |        |        |        |        |
| Trailing type ....                                                           | (a)          | 17,911 | (a)    | (a)    | 17,121 |
| Tractor-mounted type ....                                                    | (a)          | 3,848  | (a)    | (a)    | 3,260  |
| Tine implements—                                                             |              |        |        |        |        |
| Chisel ploughs, scarifiers, cultivators, rippers—                            |              |        |        |        |        |
| Trailing type ....                                                           | (a)          | 11,789 | (a)    | (a)    | 12,198 |
| Tractor-mounted type ....                                                    | (a)          | 4,184  | (a)    | (a)    | 3,803  |
| Tine harrows—Number of sections—                                             |              |        |        |        |        |
| Trailing type ....                                                           | (a)          | 41,340 | (a)    | (a)    | 34,410 |
| Tractor-mounted type ....                                                    | (a)          | 3,308  | (a)    | (a)    | 2,793  |
| Rotary hoes—                                                                 |              |        |        |        |        |
| Self-contained power unit ....                                               | 1,647        | 1,823  | 1,793  | 1,743  | 1,671  |
| Tractor-mounted and trailing types....                                       | 1,539        | 1,513  | 1,517  | 1,578  | 1,622  |
| Seeding and fertilising machines—                                            |              |        |        |        |        |
| Grain drills—                                                                |              |        |        |        |        |
| Combine type ....                                                            | 13,593       | 13,628 | 13,942 | 13,954 | 14,168 |
| Other types ....                                                             | 4,752        | 4,192  | 4,315  | 3,661  | 3,499  |
| Fertiliser distributors and broadcasters—                                    |              |        |        |        |        |
| Rotary ....                                                                  | (a)          | (a)    | (a)    | 9,189  | (a)    |
| Direct drop ....                                                             | (a)          | (a)    | (a)    | 672    | (a)    |
| Total ....                                                                   | 9,159        | 9,540  | 10,086 | 9,861  | 10,017 |
| Harvesting machines—                                                         |              |        |        |        |        |
| Grain and seed harvesters (b)—                                               |              |        |        |        |        |
| Tractor drawn ....                                                           | (a)          | 10,003 | 10,341 | 9,709  | 9,317  |
| Self-propelled ....                                                          | (a)          | 1,069  | 1,325  | 1,524  | 1,592  |
| Total ....                                                                   | 11,398       | 11,072 | 11,666 | 11,233 | 10,909 |
| Agricultural mowers—                                                         |              |        |        |        |        |
| Reciprocating (cutter bar types)—Power driven (c) ....                       | (a)          | (a)    | 7,327  | (a)    | (a)    |
| Rotary types (including slashers and toppers) ....                           | (a)          | (a)    | 2,276  | (a)    | (a)    |
| Hay rakes—Side-delivery ....                                                 | (a)          | (a)    | 4,945  | (a)    | (a)    |
| Pick-up balers (including roto-balers) ....                                  | 3,461        | 3,624  | 3,845  | 3,905  | 4,113  |
| Forage harvesters ....                                                       | 494          | 547    | 558    | 614    | 644    |
| Potato diggers ....                                                          | (a)          | (a)    | 455    | (a)    | (a)    |
| Tractors—                                                                    |              |        |        |        |        |
| Wheeled ....                                                                 | 28,706       | (a)    | (a)    | 31,388 | (a)    |
| Crawler ....                                                                 | 3,606        | (a)    | (a)    | 3,617  | (a)    |
| Total ....                                                                   | 32,312       | 33,997 | 35,158 | 35,005 | 35,870 |
| Miscellaneous machines—                                                      |              |        |        |        |        |
| Hammer mills (including roughage mills) ....                                 | (a)          | (a)    | 1,921  | (a)    | (a)    |
| Milking machine units ....                                                   | 9,780        | 9,664  | 9,317  | 9,036  | 9,144  |
| Shearing machine stands ....                                                 | 22,486       | 23,431 | 24,799 | 25,355 | 26,385 |

(a) Not available.

(b) Includes headers but excludes clover seed harvesters.

(c) Including power take-off.





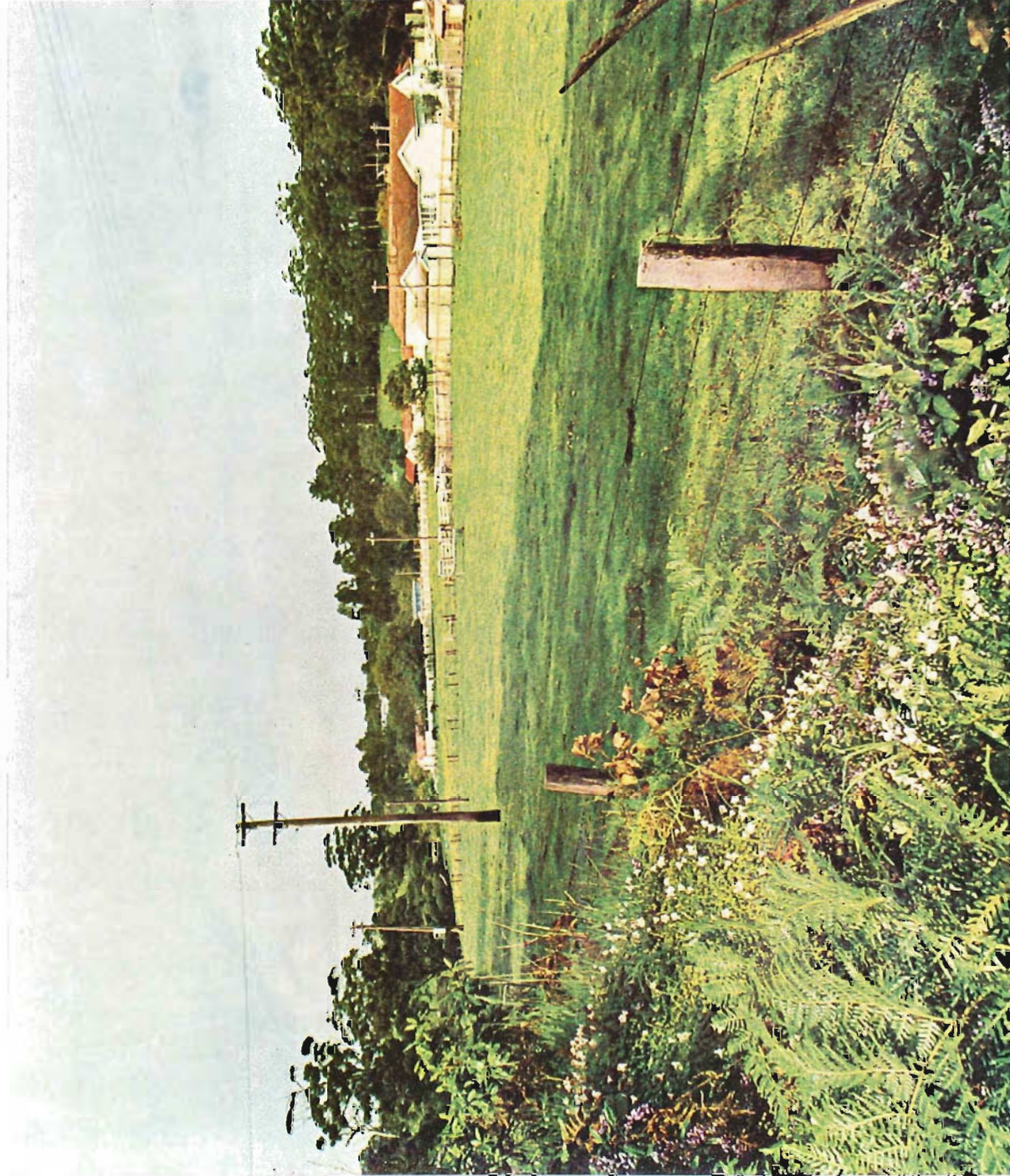
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CALVES ON KIKUYU PASTURE IN THE SOUTH-WEST



RESEARCH STATION  
DENMARK

Part of the Department of Agriculture's Research Station at Denmark on the south coast. The station has been developed as a major centre for dairy research in the State.



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## CLASSIFICATION OF RURAL HOLDINGS

Some of the information from the 1968-69 Agricultural and Pastoral Census was classified by size of principal characteristics (area of holdings, area of established pasture, area of selected crops and numbers of livestock). In addition all holdings were classified according to type of activity. Tables showing this information together with definitions and an outline of methods used have been published by the Commonwealth Bureau of Census and Statistics, Canberra in a series of bulletins, *Classification of Rural Holdings by Size and Type of Activity*, 1968-69.

Selected size classification tables for Western Australia are published elsewhere in this Part and the type of activity classifications for the State are shown below and on pages 338-9.

HOLDINGS CLASSIFIED ACCORDING TO TYPE OF ACTIVITY  
NUMBER AND AREA USED FOR VARIOUS PURPOSES—SEASON 1968-69

| Type of activity               | Number of holdings | Total area of holdings | Area used for— |                         |           |                     |                    |
|--------------------------------|--------------------|------------------------|----------------|-------------------------|-----------|---------------------|--------------------|
|                                |                    |                        | Fruit          | Crops (excluding fruit) | Fallow    | Established pasture | Balance of holding |
|                                |                    | acres                  | acres          | acres                   | acres     | acres               | acres              |
| Sheep—Cereal grain .....       | 6,355              | 23,846,051             | 43             | 5,922,681               | 824,957   | 8,424,369           | 8,674,001          |
| Sheep .....                    | 3,922              | 157,231,352            | 1,675          | 531,259                 | 129,390   | 4,149,585           | 152,419,443        |
| Cereal grain .....             | 2,030              | 8,705,190              | 22             | 2,787,781               | 642,902   | 671,490             | 4,602,995          |
| Cattle (meat production) ..... | 1,480              | 76,155,013             | 655            | 31,874                  | 15,367    | 808,251             | 75,298,866         |
| Cattle (milk production) ..... | 1,292              | 628,826                | 388            | 10,758                  | 2,303     | 409,257             | 206,120            |
| Vineyards .....                | 151                | 11,626                 | 4,147          | 280                     | 455       | 2,085               | 4,659              |
| Fruit (other than vine) .....  | 865                | 140,721                | 15,166         | 2,213                   | 1,768     | 63,720              | 57,854             |
| Vegetables—Potatoes .....      | 310                | 101,915                | 1,131          | 6,797                   | 1,336     | 47,946              | 44,705             |
| Other and mixed .....          | 699                | 22,907                 | 772            | 5,880                   | 1,278     | 4,311               | 10,666             |
| Poultry .....                  | 328                | 20,726                 | 402            | 745                     | 1,021     | 3,179               | 15,379             |
| Pigs .....                     | 201                | 108,336                | 107            | 7,102                   | 5,180     | 15,156              | 80,794             |
| Other .....                    | 173                | 1,954,300              | 90             | 24,033                  | 14,578    | 53,898              | 1,861,701          |
| Multi-purpose .....            | 523                | 892,256                | 2,842          | 107,906                 | 17,353    | 375,854             | 388,301            |
| Total, classified holdings     | 18,329             | 269,819,219            | 27,440         | 9,439,309               | 1,657,888 | 15,029,101          | 243,665,484        |
| Unclassified holdings—         |                    |                        |                |                         |           |                     |                    |
| Sub-commercial .....           | 3,295              | 3,826,064              | 4,978          | 16,546                  | 27,552    | 187,274             | 3,589,714          |
| Unused, special, etc. ....     | 1,380              | 2,528,338              | 219            | 2,390                   | 142,628   | 146,130             | 2,236,971          |
| Total, all rural holdings      | 23,004             | 276,173,621            | 32,637         | 9,458,245               | 1,828,068 | 15,362,505          | 249,492,169        |

HOLDINGS WITH PIG HERDS, CLASSIFIED ACCORDING TO TYPE OF ACTIVITY  
AND SIZE OF HERD—SEASON 1968-69

| Type of activity               | Size of pig herd (numbers) |      |       |       |       |       |       |       |              | Total  |
|--------------------------------|----------------------------|------|-------|-------|-------|-------|-------|-------|--------------|--------|
|                                | 1-4                        | 5-9  | 10-14 | 15-19 | 20-29 | 30-39 | 40-49 | 50-99 | 100 and over |        |
| Sheep—Cereal grain .....       | 86                         | 112  | 112   | 117   | 244   | 228   | 167   | 414   | 153          | 1,633  |
| Sheep .....                    | 48                         | 54   | 51    | 38    | 68    | 66    | 42    | 93    | 36           | 496    |
| Cereal grain .....             | 18                         | 25   | 21    | 35    | 48    | 47    | 46    | 119   | 89           | 448    |
| Cattle (meat production) ..... | 14                         | 13   | 12    | 8     | 6     | 6     | 5     | 10    | 5            | 79     |
| Cattle (milk production) ..... | 47                         | 45   | 25    | 33    | 49    | 30    | 28    | 86    | 49           | 392    |
| Vineyards .....                | ....                       | .... | 1     | ....  | ....  | ....  | ....  | ....  | ....         | 1      |
| Fruit (other than vine) .....  | 15                         | 2    | 2     | 2     | 5     | 1     | ....  | 5     | 1            | 33     |
| Vegetables—Potatoes .....      | 11                         | .... | 2     | ....  | 1     | 1     | ....  | 1     | ....         | 16     |
| Other and mixed .....          | 5                          | 1    | 1     | ....  | 1     | ....  | 1     | 2     | 2            | 13     |
| Poultry .....                  | 1                          | .... | 1     | 1     | 3     | ....  | 1     | 4     | 5            | 17     |
| Pigs .....                     | ....                       | .... | ....  | ....  | ....  | 5     | 5     | 69    | 122          | 201    |
| Other .....                    | 1                          | .... | ....  | ....  | ....  | 1     | ....  | ....  | ....         | 2      |
| Multi-purpose .....            | 13                         | 6    | 9     | 7     | 22    | 19    | 16    | 62    | 73           | 227    |
| Total, classified holdings     | 259                        | 258  | 237   | 241   | 447   | 405   | 311   | 865   | 535          | 3,558  |
| Unclassified holdings—         |                            |      |       |       |       |       |       |       |              |        |
| Sub-commercial .....           | * 58                       | 38   | 31    | 19    | 34    | 20    | 9     | 4     | ....         | * 213  |
| Unused, special, etc. ....     | ....                       | .... | ....  | ....  | ....  | ....  | ....  | ....  | ....         | ....   |
| Total, all rural holdings      | *317                       | 296  | 268   | 260   | 481   | 425   | 320   | 869   | 535          | *3,771 |

\* Revised.

In the first table on page 337, the number and area of rural holdings used for various purposes are shown. Of the 23,004 rural holdings of all types in the State, sheep and cereal grain was the principal activity of 6,355 or 28 per cent of the total. The greatest area was occupied by holdings with sheep as the principal activity, which accounted for 57 per cent of the total area of all holdings, followed by cattle for meat production with 28 per cent.

The second table on page 337 shows, for holdings with pig herds, the size of the herd for each type of activity. Pig raising was associated principally with the activity sheep and cereal grain.

Of the 9,236 holdings growing wheat for grain, 6,142 or over 66 per cent were combined with sheep as the principal activity, as shown in the following table. Cereal grain was the next most important activity associated with the growing of wheat for grain, accounting for 2,008 or over 65 per cent of the remaining 3,094 holdings.

HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO  
TYPE OF ACTIVITY AND AREA—SEASON 1968-69

| Type of activity                              | Area of wheat for grain (acres) |         |         |         |         |         |         |             |                | Total |
|-----------------------------------------------|---------------------------------|---------|---------|---------|---------|---------|---------|-------------|----------------|-------|
|                                               | 1-99                            | 100-199 | 200-299 | 300-399 | 400-499 | 500-699 | 700-999 | 1,000-1,999 | 2,000 and over |       |
| Sheep—Cereal grain ....                       | 242                             | 459     | 515     | 594     | 598     | 1,110   | 1,130   | 1,199       | 295            | 6,142 |
| Sheep ....                                    | 535                             | 136     | 51      | 18      | 7       | 2       | ...     | ...         | ...            | 749   |
| Cereal grain ....                             | 10                              | 67      | 111     | 121     | 131     | 214     | 319     | 649         | 386            | 2,008 |
| Cattle (meat production) ....                 | 9                               | 3       | 2       | ...     | 1       | ...     | 1       | 1           | ...            | 17    |
| Cattle (milk production) ....                 | ...                             | ...     | ...     | ...     | ...     | ...     | ...     | ...         | ...            | ...   |
| Vineyards ....                                | ...                             | ...     | ...     | ...     | ...     | ...     | ...     | ...         | ...            | ...   |
| Fruit (other than vine) ....                  | ...                             | ...     | ...     | ...     | ...     | ...     | ...     | ...         | ...            | ...   |
| Vegetables—Potatoes ....                      | ...                             | ...     | ...     | ...     | ...     | ...     | ...     | ...         | ...            | ...   |
| Other and mixed ....                          | ...                             | ...     | ...     | ...     | ...     | ...     | ...     | ...         | ...            | ...   |
| Poultry ....                                  | 2                               | 1       | ...     | ...     | ...     | ...     | ...     | ...         | ...            | 3     |
| Pigs ....                                     | 18                              | 5       | 1       | ...     | ...     | ...     | ...     | 1           | ...            | 25    |
| Other ....                                    | 4                               | 4       | 2       | ...     | 2       | ...     | ...     | ...         | ...            | 12    |
| Multi-purpose ....                            | 67                              | 46      | 30      | 22      | 11      | 10      | 14      | 4           | ...            | 204   |
| Total, classified holdings                    | 887                             | 721     | 712     | 755     | 750     | 1,336   | 1,464   | 1,854       | 681            | 9,160 |
| Unclassified holdings—<br>Sub-commercial .... | 69                              | 7       | ...     | ...     | ...     | ...     | ...     | ...         | ...            | 76    |
| Unused, special, etc. ....                    | ...                             | ...     | ...     | ...     | ...     | ...     | ...     | ...         | ...            | ...   |
| Total, all rural holdings                     | 956                             | 728     | 712     | 755     | 750     | 1,336   | 1,464   | 1,854       | 681            | 9,236 |

In the following table, holdings with sheep flocks have been classified according to the size of flock for each type of activity.

HOLDINGS WITH SHEEP FLOCKS, CLASSIFIED ACCORDING TO TYPE OF ACTIVITY  
AND SIZE OF FLOCK—SEASON 1968-69

| Type of activity                              | Size of sheep flock (numbers) |         |         |         |             |             |             |             |                | Total   |
|-----------------------------------------------|-------------------------------|---------|---------|---------|-------------|-------------|-------------|-------------|----------------|---------|
|                                               | 1-299                         | 300-499 | 500-699 | 700-999 | 1,000-1,399 | 1,400-1,999 | 2,000-2,999 | 3,000-4,999 | 5,000 and over |         |
| Sheep—Cereal grain ....                       | 23                            | 73      | 174     | 487     | 880         | 1,284       | 1,578       | 1,218       | 506            | 6,223   |
| Sheep ....                                    | 9                             | 97      | 188     | 279     | 404         | 517         | 711         | 858         | 739            | 3,802   |
| Cereal grain ....                             | 118                           | 98      | 124     | 197     | 222         | 169         | 106         | 35          | 7              | 1,076   |
| Cattle (meat production) ....                 | 289                           | 72      | 58      | 54      | 40          | 19          | 19          | 5           | 4              | 560     |
| Cattle (milk production) ....                 | 262                           | 20      | 10      | 6       | 4           | 1           | 1           | ...         | ...            | 304     |
| Vineyards ....                                | 17                            | 1       | ...     | ...     | ...         | ...         | ...         | ...         | ...            | 18      |
| Fruit (other than vine) ....                  | 95                            | 25      | 21      | 16      | 7           | 7           | 1           | ...         | ...            | 172     |
| Vegetables—Potatoes ....                      | 38                            | 8       | 1       | 7       | 4           | 4           | ...         | ...         | ...            | 62      |
| Other and mixed ....                          | 8                             | 1       | ...     | 3       | ...         | ...         | ...         | ...         | ...            | 12      |
| Poultry ....                                  | 28                            | ...     | ...     | 3       | 1           | ...         | ...         | ...         | ...            | 32      |
| Pigs ....                                     | 56                            | 4       | 3       | 4       | 3           | 2           | ...         | 2           | ...            | 74      |
| Other ....                                    | 8                             | 3       | 8       | 2       | 6           | 1           | 5           | 2           | ...            | 35      |
| Multi-purpose ....                            | 61                            | 43      | 56      | 56      | 60          | 67          | 74          | 31          | 11             | 459     |
| Total, classified holdings                    | 1,012                         | 445     | 643     | 1,114   | 1,631       | 2,071       | 2,495       | 2,151       | 1,267          | 12,829  |
| Unclassified holdings—<br>Sub-commercial .... | *653                          | 93      | ...     | ...     | ...         | ...         | ...         | ...         | ...            | *746    |
| Unused, special, etc. ....                    | ...                           | ...     | ...     | ...     | ...         | ...         | ...         | ...         | ...            | ...     |
| Total, all rural holdings                     | *1,665                        | 538     | 643     | 1,114   | 1,631       | 2,071       | 2,495       | 2,151       | 1,267          | *13,575 |

\* Revised.

Holdings running cattle for milk production are classified in the following table according to size of herd for each type of activity.

Of the 2,299 rural holdings on which cattle for milk production were held, 594 or over 26 per cent ran herds of less than five cattle. Where cattle for milk production was the principal activity on the holding, there were more herds of between 100 and 149 cattle than any other size classification.

HOLDINGS WITH CATTLE (MILK PRODUCTION) HERDS (a)  
ACCORDING TO TYPE OF ACTIVITY AND SIZE OF HERD—SEASON 1968-69

| Type of activity              | Size of cattle herd (milk production) (numbers) |      |       |       |       |       |       |         |              | Total |
|-------------------------------|-------------------------------------------------|------|-------|-------|-------|-------|-------|---------|--------------|-------|
|                               | 1-4                                             | 5-9  | 10-19 | 20-39 | 40-59 | 60-79 | 80-99 | 100-149 | 150 and over |       |
| Sheep—Cereal grain ....       | 252                                             | 11   | 2     | 2     | ....  | ....  | ....  | ....    | ....         | 267   |
| Sheep ....                    | 107                                             | 2    | 7     | 6     | 4     | 4     | 3     | ....    | ....         | 133   |
| Cereal grain ....             | 26                                              | .... | 1     | 1     | ....  | ....  | ....  | ....    | ....         | 28    |
| Cattle (meat production) .... | 62                                              | 4    | 9     | 14    | 17    | 17    | 12    | 10      | 9            | 154   |
| Cattle (milk production) .... | 5                                               | 4    | 12    | 55    | 159   | 240   | 197   | 313     | 307          | 1,292 |
| Vineyards ....                | 2                                               | .... | ....  | ....  | ....  | 2     | ....  | ....    | ....         | 2     |
| Fruit (other than vine) ....  | 13                                              | 1    | 5     | 14    | 10    | 2     | ....  | ....    | 1            | 46    |
| Vegetables—Potatoes ....      | 3                                               | 1    | 4     | 14    | 10    | 12    | 7     | 4       | ....         | 55    |
| Other and mixed ....          | 4                                               | 2    | ....  | ....  | 3     | ....  | 1     | ....    | ....         | 10    |
| Poultry ....                  | 5                                               | 1    | 1     | ....  | 1     | ....  | ....  | ....    | ....         | 8     |
| Pigs ....                     | 2                                               | .... | ....  | ....  | ....  | ....  | ....  | ....    | ....         | 2     |
| Other ....                    | 1                                               | .... | 1     | ....  | ....  | ....  | ....  | ....    | ....         | 2     |
| Multi-purpose ....            | 23                                              | 4    | 4     | 12    | 23    | 20    | 10    | 12      | 3            | 111   |
| Total, classified holdings    | 505                                             | 30   | 46    | 118   | 227   | 295   | 230   | 339     | 320          | 2,110 |
| Unclassified holdings—        |                                                 |      |       |       |       |       |       |         |              |       |
| Sub-commercial ....           | 89                                              | 12   | 22    | 53    | 13    | ....  | ....  | ....    | ....         | 189   |
| Unused, special, etc. ....    | ....                                            | .... | ....  | ....  | ....  | ....  | ....  | ....    | ....         | ....  |
| Total, all rural holdings     | 594                                             | 42   | 68    | 171   | 240   | 295   | 230   | 339     | 320          | 2,299 |

(a) Excludes holdings with no cattle for milk production other than house cows.

Of the 8,902 holdings running cattle for meat production, 3,988 were associated with either sheep or sheep and cereal grain as the principal activity. A further 878 holdings were associated with the running of cattle for milk production. Herds of 1,000 or more cattle for meat production were found on 122 holdings.

HOLDINGS WITH CATTLE (MEAT PRODUCTION) HERDS  
ACCORDING TO TYPE OF ACTIVITY AND SIZE OF HERD—SEASON 1968-69

| Type of activity              | Size of cattle herd (meat production) (numbers) |       |       |       |       |         |         |         |                | Total |
|-------------------------------|-------------------------------------------------|-------|-------|-------|-------|---------|---------|---------|----------------|-------|
|                               | 1-9                                             | 10-19 | 20-29 | 30-49 | 50-99 | 100-199 | 200-299 | 300-999 | 1,000 and over |       |
| Sheep—Cereal grain ....       | 792                                             | 291   | 170   | 249   | 289   | 132     | 21      | 21      | 2              | 1,967 |
| Sheep ....                    | 331                                             | 193   | 176   | 321   | 495   | 317     | 106     | 64      | 18             | 2,021 |
| Cereal grain ....             | 130                                             | 29    | 18    | 22    | 22    | 16      | 3       | ....    | ....           | 241   |
| Cattle (meat production) .... | ....                                            | ....  | 1     | 38    | 398   | 472     | 206     | 267     | 98             | 1,480 |
| Cattle (milk production) .... | 239                                             | 129   | 95    | 119   | 195   | 63      | 23      | 15      | ....           | 878   |
| Vineyards ....                | 13                                              | 6     | 1     | 2     | 5     | ....    | ....    | ....    | ....           | 27    |
| Fruit (other than vine) ....  | 65                                              | 40    | 29    | 48    | 63    | 20      | 7       | 2       | ....           | 274   |
| Vegetables—Potatoes ....      | 25                                              | 19    | 22    | 37    | 47    | 45      | 10      | 1       | ....           | 206   |
| Other and mixed ....          | 15                                              | 8     | 8     | 8     | 7     | 2       | ....    | ....    | ....           | 48    |
| Poultry ....                  | 22                                              | 12    | 6     | 5     | 2     | 1       | ....    | ....    | ....           | 48    |
| Pigs ....                     | 26                                              | 10    | 4     | 9     | 9     | 1       | ....    | ....    | ....           | 59    |
| Other ....                    | 3                                               | 6     | 4     | ....  | 5     | 2       | 2       | ....    | 2              | 24    |
| Multi-purpose ....            | 43                                              | 19    | 41    | 49    | 118   | 89      | 28      | 28      | 2              | 417   |
| Total, classified holdings    | 1,704                                           | 762   | 575   | 907   | 1,655 | 1,160   | 406     | 399     | 122            | 7,690 |
| Unclassified holdings—        |                                                 |       |       |       |       |         |         |         |                |       |
| Sub-commercial ....           | 443                                             | 276   | 183   | 253   | 50    | 2       | 5       | ....    | ....           | 1,212 |
| Unused, special, etc. ....    | ....                                            | ....  | ....  | ....  | ....  | ....    | ....    | ....    | ....           | ....  |
| Total, all rural holdings     | 2,147                                           | 1,038 | 758   | 1,160 | 1,705 | 1,162   | 411     | 399     | 122            | 8,902 |

## VALUE OF PRODUCTION

For primary production the *gross value* is based on the wholesale price realised 'at the principal market'. Where primary products are consumed at the place of production or where they become raw material for secondary industry within the State, these points of consumption are taken as the 'principal market'. *Net value* represents the return to the producer after the cost of all goods consumed in the process of production and the costs of marketing the product have been deducted from the gross value. It is consequently the sum available for payment of wages, interest, rent, depreciation, other overhead costs and for the producer's own income.

Net values of production of the various primary industries excluding mining and quarrying during the five years ended 1969-70 are given in the following table. A useful comparison of the relative importance of the individual primary industries is provided by the five-yearly averages quoted, as they tend to lessen the effect on the statistics of unusual seasonal or other conditions occurring in particular years. However, in making such comparisons particular account should be taken of price fluctuations for major commodities in each industry over the period (such as wool in 'Pastoral') and, for 1969-70 especially, of the implementation in that season of the Wheat Delivery Quotas Plan.

NET VALUE OF RECORDED PRIMARY PRODUCTION  
(Excluding Mining and Quarrying)

| Industry                           | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 | Average of five years |
|------------------------------------|---------|---------|---------|---------|---------|-----------------------|
| VALUE (\$'000)                     |         |         |         |         |         |                       |
| Agriculture ....                   | 154,494 | 153,717 | 162,043 | 136,355 | 84,982  | 138,318               |
| Pastoral ....                      | 129,773 | 126,049 | 119,231 | 168,728 | 132,610 | 135,278               |
| Dairying ....                      | 13,031  | 11,060  | 11,820  | 12,909  | 9,850   | 11,734                |
| Poultry farming ....               | 3,253   | 3,801   | 2,492   | 4,111   | 4,673   | 3,666                 |
| Bee keeping ....                   | 643     | 442     | 219     | 503     | 614     | 484                   |
| Hunting ....                       | 662     | 758     | 900     | 813     | 770     | 781                   |
| Forestry ....                      | 11,965  | 12,473  | 13,273  | 12,591  | 12,795  | 12,619                |
| Fishing, pearling and whaling .... | 14,478  | 14,975  | 20,419  | 22,239  | 17,989  | 18,020                |
| Total ....                         | 328,298 | 323,275 | 330,396 | 358,248 | 264,283 | 320,900               |

## PROPORTION OF TOTAL (PER CENT)

|                                    |        |        |        |        |        |        |
|------------------------------------|--------|--------|--------|--------|--------|--------|
| Agriculture ....                   | 47.06  | 47.55  | 49.05  | 38.06  | 32.16  | 43.10  |
| Pastoral ....                      | 39.53  | 38.99  | 36.09  | 47.10  | 50.18  | 42.16  |
| Dairying ....                      | 3.97   | 3.42   | 3.58   | 3.60   | 3.73   | 3.66   |
| Poultry farming ....               | 1.00   | 1.18   | 0.75   | 1.15   | 1.77   | 1.14   |
| Bee keeping ....                   | 0.20   | 0.14   | 0.07   | 0.14   | 0.23   | 0.15   |
| Hunting ....                       | 0.20   | 0.23   | 0.27   | 0.23   | 0.29   | 0.24   |
| Forestry ....                      | 3.64   | 3.86   | 4.02   | 3.51   | 4.84   | 3.93   |
| Fishing, pearling and whaling .... | 4.41   | 4.63   | 6.18   | 6.21   | 6.81   | 5.62   |
| Total ....                         | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

The following table shows the gross and net values of production of the various primary industries in 1969-70. The '*local value*' which is quoted is the value at the source of production and is obtained by deducting marketing costs from the gross value. Marketing costs comprise freight, cost of containers, commission, and other charges incurred in marketing. Gross values provide a reliable measure of the value of production of any particular item or industry but net value of primary production should be used when comparing or combining values for primary industries with those for secondary industry.



**PRIMARY INDUSTRIES—VALUE OF PRODUCTION: 1969-70**  
(Excluding Mining and Quarrying)  
(\$'000)

| Industry                            | GROSS VALUE<br>(based on principal market prices) | Marketing costs | LOCAL VALUE<br>(as at source of production) | Cost of goods consumed in process of production | NET VALUE      |
|-------------------------------------|---------------------------------------------------|-----------------|---------------------------------------------|-------------------------------------------------|----------------|
| Agriculture .....                   | 156,738                                           | 29,267          | 127,470                                     | 42,489                                          | 84,982         |
| Pastoral .....                      | 176,387                                           | 14,713          | 161,673                                     | 29,063                                          | 132,610        |
| Dairying .....                      | 25,927                                            | 1,454           | 24,473                                      | 14,623                                          | 9,850          |
| Poultry farming .....               | 13,874                                            | 621             | 13,253                                      | 8,580                                           | 4,673          |
| Bee keeping .....                   | 659                                               | 45              | 614                                         | (a)                                             | 614            |
| Hunting .....                       | 1,098                                             | 328             | 770                                         | (a)                                             | 770            |
| Forestry .....                      | 13,632                                            | 837             | 12,795                                      | (a)                                             | 12,795         |
| Fishing, pearling and whaling ..... | 19,660                                            | 124             | 19,536                                      | 1,547                                           | 17,989         |
| <b>Total .....</b>                  | <b>407,974</b>                                    | <b>47,388</b>   | <b>360,585</b>                              | <b>96,302</b>                                   | <b>264,283</b> |

(a) Not available.

Gross values of the principal items are shown in the next table for each of the years 1965-66 to 1969-70.

**PRIMARY PRODUCTION—GROSS VALUES OF PRINCIPAL ITEMS**  
(Excluding Mining and Quarrying)  
(\$'000)

| Industry and commodity           | 1965-66       | 1967-66       | 1967-68       | 1968-69       | 1969-70       |
|----------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Agriculture—</b>              |               |               |               |               |               |
| Wheat .....                      | 153,050       | 153,157       | 170,102       | 151,306       | 93,988        |
| Oats .....                       | 18,403        | 15,800        | 14,106        | 12,978        | 5,910         |
| Barley .....                     | 7,297         | 7,476         | 7,690         | 8,619         | 8,874         |
| Hay (all kinds) .....            | 8,457         | 8,985         | 9,557         | 10,132        | 13,457        |
| Pasture seed (a) .....           | 4,247         | 4,180         | 4,289         | 3,547         | 2,036         |
| Cotton .....                     | 1,872         | 2,393         | 1,892         | 1,681         | 1,587         |
| <b>Vegetables—</b>               |               |               |               |               |               |
| Potatoes .....                   | 5,027         | 4,959         | 5,537         | 5,613         | 5,390         |
| Tomatoes .....                   | 1,719         | 1,950         | 1,546         | 1,885         | 2,024         |
| Beans, runner .....              | 1,044         | 1,162         | 975           | 969           | 836           |
| Lettuce .....                    | 598           | 666           | 613           | 696           | 831           |
| Cauliflowers .....               | 687           | 763           | 849           | 968           | 829           |
| <b>Fruit, orchard—</b>           |               |               |               |               |               |
| Apples .....                     | 4,808         | 6,695         | 6,637         | 8,289         | 8,072         |
| Bananas .....                    | 1,118         | 1,163         | 710           | 1,415         | 2,143         |
| Oranges .....                    | 975           | 1,227         | 1,359         | 1,200         | 1,344         |
| Pears .....                      | 609           | 593           | 611           | 721           | 849           |
| Plums and prunes .....           | 385           | 491           | 563           | 531           | 662           |
| Vine fruits .....                | 1,173         | 1,025         | 1,092         | 1,336         | 1,282         |
| Nursery products (b) .....       | 925           | 894           | 910           | 1,138         | 1,312         |
| <b>Pastoral—</b>                 |               |               |               |               |               |
| Wool (shorn and dead) (c) .....  | 114,419       | 120,742       | 115,976       | 157,789       | 120,552       |
| Livestock slaughtered (d) .....  | 44,110        | 41,577        | 43,345        | 51,662        | 55,601        |
| <b>Dairying—</b>                 |               |               |               |               |               |
| Whole milk (e) .....             | 16,220        | 15,087        | 15,335        | 16,697        | 16,255        |
| Livestock slaughtered (f) .....  | 6,674         | 6,755         | 8,767         | 8,368         | 9,687         |
| <b>Poultry farming—</b>          |               |               |               |               |               |
| Eggs (g) .....                   | 4,735         | 4,784         | 5,064         | 5,785         | 6,253         |
| Poultry slaughtered .....        | 3,666         | 4,922         | 5,501         | 6,412         | 6,702         |
| Bee keeping (h) .....            | 701           | 484           | 240           | 542           | 659           |
| <b>Hunting .....</b>             | <b>836</b>    | <b>986</b>    | <b>1,236</b>  | <b>1,211</b>  | <b>1,098</b>  |
| <b>Forestry .....</b>            | <b>12,731</b> | <b>13,300</b> | <b>14,076</b> | <b>13,465</b> | <b>13,632</b> |
| <b>Fishing—</b>                  |               |               |               |               |               |
| Prawns .....                     | 1,053         | 1,778         | 1,566         | 1,802         | 2,697         |
| Rock lobsters .....              | 11,388        | 11,344        | 16,863        | 17,801        | 12,115        |
| Scale fish .....                 | 1,256         | 1,013         | 1,100         | 922           | 1,019         |
| Pearls and pearl-shell (i) ..... | 259           | 292           | 359           | 334           | 371           |

(a) Comprises clover, medics, lupins, rye grass and other pasture seeds. (b) Value of seedlings, cut flowers, bulbs, trees, etc. produced. (c) The value of fellmongered wool and wool exported on skins is included in the value of livestock slaughtered which has been computed from prices of livestock 'on hoof' and therefore includes a value for wool on skins. (d) Comprises cattle, sheep and lambs. (e) Includes Commonwealth Government subsidy. (f) Comprises calves and pigs. (g) Excludes value of non-commercial production. (h) Excludes value of production of bee keepers with less than five hives. (i) Excludes culture pearls.

## SUMMARY OF AUSTRALIAN STATISTICS

The following table contains a selection of the principal statistics of primary production in each of the Australian States for 1969-70.

## PRINCIPAL STATISTICS OF PRIMARY PRODUCTION—AUSTRALIA: 1969-70

| Particulars                                  | Unit       | N.S.W.  | Vic.    | Qld        | S.A.    | W.A.    | Tas.      | Australia<br>(a) |
|----------------------------------------------|------------|---------|---------|------------|---------|---------|-----------|------------------|
| Rural holdings—                              |            |         |         |            |         |         |           |                  |
| Number ....                                  | ....       | 75,908  | 69,498  | 43,829     | 29,035  | 22,937  | 10,159    | 251,881          |
| Area ....                                    | '000 acres | 170,630 | 39,057  | 380,218    | 162,692 | 280,819 | 6,517     | 1,222,387        |
| Principal crops—                             |            |         |         |            |         |         |           |                  |
| Wheat for grain—                             |            |         |         |            |         |         |           |                  |
| Area ....                                    | '000 acres | 8,623   | 3,298   | 1,504      | 3,210   | 6,788   | 15        | (b) 23,440       |
| Production ....                              | '000 bush  | 162,786 | 83,544  | 14,898     | 59,159  | 66,700  | 353       | (b) 387,512      |
| Oats for grain—                              |            |         |         |            |         |         |           |                  |
| Area ....                                    | '000 acres | 903     | 884     | 75         | 372     | 1,139   | 22        | 3,396            |
| Production ....                              | '000 bush  | 19,238  | 25,927  | 950        | 6,665   | 15,463  | 455       | 68,723           |
| Barley for grain—                            |            |         |         |            |         |         |           |                  |
| Area ....                                    | '000 acres | 542     | 487     | 417        | 1,384   | 900     | 30        | 3,759            |
| Production ....                              | '000 bush  | 12,335  | 11,373  | 7,587      | 30,453  | 12,059  | 1,096     | 74,901           |
| Hay—all types—                               |            |         |         |            |         |         |           |                  |
| Area ....                                    | '000 acres | 748     | 1,200   | 181        | 384     | 500     | 172       | 3,192            |
| Production ....                              | '000 tons  | 1,406   | 2,461   | 373        | 608     | 508     | 362       | 5,728            |
| Pasture seed ....                            | cwt        | 98,308  | 100,345 | 32,812     | 85,308  | 143,929 | (c) 8,879 | 472,859          |
| Cotton—                                      |            |         |         |            |         |         |           |                  |
| Area ....                                    | '000 acres | 57      | ....    | (d) 13     | ....    | 7       | ....      | 77               |
| Production ....                              | '000 lb    | 138,783 | ....    | (e) 28,104 | ....    | 20,800  | ....      | 187,687          |
| Onions—                                      |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 1,485   | 3,296   | 2,998      | 2,026   | 302     | 192       | (b) 10,299       |
| Production ....                              | ton        | 13,381  | 21,339  | 20,060     | 22,793  | 4,428   | 2,176     | (b) 84,177       |
| Potatoes—                                    |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 25,865  | 39,765  | 17,712     | 8,021   | 6,332   | 9,367     | (b) 107,062      |
| Production ....                              | ton        | 142,047 | 279,553 | 115,455    | 78,624  | 67,164  | 66,920    | (b) 749,763      |
| Other vegetables—                            |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 48,456  | 52,999  | 56,881     | 11,408  | 7,755   | 22,637    | (f) 200,535      |
| Apples—                                      |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 19,014  | 20,910  | 13,570     | 5,886   | 14,371  | 17,846    | 91,630           |
| Production ....                              | '000 bush  | 4,100   | 5,331   | 1,250      | 1,561   | 2,610   | 7,400     | 22,259           |
| Oranges—                                     |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 27,416  | 6,540   | 3,290      | 17,207  | 4,296   | ....      | 58,787           |
| Production ....                              | '000 bush  | 5,440   | 1,280   | 661        | 2,974   | 430     | ....      | 10,786           |
| Other fruit—                                 |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 48,896  | 43,433  | 36,188     | 21,708  | 5,463   | 3,311     | (g) 59,037       |
| Vineyards—                                   |            |         |         |            |         |         |           |                  |
| Area ....                                    | acre       | 25,422  | 49,838  | 3,614      | 64,837  | 6,648   | ....      | 150,359          |
| Grapes for table ....                        | ton        | 8,568   | 11,057  | 5,695      | 1,294   | 3,135   | ....      | 29,749           |
| Wine made ....                               | '000 gal   | 11,529  | 7,251   | 31         | 43,754  | 1,015   | ....      | 63,580           |
| Currants ....                                | ton        | 651     | 3,383   | ....       | 3,325   | 1,068   | ....      | 8,427            |
| Sultanas and raisins ....                    | ton        | 14,118  | 67,070  | ....       | 3,169   | 8       | ....      | 84,365           |
| Livestock numbers, 31 March 1970—            |            |         |         |            |         |         |           |                  |
| Sheep and lambs ....                         | '000       | 72,284  | 33,157  | 16,446     | 19,747  | 33,634  | 4,560     | 180,080          |
| Cattle ....                                  | '000       | 5,637   | 4,462   | 7,515      | 1,026   | 1,681   | 646       | 22,162           |
| Pigs ....                                    | '000       | 708     | 495     | 480        | 351     | 250     | 111       | 2,398            |
| Livestock slaughtered for human consumption— |            |         |         |            |         |         |           |                  |
| Sheep ....                                   | '000       | 5,849.6 | 8,177.1 | 2,249.1    | 2,267.9 | 3,164.0 | 608.3     | 22,324.1         |
| Lambs ....                                   | '000       | 7,459.8 | 7,568.0 | 687.6      | 1,964.4 | 1,370.4 | 688.7     | 19,888.5         |
| Cattle ....                                  | '000       | 1,289.1 | 1,255.8 | 1,405.1    | 202.9   | 381.9   | 145.1     | 4,777.4          |
| Calves ....                                  | '000       | 256.3   | 452.9   | 274.6      | 46.2    | 20.4    | 32.8      | 1,083.3          |
| Pigs ....                                    | '000       | 1,064.5 | 895.4   | 757.4      | 385.7   | 315.6   | 160.1     | 3,593.4          |
| Wool production ....                         | '000 lb    | 749.8   | 427.2   | 196.4      | 275.0   | 336.5   | 48.2      | 2,035.7          |
| Whole milk production—                       |            |         |         |            |         |         |           |                  |
| All purposes ....                            | '000 gal   | 310,876 | 892,378 | 191,401    | 106,236 | 55,873  | 103,213   | 1,661,013        |
| Fisheries production—                        |            |         |         |            |         |         |           |                  |
| Fish—live weight ....                        | '000 lb    | 39,911  | 35,235  | 9,289      | 18,813  | 12,592  | 5,878     | 121,993          |
| Crustaceans—                                 |            |         |         |            |         |         |           |                  |
| gross weight ....                            | '000 lb    | 4,785   | 1,791   | 9,085      | 7,452   | 20,896  | 3,065     | 55,761           |
| Gold bullion ....                            | oz         | 239     | 10,167  | 54,156     | ....    | 542,139 | 134       | 694,583          |
| Iron ore ....                                | '000 tons  | ....    | ....    | ....       | 7,308   | 34,130  | (h) 2,045 | 44,507           |
| Gross value of production—                   |            |         |         |            |         |         |           |                  |
| Agriculture ....                             | \$'000     | 479,500 | 319,699 | 328,246    | 186,766 | 156,738 | 41,824    | 1,514,216        |
| Pastoral ....                                | '000       | 467,894 | 385,025 | 301,577    | 148,939 | 176,387 | 38,532    | 1,541,632        |
| Dairying ....                                | '000       | 154,938 | 225,141 | 70,959     | 40,834  | 25,927  | 28,774    | 547,239          |
| Poultry farming ....                         | '000       | 79,911  | 48,460  | 25,042     | 10,952  | 13,874  | 5,566     | 184,401          |
| Bee keeping ....                             | '000       | 1,796   | 865     | 333        | 1,032   | 659     | 127       | 4,824            |
| Hunting ....                                 | '000       | 4,775   | 3,078   | 2,229      | 1,023   | 1,098   | 306       | 12,548           |
| Forestry ....                                | '000       | 37,677  | 28,254  | 18,162     | 10,530  | 13,632  | 18,898    | 127,671          |
| Fishing, pearling and whaling ....           | '000       | 13,457  | 5,631   | 8,034      | 8,138   | 19,660  | 4,043     | 62,942           |

(a) Includes Northern Territory and Australian Capital Territory except where indicated; see footnote (b). (b) Incomplete. Excludes Northern Territory and/or Australian Capital Territory. (c) Includes production from area sown simultaneously with oats. (d) Sown 1968-69. (e) Harvested from crop sown in 1968-69. (f) Includes onions and potatoes for Northern Territory and Australian Capital Territory. (g) Excludes plantation fruit for Northern Territory. (h) Iron concentrate.



## SEASONAL CALENDAR

The following calendar is intended to show the main periods when principal agricultural and pastoral activities are carried out in Western Australia. Operations are generally confined to the periods shown but are subject to variation according to such factors as geographical location within the State, the variety of seed sown (or trees and vines planted) and exceptional seasonal conditions.

## SEASONAL CALENDAR

| Item                                              | Period                     |                      |
|---------------------------------------------------|----------------------------|----------------------|
|                                                   | Sowing or planting         | Harvesting           |
| Pastures—                                         |                            |                      |
| Clovers .....                                     | April to June .....        | December to April    |
| Medics .....                                      | April to June .....        | December to April    |
| Grain—                                            |                            |                      |
| Wheat .....                                       | May to June .....          | November to January  |
| Oats .....                                        | April to June .....        | November to December |
| Barley .....                                      | April to June .....        | November to December |
| Rye .....                                         | April to June .....        | November to December |
| Hay—                                              |                            |                      |
| Wheaten .....                                     | May to June .....          | October to November  |
| Oaten .....                                       | May to August .....        | October to November  |
| Cotton .....                                      | November to February ..... | May to October       |
| Linseed .....                                     | May to June .....          | December to January  |
| Vegetables—                                       |                            |                      |
| Beans, Runner—                                    |                            |                      |
| Carnarvon area .....                              | March to September .....   | May to November      |
| Perth Division .....                              | August to March .....      | November to June     |
| Green Peas—                                       |                            |                      |
| For processing .....                              | May to September .....     | October to December  |
| Fresh .....                                       | May to October .....       | August to December   |
| Potatoes—                                         |                            |                      |
| Early planting—                                   |                            |                      |
| Perth and South-West .....                        | June to July .....         | October to November  |
| Mid-season planting—                              |                            |                      |
| Perth, South-West and Southern Agricultural ..... | July to November .....     | November to March    |
| Late planting—                                    |                            |                      |
| South-West and Southern Agricultural .....        | November to February ..... | February to May      |
| Onions .....                                      | June to August .....       | December to March    |
| Tomatoes—                                         |                            |                      |
| Carnarvon and Geraldton areas .....               | February to April .....    | May to November      |
| Other areas .....                                 | June to December .....     | October to May       |
| Fruit—                                            |                            |                      |
| Apples .....                                      | June to August .....       | February to May      |
| Apricots .....                                    | July .....                 | December to January  |
| Bananas .....                                     | September .....            | September to May     |
| Lemons .....                                      | July to August .....       | July to June         |
| Mandarins .....                                   | July to August .....       | May to September     |
| Nectarines .....                                  | July .....                 | January to February  |
| Olives .....                                      | July to August .....       | March to April       |
| Oranges, Navel .....                              | July to August .....       | May to September     |
| Oranges, Valencia .....                           | July to August .....       | August to February   |
| Peaches .....                                     | July .....                 | December to February |
| Pears .....                                       | June to July .....         | January to March     |
| Plums .....                                       | June to July .....         | December to March    |
| Grapes—                                           |                            |                      |
| For table use .....                               | June to September .....    | January to April     |
| For wine making .....                             | June to September .....    | February to April    |
| For drying .....                                  | June to September .....    | February to March    |
| Shearing and lambing—                             |                            |                      |
| Shearing—                                         |                            |                      |
| Pastoral areas .....                              | March to August            |                      |
| Agricultural areas .....                          | February to November       |                      |
| Lambing—                                          |                            |                      |
| Pastoral areas .....                              | April to July              |                      |
| Agricultural areas .....                          | April to September         |                      |

## BUSHEL WEIGHTS

The production of cereals, fruit and certain other commodities is generally recorded in bushels. While the weight of a bushel varies according to the nature of the product, it is also subject to considerable variation on account of such factors as method of packing and size and variety within each kind of product. The average bushel equivalent weights set out below may be used to convert production to pounds weight avoirdupois.

## BUSHEL WEIGHTS

| Product          | Weight<br>per<br>bushel | Product            | Weight<br>per<br>bushel | Product          | Weight<br>per<br>bushel |
|------------------|-------------------------|--------------------|-------------------------|------------------|-------------------------|
| Apples ....      | lb<br>42                | Linseed ....       | lb<br>56                | Peaches ....     | lb<br>45                |
| Apricots ....    | 48                      | Loquats ....       | 45                      | Pears ....       | 45                      |
| Bananas ....     | 56                      | Maize ....         | 56                      | Peas, Field .... | 60                      |
| Barley ....      | 50                      | Mandarins ....     | 48                      | Plums ....       | 58                      |
| Cherries ....    | 48                      | Nectarines ....    | 50                      | Quinces ....     | 42                      |
| Clover Seed .... | 60                      | Oats ....          | 40                      | Rice ....        | 42                      |
| Figs ....        | 44                      | Olives ....        | 56                      | Rye ....         | 60                      |
| Grapefruit ....  | 42                      | Oranges ....       | 48                      | Tomatoes ....    | 44                      |
| Lemons ....      | 48                      | Passion Fruit .... | 34                      | Wheat ....       | 60                      |

## AGRICULTURE

## Wheat

Wheat has been grown from the earliest years of settlement and a brief synopsis of the development of production is given in the *Western Australian Year Book*, No. 7-1968 and earlier issues. By 1968, the area of land sown to wheat had increased to 7.3 million acres from which a record harvest of 112.4 million bushels was obtained for an average yield of 15.4 bushels per acre. In 1969 the area of land sown to wheat decreased to 6.8 million bushels due to the introduction of the Wheat Delivery Quotas Plan (see page 347). This, together with a poor season, reduced the 1969-70 harvest to only 66.7 million bushels.

Mechanisation has been of great importance in the growth of wheat farming in Western Australia owing to the relatively low yield per acre obtained.

Most of Western Australia's wheat production is exported as grain and flour and in the following table the fluctuations which have occurred in exports since 1910 are shown, together with figures giving the estimated total wheat equivalent. The United Kingdom has been the most consistent purchaser of the State's wheat, but since 1961-62 China (mainland) and Japan have been the most important customers and in 1969-70 they took 31.0 million and 21.1 million bushels, respectively, their purchases together accounting for 78 per cent of the State's total wheat exports. In that year other principal buyers, in order of importance, were Malaysia, the United Kingdom and Singapore. In the same year principal customers for flour were Indonesia, the Trucial States, Mauritius, Qatar and Saudi Arabia. Further details of exports appear in Chapter IX, Part 1.

## EXPORTS OF WHEAT AND FLOUR

| Year         | Wheat      | Flour (a)      | Estimated<br>total<br>wheat<br>equivalent |
|--------------|------------|----------------|-------------------------------------------|
|              | bushels    | short tons (b) | bushels                                   |
| 1910 ....    | 2,014,552  | 2,821          | 2,147,139                                 |
| 1919-20 .... | 9,151,125  | 129,250        | 15,225,875                                |
| 1929-30 .... | 24,953,238 | 69,070         | 28,199,528                                |
| 1939-40 .... | 15,330,423 | 91,667         | 19,633,772                                |
| 1949-50 .... | 21,510,390 | 115,814        | 26,953,648                                |
| 1959-60 .... | 36,713,316 | 87,851         | 40,842,313                                |
| 1965-66 .... | 69,371,600 | 54,157         | 71,916,979                                |
| 1966-67 .... | 84,980,233 | 38,365         | 86,783,388                                |
| 1967-68 .... | 87,199,586 | 46,207         | 89,371,315                                |
| 1968-69 .... | 55,900,870 | 38,691         | 57,719,347                                |
| 1969-70 .... | 66,681,502 | 34,362         | 68,296,516                                |

(a) Ships' stores are excluded from figures for 1959-60 and subsequent years. (b) Short ton = 2,000 lb.

The next table gives details of areas sown and wheat produced since 1900.

WHEAT FOR GRAIN—AREA AND PRODUCTION

| Season  | Area sown       | Production         |                        |               |
|---------|-----------------|--------------------|------------------------|---------------|
|         |                 | Total              | Average yield per acre | Gross value   |
| 1900-01 | acres<br>74,308 | bushels<br>774,653 | bushels<br>10·4        | \$<br>309,862 |
| 1910-11 | 581,862         | 5,897,540          | 10·1                   | 2,162,432     |
| 1920-21 | 1,275,675       | 12,248,080         | 9·6                    | 11,023,272    |
| 1930-31 | 3,955,763       | 53,504,149         | 13·5                   | 12,201,176    |
| 1940-41 | 2,625,401       | 21,060,000         | 8·0                    | 8,647,906     |
| 1950-51 | 3,185,389       | 49,900,000         | 15·7                   | 65,328,246    |
| 1960-61 | 4,021,225       | 63,900,000         | 15·9                   | 92,290,238    |
| 1965-66 | 6,149,727       | 102,156,000        | 16·6                   | 153,049,650   |
| 1966-67 | 6,346,613       | 103,195,000        | 16·3                   | 153,157,379   |
| 1967-68 | 6,647,095       | 106,975,000        | 16·1                   | 170,101,782   |
| 1968-69 | 7,295,094       | 112,450,000        | 15·4                   | 151,305,976   |
| 1969-70 | 6,788,177       | 66,700,000         | 9·8                    | 93,987,639    |

**Bulk Handling of Wheat.** The rapid increase in the production and export of wheat between 1910 and 1920 caused problems of transport and storage, and proposals for the bulk handling of the grain led to the formation of a company for this purpose in 1920. This original undertaking was wound up before commencing operations because the technical difficulties then appeared too great and the saving in handling costs problematical. In the early 1930s depressed wheat prices once again stimulated the search for cheaper methods of storage and transportation of grain. Experiments were carried out in the Wyal-katchem area during the 1931-32 season which essentially involved the adaptation of existing bagged wheat storages and bagged wheat mobile elevators to handle wheat in bulk.

The experiment proved successful and the Bulk Handling Act of 1935 gave a growers' co-operative the right of operating, under franchise, a bulk handling system. The co-operative company was Co-operative Bulk Handling Limited which had been formed in 1933, the initial capital being subscribed by two existing co-operatives, The Westralian Farmers and The Grain Pool. In founding Co-operative Bulk Handling Limited these two organisations had provided that as soon as the system was established and the initial liability repaid, ownership and control would be passed to the users of the system.

With its present toll system of operation Co-operative Bulk Handling Limited essentially conforms to the Rochdale principles of co-operation. The grower delivering grain to the Company pays a toll on each bushel delivered. For the first \$2 of toll, he receives one ordinary share in the company, which must be returned to the company if he ceases to deliver grain. For the remainder of his tolls he receives a debenture repayable in full over a ten-year cycle. The tolls are used for capital expenditure and for the repayment of previous tolls summarised into debentures. The toll system thus creates a revolving capital fund subscribed by the growers actually using the system, and in turn achieves perpetual and complete user-ownership. Each user of the system receives a share but only one share. He cannot accumulate any additional shares and thus has only one vote.

By 1943 the original construction programme had been completed and all debts repaid. At this time the decision was made to hand the system over to the growers to enable them to control and direct future expansions for their own benefit.

To the outbreak of the Second World War and beyond, the company continued its policy of expansion and modernisation. Services to off-line receival points were begun in the 1940-41 season and in 1951 growers of oats and barley requested that the co-operative include these grains in its system. Since then the company has stored and transported up to six grain types in many varieties and grades. Laboratory and sampling techniques have been extended, ensuring high quality control and a continued effort to meet marketing

requirements. In addition Co-operative Bulk Handling Limited provided and operates transfer depots for handling grain from narrow gauge to standard gauge railway wagons at Merredin, Midland and Northam. The depots are concrete vertical silo systems and between them handle all the grain destined for shipment through the Fremantle terminal which handles something more than half the total receivals.

In the 1960s, Co-operative Bulk Handling Limited commenced a modernisation programme of its country receival points. Original receival points were conceived in the era of horse-drawn transport and were spaced about seven miles apart. Motor transport and better roads meant that a twenty-mile spacing would be adequate, while the mechanisation of farming and the improvement of farming techniques indicated a large size of storage was required. The modernisation programme has involved the progressive replacement of the older bins, permanent roofed bulkheads and open bulkheads with horizontal storages built of either concrete or steel and equipped with integrated handling machinery, or provision for such machinery to be installed at a later date.

In addition to country receival points storage and transport, Co-operative Bulk Handling Limited provided and operates terminal depots for bulk wheat shipments at Albany, Bunbury, Esperance and Geraldton. The first stage of a modern deep-draught bulk loading terminal at Kwinana has been completed for the co-operative. This involved the construction of an initial horizontal storage unit of 10·5 million bushels capacity and wheat receivals commenced on 1 December 1969. When completed, the terminal will have a capacity of 50 million bushels and be capable of loading at a rate of 4,000 tons an hour.

At 30 September 1971, total permanent storage in the country was 118,084,000 bushels and at the ports 53,745,000 bushels. The initial storage constructed in 1931 provided for 640,000 bushels. The largest seasonal production that Co-operative Bulk Handling Limited has handled was 145,531,002 bushels of all grains in the 1970-71 season. By contrast, in the initial season the system handled 1,265,000 bushels.

**Marketing of Wheat.** The Australian Wheat Board is the sole authority for the marketing of wheat within Australia and of wheat and flour for export. It derives its authority from the provisions of the Wheat Stabilization Plan 1968-69 to 1972-73 established under joint Commonwealth and State legislation to replace similar legislation which expired after the marketing of the 1967-68 crop. The principal object of the Plan is to ensure that growers receive a satisfactory income from their wheat and this is achieved by a guaranteed return based on an export price as determined and applicable on up to 200 million bushels of wheat exported each season from Australia. This required the establishment of a fund by levying under authority of the *Wheat Export Charge Act* 1968 (Commonwealth), a tax on exports for which a price in excess of the guaranteed price is received. Should the price obtained fall below the guaranteed price it is provided that the difference shall be paid from the fund or, if that source is exhausted, by the Commonwealth Government. A further provision with a stabilising effect on the industry fixes the price at which wheat for home consumption may be sold.

By virtue of the *Wheat Industry Stabilization Act* 1968-1970 (Commonwealth) and of the *Bulk Handling Act*, 1967-1971, Co-operative Bulk Handling Limited acts as the licensed receiver for the Australian Wheat Board and handles all wheat produced for marketing in Western Australia.

Under the provisions of the *Wheat Tax Act* 1957-1966 (Commonwealth), a levy of 4c per bushel is made on wheat delivered to the Australian Wheat Board. This money, contributed by the growers, is spent by the Wheat Industry Research Council and State Wheat Research Committees set up under the provisions of the *Wheat Research Act* 1957. The Commonwealth Government has undertaken to supply additional funds, with a maximum of \$1 for every \$1 of growers' contributions.

**Wheat Standards.** The procedure approved by the Western Australian Wheat Standards Committee for determining the standard known as F.A.Q. (fair average quality) provides for samples being drawn progressively at each country receival point and port of shipment

during the harvest period. After all samples are assembled they are sorted into zones of origin (Geraldton, Fremantle, Bunbury, Albany and Esperance), the zones being fixed in relation to each siding's natural port terminal. Each zone is then taken separately, the samples from the sidings in the zone being bulked together and thoroughly mixed and it is from these mixtures that each zone's contribution to the main bulk sample for the State is drawn.

Zone contributions are then bulked together and thoroughly mixed, after which ten weighings are taken on a Schopper one-litre scale chondrometer and from the average of those weighings the F.A.Q. standard for the season is declared. Subsequently, the wheat is subjected to mechanical and quality tests.

Official standard samples are then widely distributed to commercial interests and appropriate Government Departments and instrumentalities both locally and overseas, as being representative of the wheat of the particular season which is on offer to the world grain markets.

**Wheat Delivery Quotas Plan.** The Australian Wheat Growers' Federation put forward proposals, in March 1969, for the allotment of quotas on deliveries of wheat to the Australian Wheat Board. The Federation's proposals were mainly designed to bring marketable supplies of wheat more into line with available outlets, following the record Australian and State harvests in 1968-69. The proposals which first became effective for the 1969-70 harvest established for Western Australia a quota of 86 million bushels for deliveries of wheat for that season.

State Governments have the responsibility of implementing the quota plan within the States and separate enabling legislation has been enacted in each State. Particulars of the statutory provisions relating to the establishment in Western Australia of a quota scheme with respect to the delivery and marketing of wheat, are contained in the *Wheat Delivery Quotas Act, 1969*.

The States are responsible for determining the method of allocation of individual quotas within their respective boundaries. In Western Australia, the *Wheat Delivery Quotas Act, 1969* provides for the establishment of a Wheat Quotas Committee, consisting of three members appointed by the Minister for Agriculture. Subject to the direction of the Minister, the Committee is empowered under the Act to determine individual quotas for growers, but quotas may be reviewed by the Minister at any time.

The allocation in this State of individual quotas for 'established farms' for the season 1969-70 was made on the basis of the average for the farm of the best five deliveries made in the seven seasons from 1962-63 to 1968-69. Separate provisions applied to wheat growers on 'recently acquired farms' and 'new land farms'.

The allocation of quotas was not regarded as satisfactory by many in the industry and an independent Committee of Enquiry was formed to investigate the basis of allocation and to arrive at a more equitable distribution.

In an endeavour to alleviate various anomalies, a revised method of allocating the total State quota of 89 million bushels was adopted for the 1970-71 season.

Further modifications to the method of allocation were made for the 1971-72 season and again for 1972-73. The State's wheat quotas for these two years were 76 and 95 million bushels, respectively.

All wheat accepted as 'quota wheat' is the subject of normal Australian Wheat Board payments within the framework of the *Wheat Industry Stabilization Act 1968-1970*.

**Wheat Varieties.** Of 6,925,305 acres sown to wheat in 1969-70, whether for grain, hay or green fodder, 3,552,145 acres or 51·3 per cent were sown to Gamanya. The next most popular variety of wheat, in terms of acreage sown, was Falcon with 1,011,744 acres or 14·6 per cent of the total. Further details of the areas sown to individual varieties of wheat appear in previous issues of the Year Book or in the publication *Statistics of Western Australia—Rural Industries* issued by this Office.

In the next table, holdings growing wheat for grain in 1968-69, in size groups of the acreage sown, are classified according to the size of the holding. Of the 23,004 rural holdings of all types in the State, wheat for grain was grown on 9,236. Holdings of between 1,000 and 5,000 acres accounted for 76 per cent of this number and holdings which sowed between 200 and 1,000 acres represented 54 per cent.

Of the 9,236 holdings growing wheat for grain all but 1,114 carried sheep and 74 per cent had flocks of between 1,000 and 5,000 sheep.

HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO ACREAGE SOWN AND SIZE OF HOLDING—SEASON 1968-69

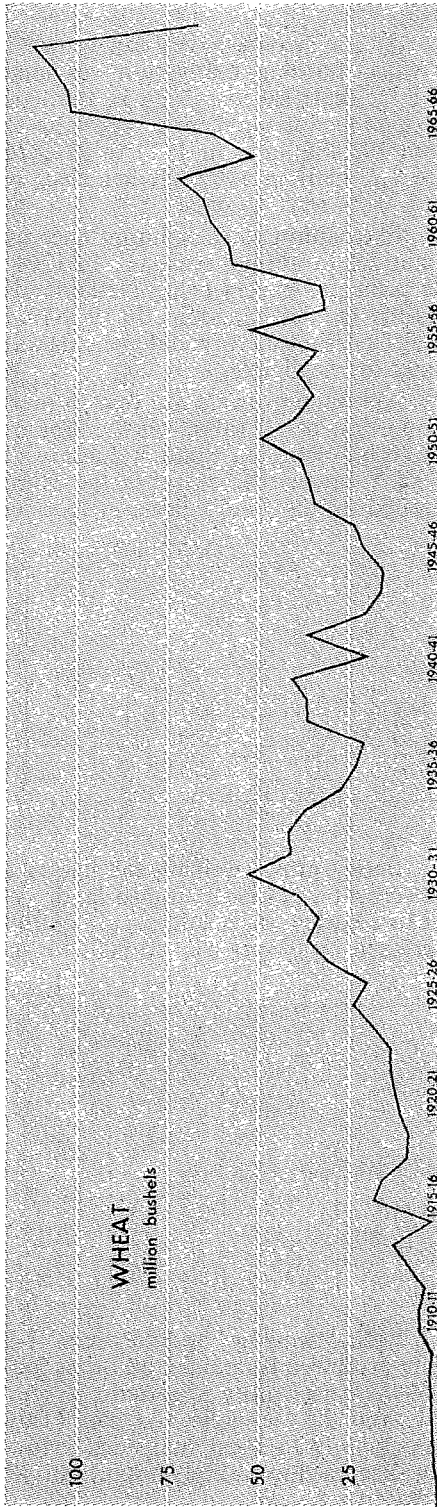
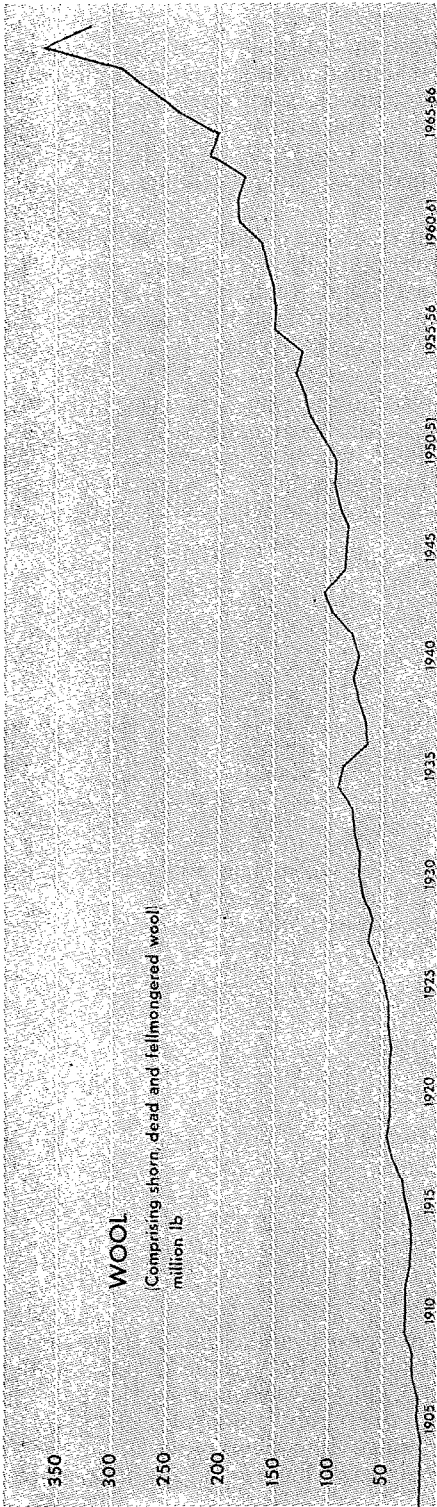
| Size of holding (acres) | Area of wheat for grain (acres) |         |         |         |         |         |         |             |                |       | Total, all rural holdings |
|-------------------------|---------------------------------|---------|---------|---------|---------|---------|---------|-------------|----------------|-------|---------------------------|
|                         | 1-99                            | 100-199 | 200-299 | 300-399 | 400-499 | 500-699 | 700-999 | 1,000-1,999 | 2,000 and over | Total |                           |
| 1- 49 ....              | 7                               | ....    | ....    | ....    | ....    | ....    | ....    | ....        | ....           | 7     | 3,754                     |
| 50- 99 ....             | 15                              | ....    | ....    | ....    | ....    | ....    | ....    | ....        | ....           | 15    | 656                       |
| 100- 149 ....           | 17                              | 3       | ....    | ....    | ....    | ....    | ....    | ....        | ....           | 20    | 655                       |
| 150- 199 ....           | 12                              | 1       | ....    | ....    | ....    | ....    | ....    | ....        | ....           | 13    | 559                       |
| 200- 299 ....           | 18                              | 2       | 1       | ....    | ....    | ....    | ....    | ....        | ....           | 21    | 985                       |
| 300- 399 ....           | 13                              | 5       | ....    | ....    | ....    | ....    | ....    | ....        | ....           | 18    | 811                       |
| 400- 499 ....           | 17                              | 10      | 3       | 2       | 1       | ....    | ....    | ....        | ....           | 33    | 665                       |
| 500- 599 ....           | 20                              | 11      | 5       | 1       | 1       | 1       | ....    | ....        | ....           | 39    | 530                       |
| 600- 699 ....           | 30                              | 14      | 6       | ....    | ....    | ....    | ....    | ....        | ....           | 55    | 498                       |
| 700- 799 ....           | 23                              | 18      | 12      | 3       | ....    | 1       | ....    | ....        | ....           | 57    | 387                       |
| 800- 899 ....           | 26                              | 24      | 18      | ....    | 3       | 2       | 1       | ....        | ....           | 82    | 372                       |
| 900- 999 ....           | 27                              | 36      | 25      | 25      | 15      | 7       | 1       | ....        | ....           | 136   | 399                       |
| 1,000-1,999 ....        | 146                             | 109     | 111     | 111     | 63      | 52      | 16      | 3           | ....           | 611   | 1,446                     |
| 1,400-1,999 ....        | 179                             | 138     | 129     | 185     | 173     | 250     | 131     | 26          | ....           | 1,214 | 1,960                     |
| 2,000-2,999 ....        | 209                             | 197     | 187     | 208     | 243     | 514     | 493     | 231         | 6              | 2,288 | 3,166                     |
| 3,000-3,999 ....        | 103                             | 90      | 132     | 105     | 144     | 275     | 392     | 474         | 24             | 1,739 | 2,277                     |
| 4,000-4,999 ....        | 51                              | 37      | 48      | 53      | 63      | 130     | 239     | 497         | 79             | 1,197 | 1,464                     |
| 5,000-9,999 ....        | 37                              | 29      | 31      | 43      | 39      | 95      | 173     | 558         | 394            | 1,399 | 1,555                     |
| 10,000 and over ....    | 6                               | 4       | 5       | 5       | 5       | 9       | 18      | 65          | 178            | 295   | 845                       |
| Total ....              | 956                             | 728     | 712     | 755     | 750     | 1,336   | 1,464   | 1,854       | 681            | 9,236 | 23,004                    |

In the following table, details of area sown and wheat produced in each of the Australian States and the Australian Capital Territory are shown for the period 1965-66 to 1969-70.

WHEAT FOR GRAIN—AREA AND PRODUCTION: AUSTRALIAN STATES

| Season                                    | New South Wales | Victoria | Queensland | South Australia | Western Australia | Tasmania | Australian Capital Territory | Australia |
|-------------------------------------------|-----------------|----------|------------|-----------------|-------------------|----------|------------------------------|-----------|
| AREA SOWN TO WHEAT FOR GRAIN ('000 ACRES) |                 |          |            |                 |                   |          |                              |           |
| 1965-66 ....                              | 4,577           | 3,074    | 954        | 2,745           | 6,150             | 14       | 1                            | 17,515    |
| 1966-67 ....                              | 7,135           | 3,138    | 1,227      | 2,960           | 6,347             | 13       | 3                            | 20,823    |
| 1967-68 ....                              | 8,215           | 3,224    | 1,477      | 2,864           | 6,647             | 12       | 2                            | 22,441    |
| 1968-69 ....                              | 9,962           | 3,984    | 1,789      | 3,748           | 7,295             | 17       | 4                            | 26,799    |
| 1969-70 ....                              | 8,623           | 3,298    | 1,504      | 3,210           | 6,788             | 15       | 3                            | 23,440    |
| PRODUCTION OF WHEAT ('000 BUSHEL)         |                 |          |            |                 |                   |          |                              |           |
| 1965-66 ....                              | 39,117          | 60,591   | 17,429     | 39,976          | 102,156           | 368      | 28                           | 259,666   |
| 1966-67 ....                              | 202,501         | 70,896   | 35,730     | 53,816          | 103,195           | 385      | 87                           | 466,610   |
| 1967-68 ....                              | 87,323          | 28,317   | 27,417     | 26,899          | 106,975           | 316      | 42                           | 277,289   |
| 1968-69 ....                              | 215,119         | 90,728   | 42,000     | 83,160          | 112,450           | 410      | 84                           | 543,950   |
| 1969-70 ....                              | 162,786         | 83,544   | 14,898     | 59,159          | 66,700            | 353      | 73                           | 387,512   |
| YIELD PER ACRE (BUSHEL)                   |                 |          |            |                 |                   |          |                              |           |
| 1965-66 ....                              | 8.5             | 19.7     | 18.3       | 14.6            | 16.6              | 26.1     | 20.8                         | 14.8      |
| 1966-67 ....                              | 28.4            | 22.6     | 29.1       | 18.2            | 16.3              | 30.2     | 32.5                         | 22.4      |
| 1967-68 ....                              | 10.6            | 8.8      | 18.6       | 9.4             | 16.1              | 26.3     | 17.8                         | 12.4      |
| 1968-69 ....                              | 21.6            | 22.8     | 23.5       | 22.2            | 15.4              | 23.6     | 20.1                         | 20.3      |
| 1969-70 ....                              | 18.9            | 25.3     | 9.9        | 18.4            | 9.8               | 23.9     | 27.0                         | 16.5      |

Wool and Wheat—Annual Production, 1901 to 1969-70



## Oats

Although oats have been grown in Western Australia since the early development of wheat farming, cultivation was somewhat limited until stimulated by the introduction of large-scale sheep raising in the agricultural areas, when their high nutritional worth as stock feed made them a very valuable crop. The area sown to oats for grain increased from 193,486 acres in 1920 to 274,874 in 1930, to 429,177 in 1940, to 585,701 in 1950 and 1,329,804 in 1960. It has since remained reasonably static and, in 1969, 1,139,430 acres were sown to oats.

In addition to their importance as local stock feed, oats are exported in substantial quantities in normal seasons. In 1968-69 the total sold overseas was 12,851,608 bushels, the principal buyers being Netherlands, the Federal Republic of Germany, Italy, Japan and the United Kingdom. In 1969-70, because of increased local requirements of oats for stock feed, the quantity sold overseas was only 1,460,648 bushels. Exports to other Australian States are negligible.

Although growers are free to market oats in any way they wish, in practice a large proportion of all sales, whether for export or the local market, is effected through the Western Australian State Voluntary Oats Pool, which is conducted by the Grain Pool of W.A. under the control of the Minister for Agriculture. Co-operative Bulk Handling Limited as the Pool's licensed receiver, handles all oats marketed through the Pool.

### OATS FOR GRAIN—AREA AND PRODUCTION

| Season  | Area      | Production |                        |             |
|---------|-----------|------------|------------------------|-------------|
|         |           | Total      | Average yield per acre | Gross value |
|         | acres     | bushels    | bushels                | \$          |
| 1965-66 | 1,240,104 | 23,278,721 | 18·8                   | 18,402,831  |
| 1966-67 | 1,203,815 | 22,117,198 | 18·4                   | 15,799,834  |
| 1967-68 | 1,158,114 | 19,759,430 | 17·1                   | 14,106,123  |
| 1968-69 | 1,092,469 | 22,941,897 | 21·0                   | 12,977,507  |
| 1969-70 | 1,139,430 | 15,463,313 | 13·6                   | 5,909,782   |

## Barley

Barley grows well on the lighter soils of the wheat belt and is also successful as a first crop on newly-developed land. With the introduction of wheat delivery quotas and because barley was a suitable alternative crop, the area of barley sown for grain in 1969-70 increased by 63 per cent to 900,187 acres from 552,810 acres in 1968-69.

### BARLEY FOR GRAIN—AREA AND PRODUCTION

| Season  | Two-row |            |                        |             | Six-row |            |                        |             |
|---------|---------|------------|------------------------|-------------|---------|------------|------------------------|-------------|
|         | Area    | Production |                        |             | Area    | Production |                        |             |
|         |         | Total      | Average yield per acre | Gross value |         | Total      | Average yield per acre | Gross value |
|         | acres   | bushels    | bushels                | \$          | acres   | bushels    | bushels                | \$          |
| 1965-66 | 71,847  | 1,263,055  | 17·6                   | 1,711,846   | 341,230 | 5,217,879  | 15·3                   | 5,585,578   |
| 1966-67 | 72,190  | 1,450,153  | 20·1                   | 1,927,087   | 300,909 | 5,257,331  | 17·5                   | 5,548,775   |
| 1967-68 | 100,500 | 1,752,735  | 17·4                   | 2,293,542   | 315,285 | 5,274,174  | 16·7                   | 5,396,282   |
| 1968-69 | 198,260 | 3,712,281  | 18·7                   | 3,956,665   | 354,550 | 5,474,833  | 15·4                   | 4,661,940   |
| 1969-70 | 407,707 | 6,862,520  | 16·8                   | 5,535,888   | 492,480 | 5,195,535  | 10·5                   | 3,338,133   |

Both 'two-row' and 'six-row' barley are grown and, while a large amount of the grain produced is retained on farms for stock feed, the bulk of the crop is now exported. In 1969-70 the quantity exported overseas was 5,736,148 bushels, the principal buyers being Italy and the Republic of China (Taiwan). For many years sales of 'two-row' barley were mainly to local maltsters. However, since 1968-69 exports of 'two-row' barley have become increasingly important. Most 'six-row' barley sold continues to be marketed overseas.



The marketing of barley, both for export and for local consumption, is controlled by the Western Australian Barley Marketing Board, Co-operative Bulk Handling Limited acting as the Board's licensed receiver.

### Other Grains and Pulse

Rye and field peas are the only other grain or pulse crops which are cultivated to any appreciable extent. Maize and sorghum are grown but only in small quantities.

#### RYE AND FIELD PEAS FOR GRAIN—AREA AND PRODUCTION

| Season       | Rye    |            |                        |             | Field peas |            |                        |             |
|--------------|--------|------------|------------------------|-------------|------------|------------|------------------------|-------------|
|              | Area   | Production |                        |             | Area       | Production |                        |             |
|              |        | Total      | Average yield per acre | Gross value |            | Total      | Average yield per acre | Gross value |
|              | acres  | bushels    | bushels                | \$          | acres      | bushels    | bushels                | \$          |
| 1965-66 .... | 10,052 | 74,877     | 7.4                    | 80,838      | 4,356      | 30,669     | 7.0                    | 128,810     |
| 1966-67 .... | 10,682 | 99,471     | 9.3                    | 110,861     | 4,551      | 39,435     | 8.7                    | 107,656     |
| 1967-68 .... | 10,944 | 91,188     | 8.3                    | 95,622      | 4,699      | 44,662     | 9.5                    | 138,899     |
| 1968-69 .... | 8,986  | 58,804     | 6.5                    | 69,741      | 7,691      | 60,412     | 7.8                    | 117,803     |
| 1969-70 .... | 11,003 | 50,368     | 4.6                    | 56,969      | 6,022      | 22,162     | 3.7                    | 39,892      |

### Hay

Large quantities of meadow hay are cut from clover and grass pastures, production in 1969-70 being 166,155 tons from 141,963 acres. The principal cereal hay crop is oats and 224,079 tons of oaten hay were cut in 1969-70 from 219,117 acres. Wheat is the only other cereal crop which is used extensively for this purpose and in 1969-70 the production was 95,212 tons from 118,226 acres. Barley, vetches, lucerne, field peas, rye, and rape are also used for hay making but they are of minor importance only. Considerably greater quantities of cereal hay were cut in 1969-70 than in previous years mainly because of the need to offset shortages in grazing from pastures and in the production of meadow hay. The shortages were due to poor seasonal conditions which particularly affected pasture growth.

#### HAY—AREA AND PRODUCTION

| Season       | Meadow  |            | Oaten   |            | Wheaten |            | Other (a) |            | Total   |            |
|--------------|---------|------------|---------|------------|---------|------------|-----------|------------|---------|------------|
|              | Area    | Production | Area    | Production | Area    | Production | Area      | Production | Area    | Production |
|              | acres   | tons       | acres   | tons       | acres   | tons       | acres     | tons       | acres   | tons       |
| 1965-66 .... | 134,563 | 197,652    | 111,615 | 158,765    | 37,681  | 47,354     | 6,938     | 10,646     | 290,797 | 414,417    |
| 1966-67 .... | 139,842 | 208,893    | 111,045 | 151,287    | 35,247  | 43,791     | 8,948     | 13,392     | 295,082 | 417,363    |
| 1967-68 .... | 155,355 | 209,646    | 118,478 | 153,870    | 34,717  | 43,886     | 9,373     | 13,751     | 317,923 | 421,153    |
| 1968-69 .... | 189,859 | 285,938    | 106,133 | 154,691    | 34,290  | 42,522     | 10,894    | 16,591     | 341,176 | 499,742    |
| 1969-70 .... | 141,963 | 166,155    | 219,117 | 224,079    | 118,226 | 95,212     | 20,910    | 22,653     | 500,216 | 508,099    |

(a) Mainly barley, vetch, lucerne, field pea, rye and rape hay.

### Pastures

The first established pastures in the State were cultivated to provide grazing for dairy cattle but, with the rapid increase in the number of sheep carried on wheat farms, by far the greater area is now located in the wheat-growing districts.

Subterranean clover was one of the first pasture species sown in these districts and it is still the most important, although other clovers and a variety of grasses including Wimmera rye grass and perennial rye grasses are also grown extensively. The present practice in the higher-rainfall areas is to sow a mixture of two or more species, selected for their suitability to the type of soil and rainfall, to give a legume grass pasture.

From 1.9 million acres in 1945-46, the area under established pasture has increased remarkably to 16.5 million acres in 1969-70. The top-dressing of pastures with super-phosphate has developed to such an extent that this treatment is now general practice.

Western Australia is in a particularly good position to produce seed of annual legumes and grasses on a large scale and in 1967-68 and 1968-69 produced more than half of the total Australian crop. In 1969-70, however, mainly because of poor seasonal conditions, production was just over one-quarter of the Australian total.

In recent years approximately 1 million acres of new land have been cleared annually, much of it along the south coast where the growing season is six or seven months. It has been found that if heavier seed and fertiliser applications are used, good subterranean clover seed crops can be grown in the first year on this new land. Similarly, in more inland districts good yields of barrel medic can be obtained on suitable soil types. The paddocks generally being used are large, open and only gently undulating, and are thus suitable for the operation of modern harvesting machines. Very little, if any, rain falls in the summer months and this ensures ideal harvesting conditions.

The development of suction harvesting machines in recent years has enabled this potential to be exploited. Suction harvesters are now used to harvest most of the more important small-seeded legume crops (subterranean clover, barrel medic and rose clover).

Seed certification schemes are operated by the Department of Agriculture for the main species of pasture seed. These schemes ensure that buyers are in a position to obtain good quality seed of the strain they require free from weed seeds. Certification schemes have assisted greatly in marketing and in allowing the development of a sound export trade.

Production of all kinds of pasture seed in 1969-70 was 16.1 million lb. This was much lower than the record production of 29.1 million lb in 1968-69 mainly because of poor seasonal conditions. There is an important export trade in subterranean clover seed and in 1969-70 the total exported was 1,533,468 lb, almost all of which went to other Australian States.

#### PASTURE SEED HARVESTED

| Season  | Principal pasture seed |                      |                   |                      |                   |                      |                   |                      | Total pasture seed<br>(all kinds) |                      |
|---------|------------------------|----------------------|-------------------|----------------------|-------------------|----------------------|-------------------|----------------------|-----------------------------------|----------------------|
|         | Subterranean clover    |                      | Rose clover       |                      | Barrel medic      |                      | Wimmera rye grass |                      |                                   |                      |
|         | Area<br>harvested      | Pro-<br>duction      | Area<br>harvested | Pro-<br>duction      | Area<br>harvested | Pro-<br>duction      | Area<br>harvested | Pro-<br>duction      | Area<br>harvested                 | Pro-<br>duction      |
|         | acres                  | centals ( <i>a</i> ) | acres             | centals ( <i>a</i> ) | acres             | centals ( <i>a</i> ) | acres             | centals ( <i>a</i> ) | acres                             | centals ( <i>a</i> ) |
| 1965-66 | 75,973                 | 191,456              | 3,186             | 4,655                | 9,582             | 14,777               | 1,508             | 2,188                | 95,534                            | 226,271              |
| 1966-67 | 87,001                 | 196,611              | 6,343             | 9,745                | 16,489            | 24,245               | 1,798             | 2,927                | 118,089                           | 246,954              |
| 1967-68 | 71,667                 | 159,541              | 6,464             | 9,594                | 9,937             | 12,255               | 1,674             | 1,730                | 93,172                            | 204,325              |
| 1968-69 | 98,077                 | 212,309              | 5,137             | 7,852                | 10,391            | 14,832               | 1,803             | 2,050                | 131,335                           | 291,064              |
| 1969-70 | 63,418                 | 114,188              | 2,430             | 2,873                | 5,031             | 4,516                | 777               | 1,560                | 86,781                            | 160,952              |

(a) Cental = 100 lb.

#### Green Feed

Large areas of oats are grown for use as green feed for stock. Among other crops which are cultivated for this purpose, but to a far lesser extent, are barley, wheat, sudax, field peas and lucerne. The total area of crops used for green feed was 383,317 in 1969-70.

#### GREEN FEED—AREA GRAZED OR CUT (Acres)

| Season  | Oats    | Barley | Wheat  | Sudax  | Field peas | Lucerne | All other<br>kinds (a) | Total   |
|---------|---------|--------|--------|--------|------------|---------|------------------------|---------|
| 1965-66 | 341,668 | 26,103 | 8,440  | 1,108  | 9,036      | 10,971  | 16,614                 | 413,945 |
| 1966-67 | 332,090 | 22,073 | 10,590 | 1,768  | 8,723      | 6,396   | 17,211                 | 398,851 |
| 1967-68 | 344,661 | 24,217 | 9,727  | 4,118  | 10,897     | 5,394   | 15,539                 | 414,553 |
| 1968-69 | 233,530 | 21,310 | 8,113  | 4,622  | 10,685     | 4,623   | 14,357                 | 297,240 |
| 1969-70 | 279,840 | 33,495 | 18,902 | 15,069 | 8,458      | 7,115   | 20,438                 | 383,317 |

(a) Mainly vetches, millet, sudan grass and sorghum.



#### BANANA GROWING, CARNARVON

Production of bananas in Western Australia is confined almost entirely to a narrow strip of land along the Gascoyne River at Carnarvon. The crop is transported by road to Perth some 600 miles to the south for local consumption.

*Photograph by courtesy of the Department of Development and Decentralisation*

# Linseed

During the war, attempts were made to cultivate those varieties of flax which yield linseed as the principal product, but they were largely unsuccessful and were abandoned. Efforts were renewed in 1947-48 but once again were short-lived, being discontinued after five years. Production recommenced in 1957-58 when 1,350 cwt were harvested from 549 acres. Since then area and production have fluctuated widely, the lowest figures being recorded in 1965-66 when an area of 97 acres was cropped for a harvest of 303 cwt. As a result of a renewed interest in linseed as a cash crop for the Esperance area, the acreage sown then increased substantially in each of the four succeeding years to a record 30,812 acres in 1969-70.

## LINSEED—AREA AND PRODUCTION

| Season       | Area   | Production |                        |             |
|--------------|--------|------------|------------------------|-------------|
|              |        | Total      | Average yield per acre | Gross value |
|              | acres  | cwt        | cwt                    | \$          |
| 1965-66 .... | 97     | 303        | 3.1                    | 2,060       |
| 1966-67 .... | 1,751  | 12,680     | 7.2                    | 44,380      |
| 1967-68 .... | 6,886  | 41,666     | 6.1                    | 199,452     |
| 1968-69 .... | 18,645 | 106,419    | 5.7                    | 514,639     |
| 1969-70 .... | 30,812 | 123,714    | 4.0                    | 567,767     |

# Cotton

The first commercial crop of cotton was grown at Kununurra in 1962-63 on land irrigated from the Ord River diversion dam at Bandicoot Bar. In 1969-70 a total area of 7,210 acres produced 185,714 cwt of seed cotton, the average yield per acre being 2,885 lb. A cotton ginnery to process the seed cotton was installed at Kununurra in 1963 and a second ginnery commenced operations in May 1967.

Under the *Raw Cotton Bounty Act* 1963-1969, the Commonwealth Government pays a bounty on raw cotton of grade higher than 'strict good ordinary' and with a staple length of not less than seven-eighths of an inch which is produced in Australia. Bounty is paid at the rate of 13.4375 cents per lb on cotton of 'middling white' grade with a staple length of one inch. Provision is made for premiums and discounts on grades and staples above and below these standards. For the year commencing 1 March 1971 the amount available for payment of bounty is \$2 million. For the previous year it was \$3 million. Prior to 1 March 1970 the amount available in any year from 1 January 1964 was \$4 million.

## COTTON—AREA AND PRODUCTION

| Season       | Area   | Production of seed cotton |                        |             |
|--------------|--------|---------------------------|------------------------|-------------|
|              |        | Total                     | Average yield per acre | Gross value |
|              | acres  | cwt                       | lb                     | \$          |
| 1965-66 .... | 8,307  | 182,421                   | 2,464                  | 1,871,722   |
| 1966-67 .... | 11,892 | 262,500                   | 2,472                  | 2,393,000   |
| 1967-68 .... | 11,782 | 231,732                   | 2,203                  | 1,892,000   |
| 1968-69 .... | 8,327  | 192,500                   | 2,589                  | 1,680,700   |
| 1969-70 .... | 7,210  | 185,714                   | 2,885                  | 1,586,887   |

# Potatoes

The cultivation of potatoes, the State's principal vegetable crop, is largely confined to the higher-rainfall areas of the South-West. Winter crops are planted during June and early July on the frost-free hillsides and drained flats of the coastal areas between Waroona and Donnybrook and on the market garden land in the Perth Statistical Division. Mid-season plantings are made from the middle of July to November on summer-moist areas or on sprinkler-irrigated land in the Shires of Manjimup, Busselton, Albany and Waroona and in market gardens in the Perth Statistical Division. Late crops are planted between mid-November and the end of February in all districts growing early and mid-season crops, other than the Perth Statistical Division.

The average yield of potatoes per acre in Western Australia is consistently very much greater than that for Australia as a whole, and in 1969-70 comparative yields were 10·6 tons and 7·0 tons per acre. This is due mainly to the favourable climatic conditions in Western Australia and the increasing use of sprinkler irrigation. Delaware, the principal variety grown in the State, gives high yields under a wide range of growing conditions. There is a substantial export surplus, the bulk of which usually goes to the other Australian States with smaller consignments being sent overseas, principally to Singapore.

Potato production in Western Australia is controlled, under the provisions of the *Marketing of Potatoes Act, 1946-1966*, by the Western Australian Potato Marketing Board, which is the sole marketing authority for potatoes produced in the State. The object of this provision is to ensure adequate supplies for local consumption and effective marketing of crops.

#### POTATOES—AREA AND PRODUCTION

| Season       | Area  | Production |                        |             |
|--------------|-------|------------|------------------------|-------------|
|              |       | Total      | Average yield per acre | Gross value |
|              | acres | tons       | tons                   | \$          |
| 1965-66 .... | 6,229 | 62,865     | 10·1                   | 5,026,658   |
| 1966-67 .... | 6,100 | 64,169     | 10·5                   | 4,958,829   |
| 1967-68 .... | 6,149 | 70,469     | 11·5                   | 5,537,310   |
| 1968-69 .... | 6,588 | 74,435     | 11·3                   | 5,613,344   |
| 1969-70 .... | 6,332 | 67,164     | 10·6                   | 5,390,001   |

#### Onions

The production of onions is largely confined to the metropolitan and adjacent areas, Osborne Park and Spearwood being the main centres. In these districts onions are usually grown on light sandy soils and yields of up to 20 tons per acre are obtained. An increase in area occurred during each season from 1958-59 to 1962-63 when 509 acres were planted. The area planted then declined steadily over the next three years, with a slight recovery occurring in 1966-67. In 1969-70 302 acres were planted for a production of 4,428 tons or 14·7 tons per acre.

Onions are imported annually into Western Australia during the winter but a surplus is produced locally during summer months which is exported, in the main, to overseas markets, the most important being Singapore.

#### ONIONS—AREA AND PRODUCTION

| Season       | Area  | Production |                        |             |
|--------------|-------|------------|------------------------|-------------|
|              |       | Total      | Average yield per acre | Gross value |
|              | acres | tons       | tons                   | \$          |
| 1965-66 .... | 331   | 3,948      | 11·9                   | 392,870     |
| 1966-67 .... | 413   | 5,417      | 13·1                   | 419,440     |
| 1967-68 .... | 340   | 4,633      | 13·6                   | 540,941     |
| 1968-69 .... | 359   | 5,494      | 15·3                   | 541,478     |
| 1969-70 .... | 302   | 4,428      | 14·7                   | 487,056     |

#### Tomatoes

The main centres of production of tomatoes are at Carnarvon and Geraldton and in the districts around Perth. At Carnarvon and Geraldton, because of the warm winter climate, growers are able to produce early crops and take advantage of the high prices ruling on the Melbourne market during the winter and spring. They also supply substantial quantities to the Perth market and there is a consistent export trade with Christmas Island (Indian Ocean) and Singapore.

Supplies to the Perth market from December to June are grown in and near the metropolitan area, principally in the Wanneroo and Osborne Park districts. Tomatoes are also grown in a number of districts in the South-West and a small area is planted annually at Kalgoorlie.

The total area under tomatoes reached a peak of 1,555 acres in 1944-45 but the average yield per acre in that year was low and total production was only 755,898 half-bushel cases. Since then, although the area has declined, yields per acre have improved and production in 1969-70 was 732,055 half-bushel cases from 575 acres, an average yield of 1,273 half-bushel cases per acre.

## TOMATOES—AREA AND PRODUCTION

| Season        | Area  | Production             |                        |             |
|---------------|-------|------------------------|------------------------|-------------|
|               |       | Total                  | Average yield per acre | Gross value |
|               | acres | '000 half-bushel cases | half-bushel cases      | \$          |
| 1965-66 ..... | 649   | 697                    | 1,075                  | 1,719,009   |
| 1966-67 ..... | 691   | 753                    | 1,090                  | 1,949,857   |
| 1967-68 ..... | 680   | 763                    | 1,123                  | 1,545,745   |
| 1968-69 ..... | 612   | *717                   | 1,171                  | 1,885,198   |
| 1969-70 ..... | 575   | 732                    | 1,273                  | 2,023,791   |

\* Revised.

## Other Vegetables

In addition to the cultivation of potatoes, onions and tomatoes, previously mentioned, many other vegetables are produced, the bulk of them in or near the metropolitan area where growers benefit not only from proximity to the principal market but also from an abundant supply of water at relatively shallow depths. Small quantities are also produced in many country districts. An important early crop of beans is grown at Carnarvon and transported by road to Perth. Approximately half of this crop is then railed or airfreighted to Adelaide with some going to Melbourne. Exports of cauliflowers to Singapore and Malaysia have become significant in recent years.

Details of the area and production of the principal vegetables other than potatoes, onions and tomatoes for the years 1965-66 to 1969-70 are given in the next three tables.

## TURNIPS, CARROTS, PARSNIPS, BEETROOT—AREA AND PRODUCTION

| Season        | Turnips<br>(swede and white) |            |             | Carrots |            |             | Parsnips |            |             | Beetroot |            |             |
|---------------|------------------------------|------------|-------------|---------|------------|-------------|----------|------------|-------------|----------|------------|-------------|
|               | Area                         | Production |             | Area    | Production |             | Area     | Production |             | Area     | Production |             |
|               |                              | Quantity   | Gross value |         | Quantity   | Gross value |          | Quantity   | Gross value |          | Quantity   | Gross value |
|               | acres                        | '000 lb    | \$          | acres   | tons       | \$          | acres    | '000 lb    | \$          | acres    | '000 lb    | \$          |
| 1965-66 ..... | 134                          | 1,817      | 49,842      | 403     | 4,976      | 248,517     | 124      | 2,306      | 113,563     | 95       | 1,881      | 78,519      |
| 1966-67 ..... | 122                          | 1,942      | 69,671      | 429     | 5,657      | 565,145     | 107      | 2,235      | 227,909     | 97       | 1,659      | 90,964      |
| 1967-68 ..... | 127                          | 1,815      | 106,228     | 415     | 5,550      | 362,986     | 105      | 2,090      | 140,144     | 82       | 1,443      | 57,716      |
| 1968-69 ..... | 127                          | 1,337      | 54,539      | 396     | 8,809      | 692,387     | 86       | 1,452      | 102,674     | 58       | 935        | 49,914      |
| 1969-70 ..... | 96                           | 796        | 42,290      | 382     | 5,684      | 439,942     | 86       | 1,140      | 107,216     | 51       | 670        | 38,676      |

## PUMPKINS, BEANS, GREEN PEAS—AREA AND PRODUCTION

| Season        | Pumpkins |            |             | Beans |          |             |       |          |             | Green peas |            |             |
|---------------|----------|------------|-------------|-------|----------|-------------|-------|----------|-------------|------------|------------|-------------|
|               | Area     | Production |             | Area  | Runner   |             | Area  | French   |             | Area       | Production |             |
|               |          | Quantity   | Gross value |       | Quantity | Gross value |       | Quantity | Gross value |            | Quantity   | Gross value |
|               | acres    | '000 bags  | \$          | acres | '000 lb  | \$          | acres | '000 lb  | \$          | acres      | '000 lb    | \$          |
| 1965-66 ..... | 791      | 76         | 201,210     | 952   | 8,726    | 1,043,623   | 32    | *197     | 29,484      | 2,942      | 13,473     | 267,096     |
| 1966-67 ..... | 867      | 77         | 277,424     | 1,028 | *8,949   | 1,161,713   | 42    | 186      | 22,324      | 3,236      | 11,152     | 418,817     |
| 1967-68 ..... | 934      | *93        | 328,229     | 943   | 8,128    | 975,314     | 121   | 584      | 40,886      | 2,854      | 11,220     | 261,935     |
| 1968-69 ..... | 856      | 90         | 357,416     | 817   | 6,923    | 969,219     | 151   | 666      | 64,129      | 2,274      | *11,801    | 232,960     |
| 1969-70 ..... | 924      | 88         | 249,616     | 795   | 5,572    | 835,866     | 74    | 356      | 23,042      | 1,924      | 9,275      | 158,494     |

\* Revised.

## CABBAGES, CAULIFLOWERS, LETTUCE—AREA AND PRODUCTION

| Season        | Cabbages |             |            |             | Cauliflowers |       |            |             | Lettuce |             |            |             |
|---------------|----------|-------------|------------|-------------|--------------|-------|------------|-------------|---------|-------------|------------|-------------|
|               | Area     |             | Production |             | Area         |       | Production |             | Area    |             | Production |             |
|               |          |             | Quantity   | Gross value |              |       | Quantity   | Gross value |         |             | Quantity   | Gross value |
|               | acres    | '000 crates | \$         |             | acres        | '000  | \$         |             | acres   | '000 crates | \$         |             |
| 1965-66 ..... | 368      | 234         | 260,172    |             | 663          | 3,418 | 686,698    |             | 433     | 362         | 598,423    |             |
| 1966-67 ..... | 356      | 218         | 254,048    |             | 679          | 3,605 | 763,229    |             | 417     | 354         | 666,402    |             |
| 1967-68 ..... | 392      | 258         | 451,449    |             | 640          | 3,356 | 848,906    |             | 431     | 351         | 613,289    |             |
| 1968-69 ..... | 347      | 246         | 243,700    |             | 680          | 3,392 | 967,905    |             | 399     | 348         | 696,460    |             |
| 1969-70 ..... | 306      | 225         | 323,955    |             | 719          | 3,299 | 829,059    |             | 417     | 368         | 831,356    |             |

## Orchards

Fruit production is largely confined to the temperate regions between Gingin to the north of Perth and Albany on the south coast. The cool, wet winters and warm, dry summers of this area permit the successful cultivation of a wide variety of fruits. In the southern and south-western sections, apples, pears and stone fruits are grown extensively while in the districts around Perth the principal crops are apples, stone fruits, citrus fruits and grapes. Outside this main fruit-growing area, banana plantations have been established at Carnarvon in the North-West.

The following table shows details of production of the principal groups of orchard fruit during the years 1965-66 to 1969-70.

## FRUIT (a)—AREA AND GROSS VALUE OF PRODUCTION

| Season        | Pome (b) |                           | Citrus (c) |                           | Stone (d) |                           | Other (e) |                           | Total fruit (a) |                           |
|---------------|----------|---------------------------|------------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------------|---------------------------|
|               | Area (f) | Gross value of production | Area (f)   | Gross value of production | Area (f)  | Gross value of production | Area (f)  | Gross value of production | Area (f)        | Gross value of production |
|               |          | \$                        |            | \$                        |           | \$                        |           | \$                        |                 | \$                        |
| 1965-66 ..... | 17,200   | 5,418,650                 | 5,964      | 1,262,268                 | 2,514     | 957,298                   | 1,037     | 1,195,402                 | 26,715          | 8,833,618                 |
| 1966-67 ..... | 16,746   | 7,288,924                 | 6,130      | 1,618,232                 | 2,489     | 1,048,423                 | 1,093     | 1,260,718                 | 26,457          | 11,216,297                |
| 1967-68 ..... | 16,112   | 7,251,995                 | 5,932      | 1,843,954                 | 2,458     | 1,181,588                 | 1,097     | 824,100                   | 25,599          | 11,101,637                |
| 1968-69 ..... | 16,156   | 9,013,608                 | 5,785      | 1,733,777                 | 2,340     | 1,212,404                 | 1,085     | 1,543,256                 | 25,366          | 13,503,045                |
| 1969-70 ..... | 15,354   | 8,923,348                 | 5,520      | 1,873,982                 | 2,217     | 1,315,040                 | 1,039     | 2,318,216                 | 24,130          | 14,430,586                |

(a) Excludes grapes. (b) Apples, pears and quinces. (c) Principally oranges, mandarins, lemons and grapefruit.  
 (d) Apricots, peaches, nectarines, plums and cherries. (e) Bananas, loquats, figs, passion fruit, almonds and other minor fruits.  
 (f) Includes area under young non-bearing trees.

## Apples

Apples, which are the principal fruit crop, account for more than half the total orchard area. Manjimup, Donnybrook, Bridgetown and Mount Barker (based on number of bearing and non-bearing trees) are the most important centres but other districts in the South-West and in the Darling Range near Perth produce large quantities. In 1969-70 the total area of bearing trees was 11,435 acres which produced 2,610,151 bushels, the principal varieties being Granny Smith, Yates, Jonathan, Cleopatra and Delicious.

## APPLES—AREA AND PRODUCTION

| Season        | Area                 |                         | Production |                            |             |
|---------------|----------------------|-------------------------|------------|----------------------------|-------------|
|               | Trees of bearing age | Young trees not bearing | Total      | Average yield per acre (a) | Gross value |
|               |                      |                         |            |                            |             |
|               | acres                | acres                   | bushels    | bushels                    | \$          |
| 1965-66 ..... | 11,760               | 4,281                   | 1,603,040  | 136·3                      | 4,808,375   |
| 1966-67 ..... | 11,596               | 4,058                   | 2,386,741  | 205·8                      | 6,694,783   |
| 1967-68 ..... | 11,269               | 3,809                   | 2,060,158  | 182·8                      | 6,636,970   |
| 1968-69 ..... | 11,480               | 3,685                   | 2,870,187  | 250·0                      | 8,289,047   |
| 1969-70 ..... | 11,435               | 2,936                   | 2,610,151  | 228·3                      | 8,071,987   |

(a) Calculated on the area of bearing trees only.



There is a valuable export trade and overseas shipments generally exceed well over 1 million bushels annually. The United Kingdom is the most important market, followed by Singapore, the Federal Republic of Germany, Ireland and the Netherlands.

### Pears

Pears are usually grown in conjunction with apples but the area planted and the quantity produced are much less, the total area of bearing trees in 1969-70 being 813 acres and the production 212,235 bushels. The bulk of the crop is consumed locally but significant quantities are exported, principally to Singapore, the United Kingdom, Malaysia and Christmas Island (Indian Ocean).

#### PEARS—AREA AND PRODUCTION

| Season       | Area                 |                         | Production |                            |             |
|--------------|----------------------|-------------------------|------------|----------------------------|-------------|
|              | Trees of bearing age | Young trees not bearing | Total      | Average yield per acre (a) | Gross value |
|              | acres                | acres                   | bushels    | bushels                    | \$          |
| 1965-66 .... | 800                  | 344                     | 189,979    | 237.5                      | 608,701     |
| 1966-67 .... | 812                  | 268                     | 153,872    | 189.5                      | 592,807     |
| 1967-68 .... | 743                  | 275                     | 181,772    | 244.6                      | 611,486     |
| 1968-69 .... | 760                  | 218                     | 191,351    | 251.8                      | 721,475     |
| 1969-70 .... | 813                  | 160                     | 212,235    | 261.1                      | 849,312     |

(a) Calculated on the area of bearing trees only.

### Citrus Fruit

The following tables give details of production of citrus fruit by type for the years 1965-66 to 1969-70.

#### ORANGES AND MANDARINS—AREA AND PRODUCTION

| Season       | Oranges              |                         |            |             | Mandarins            |                         |            |             |
|--------------|----------------------|-------------------------|------------|-------------|----------------------|-------------------------|------------|-------------|
|              | Area                 |                         | Production |             | Area                 |                         | Production |             |
|              | Trees of bearing age | Young trees not bearing | Quantity   | Gross value | Trees of bearing age | Young trees not bearing | Quantity   | Gross value |
|              | acres                | acres                   | bushels    | \$          | acres                | acres                   | bushels    | \$          |
| 1965-66 .... | 3,670                | 1,017                   | 322,866    | 974,768     | 262                  | 288                     | 23,935     | 122,865     |
| 1966-67 .... | 3,691                | 1,120                   | 466,349    | 1,226,919   | 272                  | 341                     | 32,978     | 147,741     |
| 1967-68 .... | 3,603                | 1,032                   | 482,199    | 1,359,100   | 316                  | 312                     | 41,780     | 204,443     |
| 1968-69 .... | 3,682                | 824                     | 550,962    | 1,199,648   | 363                  | 279                     | 49,068     | 206,086     |
| 1969-70 .... | 3,646                | 650                     | 429,640    | 1,343,708   | 377                  | 240                     | 38,307     | 217,525     |

#### LEMONS AND OTHER CITRUS FRUIT—AREA AND PRODUCTION

| Season       | Lemons               |                         |            |             | Other citrus (a)     |                         |            |             |
|--------------|----------------------|-------------------------|------------|-------------|----------------------|-------------------------|------------|-------------|
|              | Area                 |                         | Production |             | Area                 |                         | Production |             |
|              | Trees of bearing age | Young trees not bearing | Quantity   | Gross value | Trees of bearing age | Young trees not bearing | Quantity   | Gross value |
|              | acres                | acres                   | bushels    | \$          | acres                | acres                   | bushels    | \$          |
| 1965-66 .... | 505                  | 97                      | 117,604    | 137,906     | 108                  | 17                      | 16,060     | 26,729      |
| 1966-67 .... | 502                  | 82                      | 141,856    | 200,953     | 104                  | 18                      | 20,881     | 42,619      |
| 1967-68 .... | 488                  | 69                      | 142,859    | 235,778     | 94                   | 18                      | 18,513     | 44,633      |
| 1968-69 .... | 478                  | 50                      | 153,855    | 277,180     | 92                   | 17                      | 20,068     | 50,863      |
| 1969-70 .... | 466                  | 29                      | 140,527    | 256,033     | 91                   | 21                      | 17,438     | 56,716      |

(a) Principally grapefruit.

While the Shire of Chittering is the chief citrus fruit producer, there are other important areas near Perth in the Shires of Kalamunda, Swan, Armadale-Kelmscott, Gosnells and Harvey (in order according to number of trees bearing and non-bearing). Although

oranges are by far the most important crop and account for almost four-fifths of the total area, substantial quantities of lemons, mandarins, and grapefruit are also produced.

Production is largely for local consumption but there is some export trade, mainly with Singapore, Mauritius, Christmas Island (Indian Ocean) and Malaysia.

### Stone Fruits

Plums, peaches, apricots, nectarines, cherries and loquats are grown in the hills districts in the Darling Range near Perth, in the Swan Valley and in many districts in the South-West. The total area under stone fruit in 1969-70 was 2,217 acres, comprising 1,034 acres of plums, 787 of peaches, 254 of apricots, 97 of nectarines, 45 of cherries and 30 of loquats. The bulk of the stone fruit crop is consumed locally but shipments of plums are sent overseas, mainly to Singapore, Hong Kong and Malaysia.

The following tables give details of production of the principal stone fruits for the five years 1965-66 to 1969-70.

PLUMS AND PEACHES—AREA AND PRODUCTION

| Season       | Plums and prunes     |                         |            |             | Peaches              |                         |            |             |
|--------------|----------------------|-------------------------|------------|-------------|----------------------|-------------------------|------------|-------------|
|              | Area                 |                         | Production |             | Area                 |                         | Production |             |
|              | Trees of bearing age | Young trees not bearing | Quantity   | Gross value | Trees of bearing age | Young trees not bearing | Quantity   | Gross value |
|              | acres                | acres                   | bushels    | \$          | acres                | acres                   | bushels    | \$          |
| 1965-66 .... | 840                  | 250                     | 103,744    | 384,876     | 744                  | 212                     | 120,605    | 379,219     |
| 1966-67 .... | 869                  | 253                     | 122,505    | 490,847     | 742                  | 182                     | 107,669    | 324,286     |
| 1967-68 .... | 901                  | 221                     | 142,943    | 562,585     | 746                  | 148                     | 135,834    | 370,863     |
| 1968-69 .... | 896                  | 171                     | 100,243    | 531,383     | 728                  | 127                     | 112,067    | 406,579     |
| 1969-70 .... | 900                  | 134                     | 138,489    | 662,036     | 687                  | 100                     | 126,473    | 410,794     |

APRICOTS AND NECTARINES—AREA AND PRODUCTION

| Season       | Apricots             |                         |            |             | Nectarines           |                         |            |             |
|--------------|----------------------|-------------------------|------------|-------------|----------------------|-------------------------|------------|-------------|
|              | Area                 |                         | Production |             | Area                 |                         | Production |             |
|              | Trees of bearing age | Young trees not bearing | Quantity   | Gross value | Trees of bearing age | Young trees not bearing | Quantity   | Gross value |
|              | acres                | acres                   | bushels    | \$          | acres                | acres                   | bushels    | \$          |
| 1965-66 .... | 244                  | 61                      | 28,606     | 117,758     | 96                   | 22                      | 14,255     | 54,360      |
| 1966-67 .... | 226                  | 61                      | 33,620     | 148,181     | 87                   | 23                      | 11,908     | 60,016      |
| 1967-68 .... | 233                  | 58                      | 36,636     | 148,544     | 86                   | 20                      | 14,807     | 63,966      |
| 1968-69 .... | 229                  | 47                      | 35,733     | 152,115     | 80                   | 15                      | 13,402     | 79,161      |
| 1969-70 .... | 216                  | 38                      | 34,931     | 125,551     | 80                   | 17                      | 14,021     | 83,752      |

### Bananas

Production of bananas is confined almost entirely to a narrow strip of land along the Gascoyne River at Carnarvon. The plantations are dependent on water pumped from bores which tap a subterranean flow in the sands of the usually dry river bed. As a surface flow in the river channel results only from heavy rains, which do not occur every year, a problem is presented in the falling-off of water supplies and in the increase in the salt content of the underground water during long dry periods. These conditions and also periodic damage from cyclones cause fluctuations in the area of the plantations and in production.

The crop is transported by road to Perth and sold locally in competition with bananas imported from other Australian States.

## BANANAS—AREA AND PRODUCTION

| Season       | Area                  |                          | Production |                            |             |
|--------------|-----------------------|--------------------------|------------|----------------------------|-------------|
|              | Plants of bearing age | Young plants not bearing | Total      | Average yield per acre (a) | Gross value |
|              | acres                 | acres                    | bushels    | bushels                    | \$          |
| 1965-66 .... | 345                   | 101                      | 198,693    | 575.9                      | 1,117,695   |
| 1966-67 .... | 364                   | 142                      | 169,085    | 464.5                      | 1,162,842   |
| 1967-68 .... | 380                   | 138                      | 126,697    | 333.4                      | 709,503     |
| 1968-69 .... | 445                   | 95                       | 252,686    | 567.6                      | 1,415,041   |
| 1969-70 .... | 467                   | 68                       | 255,177    | 546.4                      | 2,143,489   |

(a) Calculated on the area of bearing plants only.

## Vineyards

Almost three-quarters of the State's 6,651 acres of grape vines are in the Shire of Swan, other important centres being Chittering, Wanneroo, Toodyay, Gosnells and Northam.

In the dried vine fruit industry, currants are the main item of production and a high proportion of the crop is exported overseas, Canada and Malaysia being the principal buyers in 1969-70. Small quantities are exported to other Australian States. Production of sultanas and table raisins is of minor importance and exports are negligible.

Table grapes are grown for the local market and for export overseas, mainly to Singapore and Malaysia. The production of beverage wines has exceeded 600,000 gallons for the past nine years, reaching a record production of over 800,000 gallons in 1968-69. Most of the wine produced is for local consumption although small amounts are exported to the other Australian States and overseas.

## GRAPES—AREA AND PRODUCTION

| Season       | Area                 |                         | Grapes used for wine making and table use |             | Dried vine fruits |             | Wine production |              |
|--------------|----------------------|-------------------------|-------------------------------------------|-------------|-------------------|-------------|-----------------|--------------|
|              | Vines of bearing age | Young vines not bearing | Quantity                                  | Gross value | Quantity          | Gross value | Beverage (a)    | Distillation |
|              | acres                | acres                   | '000 cwt                                  | \$'000      | '000 cwt          | \$'000      | '000 gallons    | '000 gallons |
| 1965-66 .... | 7,531                | 684                     | 150                                       | 688         | 28                | 485         | 627             | 215          |
| 1966-67 .... | 7,304                | 641                     | 148                                       | 593         | 28                | 432         | 705             | 219          |
| 1967-68 .... | 7,064                | 601                     | 140                                       | 630         | 34                | 462         | 616             | 213          |
| 1968-69 .... | 6,733                | 537                     | 157                                       | 786         | 37                | 550         | 837             | 219          |
| 1969-70 .... | 6,120                | 531                     | 166                                       | 945         | 22                | 337         | 769             | 246          |

(a) Includes spirit produced from distillation wine and used in fortification.

## Nurseries

Commercial nurseries are concentrated in the Perth Statistical Division, Kalamunda with 30 per cent of the total area of commercial nurseries being the principal centre. Most nursery production is in the form of potted shrubs, ornamental trees and cut flowers for domestic use but large numbers of fruit trees are produced for planting in orchards.

## NURSERIES (a): AREA AND VALUE OF SALES (b)

| Particulars                      | 1965-66 | 1966-67 | 1967-68 | 1968-69   | 1969-70   |
|----------------------------------|---------|---------|---------|-----------|-----------|
| Area ....                        | acres   |         |         |           |           |
| Sales (year ended 31 March) .... | \$      |         |         |           |           |
|                                  | 284     | 240     | 246     | 244       | 228       |
|                                  | 924,909 | 893,627 | 910,478 | 1,137,746 | 1,312,132 |

(a) Excludes non-commercial nurseries.

(b) Value at the holding, after deducting costs incurred in marketing.

**Holdings Growing Certain Crops**

The following table shows the number of holdings which grew certain crops in each of the years 1965-66 to 1969-70.

NUMBER OF HOLDINGS GROWING CERTAIN CROPS

| Crop                                | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|-------------------------------------|---------|---------|---------|---------|---------|
| 20 acres and over—                  |         |         |         |         |         |
| Wheat for grain .....               | 9,044   | 8,897   | 8,746   | 8,964   | 8,922   |
| Oats for grain .....                | 7,930   | 7,614   | 7,532   | 7,091   | 7,346   |
| Barley for grain .....              | 3,017   | 2,782   | 2,905   | 3,631   | 4,974   |
| 5 acres and over—                   |         |         |         |         |         |
| Linseed .....                       | 4       | 15      | 35      | 103     | 210     |
| 1 acre and over—                    |         |         |         |         |         |
| Vegetables (all kinds) (a) .....    | 1,813   | 1,970   | 1,818   | 1,720   | 1,656   |
| Potatoes .....                      | 627     | 609     | 577     | 573     | 533     |
| Onions .....                        | 164     | 170     | 153     | 160     | 141     |
| Grapes .....                        | 706     | 702     | 665     | 613     | 560     |
| Orchard fruit (all kinds) (b) ..... | 2,718   | 2,631   | 2,544   | 2,441   | 2,312   |
| Citrus fruit .....                  | 923     | 932     | 913     | 871     | 806     |
| Pome fruit .....                    | 1,378   | 1,321   | 1,273   | 1,225   | 1,139   |
| Stone fruit .....                   | 576     | 570     | 560     | 524     | 494     |
| Bananas .....                       | 105     | 122     | 112     | 114     | 116     |
| Passion fruit .....                 | 42      | 40      | 38      | 37      | 43      |

(a) Includes growers of potatoes and onions.  
of bananas and passion fruit.

(b) Includes growers of citrus, pome and stone fruit but excludes growers

**Artificial Fertilisers**

Soils in Western Australia are acutely deficient in phosphate, and regular applications of phosphatic fertiliser are required for crop and pasture growth. Newly cleared land may require applications of up to 200 lb of superphosphate per acre for satisfactory crop yields, but annual applications can be reduced as the phosphate content of the soil is improved through the residual effect of the added fertiliser. On established land, applications of 70 lb to 100 lb of superphosphate per acre are commonly used in wheat growing.

Nitrogen deficiencies also exist in some areas. Legume pastures have assisted greatly in building up nitrogen in the soil and in some situations appreciable increases in yield may be achieved by applying forms of concentrated nitrogenous fertiliser.

The following table shows details of superphosphate and other artificial fertilisers used on crops and pastures during the years 1965-66 to 1969-70.

ARTIFICIAL FERTILISER USED ON RURAL HOLDINGS

| Season  | Crops           |                     |                              |          |                  | Pastures        |                     |                              |         |                  |
|---------|-----------------|---------------------|------------------------------|----------|------------------|-----------------|---------------------|------------------------------|---------|------------------|
|         | Area fertilised | Quantity used       |                              |          |                  | Area fertilised | Quantity used       |                              |         |                  |
|         |                 | Super-phosphate (a) | Other artificial fertilisers | Total    | Average per acre |                 | Super-phosphate (a) | Other artificial fertilisers | Total   | Average per acre |
| 1965-66 | acres           | tons                | tons                         | tons     | cwt              | acres           | tons                | tons                         | tons    | cwt              |
|         | 8,434,054       | 421,071             | 30,851                       | 451,922  | 1.07             | 10,051,456      | 512,758             | 7,750                        | 520,508 | 1.04             |
| 1966-67 | 8,531,382       | 436,834             | 37,269                       | 474,103  | 1.11             | 11,601,382      | 609,858             | 12,594                       | 622,452 | 1.07             |
| 1967-68 | 8,867,662       | 472,304             | 53,650                       | 525,954  | 1.19             | 12,596,847      | 676,535             | 17,479                       | 694,014 | 1.10             |
| 1968-69 | 9,459,832       | 513,782             | *78,539                      | *592,321 | 1.25             | 13,036,807      | 708,774             | 22,199                       | 730,973 | 1.12             |
| 1969-70 | 9,648,988       | 512,810             | 97,150                       | 609,960  | 1.26             | 14,294,841      | 777,606             | 29,369                       | 806,975 | 1.13             |

(a) Includes superphosphate with trace elements.

\* Revised.

**PASTORAL PRODUCTION**

Throughout this section, where mention is made of the 'pastoral areas' the portion of the State referred to comprises the Kimberley, Pilbara, North-West and Central Statistical Divisions together with the Shires of Boulder, Coolgardie, Laverton, Leonora and Menzies, which form part of the Eastern Goldfields Division. The balance of the State,

referred to as the 'agricultural areas', comprises the Perth, South-West, Southern Agricultural, Central Agricultural and Northern Agricultural Divisions together with the Shires of Dundas, Esperance, Ravensthorpe and Yilgarn in the Eastern Goldfields Division.

In the early days of settlement, pastoral activities in Western Australia were confined largely to what are now the agricultural areas and were usually associated with the cultivation of crops. However, beginning with Captain George Grey's visit in 1838 to the area known as the West Kimberley, explorers increasingly drew attention to the pastoral possibilities of large sections of the present Kimberley, Pilbara, North-West and Central Statistical Divisions.

In 1857 and 1858, F. T. Gregory noted the existence of good pastoral country in the Murchison and the Gascoyne districts and in the course of a journey further to the north in 1861 he discovered the Ashburton, Fortescue, De Grey and Oakover Rivers. His reports of good grazing lands in the area led to the establishment of sheep stations by pastoralists from the south, the first of such ventures, in 1863, being in the De Grey district of what is now the Pilbara Statistical Division. Graziers were also turning their attention to the south-east and in the 1870s pastoral lands were being taken up in the coastal areas to the south of the Nullarbor Plain. Another development in the extension of pastoral activity began with Alexander Forrest's journey through the Kimberley in 1879 and his favourable reports on the suitability of the country for grazing. Leases along the Fitzroy and the Ord Rivers were stocked not only with livestock shipped from the south and from the other Australian Colonies but also with cattle brought overland to the area, principally from Queensland and New South Wales, by remarkable feats of droving.

Pastoral production, comprising mainly the production of wool and meat, in 1969-70 contributed over 56 per cent of the total net value of Western Australian rural primary production.

### Sheep

The following table shows the total numbers of sheep, and their distribution between the agricultural and pastoral areas, in each year from 1946 to 1970.

SHEEP NUMBERS AND DISTRIBUTION

| At 31 March— | In agricultural areas |                                      | In pastoral areas |                                      | State total |
|--------------|-----------------------|--------------------------------------|-------------------|--------------------------------------|-------------|
|              | Number                | Proportion of State total (per cent) | Number            | Proportion of State total (per cent) |             |
| 1946         | 7,029,761             | 72.0                                 | 2,736,222         | 28.0                                 | 9,765,983   |
| 1947         | 6,990,756             | 71.4                                 | 2,796,246         | 28.6                                 | 9,787,002   |
| 1948         | 7,417,053             | 71.0                                 | 3,026,745         | 29.0                                 | 10,443,798  |
| 1949         | 7,509,710             | 69.1                                 | 3,362,830         | 30.9                                 | 10,872,540  |
| 1950         | 7,518,456             | 68.8                                 | 3,404,711         | 31.2                                 | 10,923,167  |
| 1951         | 8,269,814             | 72.8                                 | 3,092,094         | 27.2                                 | 11,361,908  |
| 1952         | 9,174,640             | 75.3                                 | 3,013,112         | 24.7                                 | 12,187,752  |
| 1953         | 9,304,681             | 74.6                                 | 3,169,991         | 25.4                                 | 12,474,672  |
| 1954         | 9,921,867             | 75.8                                 | 3,165,241         | 24.2                                 | 13,087,108  |
| 1955         | 10,273,780            | 76.6                                 | 3,137,502         | 23.4                                 | 13,411,282  |
| 1956         | 10,976,121            | 77.7                                 | 3,152,047         | 22.3                                 | 14,128,168  |
| 1957         | 11,845,409            | 79.6                                 | 3,041,140         | 20.4                                 | 14,886,549  |
| 1958         | 12,704,210            | 80.8                                 | 3,019,753         | 19.2                                 | 15,723,963  |
| 1959         | 13,070,754            | 80.6                                 | 3,144,490         | 19.4                                 | 16,215,244  |
| 1960         | 13,395,527            | 81.6                                 | 3,016,062         | 18.4                                 | 16,411,589  |
| 1961         | 13,940,614            | 81.3                                 | 3,210,770         | 18.7                                 | 17,151,384  |
| 1962         | 14,951,185            | 81.6                                 | 3,362,694         | 18.4                                 | 18,313,879  |
| 1963         | 15,403,902            | 82.3                                 | 3,323,222         | 17.7                                 | 18,727,124  |
| 1964         | 16,608,300            | 82.4                                 | 3,556,568         | 17.6                                 | 20,164,868  |
| 1965         | 18,670,759            | 83.4                                 | 3,721,075         | 16.6                                 | 22,391,834  |
| 1966         | 20,695,040            | 84.7                                 | 3,731,768         | 15.3                                 | 24,426,808  |
| 1967         | 23,525,280            | 86.0                                 | 3,845,106         | 14.0                                 | 27,370,386  |
| 1968         | 26,406,575            | 87.6                                 | 3,754,302         | 12.4                                 | 30,160,877  |
| 1969         | 28,888,450            | 87.8                                 | 4,012,708         | 12.2                                 | 32,901,158  |
| 1970         | 29,844,044            | 88.7                                 | 3,789,913         | 11.3                                 | 33,633,957  |

The present distribution of sheep in the State is the result of two opposite trends operating over many years. In the pastoral, or station areas where the industry is based on long-term pastoral leases, severe droughts led to a decline in the number of sheep, although some recovery has taken place in recent years. In the agricultural, or farming areas, however, the sheep population has steadily risen. Factors contributing to this rise, particularly since the war, have been the increasing use of subterranean clover in the wheat belt, the provision in many areas of more assured water supplies, a taxation policy which, by the provision of special concessions to primary producers, has encouraged farmers to clear and develop new land, the War Service Land Settlement Scheme which developed new areas and the stimulating effect of buoyant wool prices in the post-war period.

The overall result has been a marked upward trend in sheep numbers since the war, and at 31 March 1970, the State total was 33·6 million, compared with 9·77 million at the same date in 1946. Numbers in the agricultural areas increased from 7 million, or 72 per cent of the State total, to 29·8 million or nearly 89 per cent. They also increased in the pastoral areas from 2·74 million to 3·79 million, but as a percentage of the State total this represents a decline from 28 per cent to little more than 11 per cent.

**SHEEP FLOCKS AT 31 MARCH 1969**  
**CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF FLOCK**

| Size of holding<br>(acres) | Size of sheep flock (numbers) |         |         |         |                 |                 |                 |                 |                   |                 | Total,<br>all<br>rural<br>holdings |
|----------------------------|-------------------------------|---------|---------|---------|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|------------------------------------|
|                            | 1-299                         | 300-499 | 500-699 | 700-999 | 1,000-<br>1,399 | 1,400-<br>1,999 | 2,000-<br>2,999 | 3,000-<br>4,999 | 5,000<br>and over | Total<br>flocks |                                    |
| 1- 99 .....                | 398                           | 2       | ....    | ....    | ....            | ....            | ....            | ....            | ....              | 400             | 4,410                              |
| 100- 199 .....             | 245                           | 38      | 7       | 5       | 1               | 1               | ....            | ....            | ....              | 297             | 1,214                              |
| 200- 299 .....             | 173                           | 43      | 31      | 26      | 7               | 4               | ....            | ....            | ....              | 284             | 985                                |
| 300- 399 .....             | 160                           | 56      | 38      | 39      | 13              | 3               | 1               | ....            | ....              | 310             | 811                                |
| 400- 499 .....             | 131                           | 50      | 34      | 41      | 43              | 12              | 1               | 1               | ....              | 313             | 665                                |
| 500- 599 .....             | 89                            | 34      | 47      | 43      | 50              | 20              | 7               | 1               | ....              | 291             | 550                                |
| 600- 799 .....             | 123                           | 54      | 60      | 79      | 112             | 69              | 25              | 3               | ....              | 525             | 885                                |
| 800- 999 .....             | 65                            | 48      | 56      | 93      | 94              | 109             | 69              | 6               | ....              | 540             | 771                                |
| 1,000- 1,399 .....         | 81                            | 51      | 109     | 170     | 213             | 260             | 223             | 57              | 2                 | 1,166           | 1,446                              |
| 1,400- 1,999 .....         | 51                            | 53      | 76      | 205     | 291             | 352             | 416             | 247             | 17                | 1,708           | 1,960                              |
| 2,000- 2,999 .....         | 48                            | 35      | 89      | 196     | 387             | 551             | 665             | 637             | 120               | 2,728           | 3,166                              |
| 3,000- 4,999 .....         | 80                            | 58      | 74      | 163     | 304             | 483             | 696             | 678             | 339               | 2,875           | 3,741                              |
| 5,000- 9,999 .....         | 14                            | 10      | 19      | 46      | 104             | 185             | 339             | 395             | 326               | 1,438           | 1,555                              |
| 10,000-19,999 .....        | 3                             | 3       | ....    | 2       | 6               | 14              | 41              | 67              | 127               | 263             | 279                                |
| 20,000-49,999 .....        | 1                             | ....    | ....    | 1       | 1               | 1               | 5               | 10              | 31                | 50              | 59                                 |
| 50,000 and over .....      | 3                             | 3       | 3       | 5       | 5               | 7               | 7               | 49              | 305               | 387             | 507                                |
| Total .....                | 1,665                         | 538     | 643     | 1,114   | 1,631           | 2,071           | 2,495           | 2,151           | 1,267             | 13,575          | 23,004                             |

**SHEEP FLOCKS AT 31 MARCH 1969**  
**CLASSIFIED ACCORDING TO SIZE OF FLOCK AND AREA OF ESTABLISHED PASTURE**

| Area of<br>established<br>pasture (acres) | Size of sheep flock (numbers) |         |         |         |                 |                 |                 |                 |                   |                 | Total,<br>all<br>rural<br>holdings |
|-------------------------------------------|-------------------------------|---------|---------|---------|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|------------------------------------|
|                                           | 1-299                         | 300-499 | 500-699 | 700-999 | 1,000-<br>1,399 | 1,400-<br>1,999 | 2,000-<br>2,999 | 3,000-<br>4,999 | 5,000<br>and over | Total<br>flocks |                                    |
| Nil .....                                 | 270                           | 100     | 131     | 210     | 250             | 222             | 186             | 130             | 330               | 1,829           | 6,486                              |
| 1- 9 .....                                | 72                            | ....    | 1       | 1       | ....            | ....            | ....            | ....            | 1                 | 75              | 384                                |
| 10- 19 .....                              | 70                            | 1       | 1       | 1       | ....            | 3               | ....            | ....            | ....              | 76              | 322                                |
| 20- 29 .....                              | 44                            | ....    | 1       | 1       | 1               | ....            | ....            | 1               | ....              | 49              | 256                                |
| 30- 49 .....                              | 90                            | 1       | 4       | 3       | 5               | 3               | 3               | 1               | ....              | 110             | 415                                |
| 50- 69 .....                              | 99                            | 9       | 4       | 6       | 5               | 7               | 8               | 2               | ....              | 140             | 403                                |
| 70- 99 .....                              | 108                           | 12      | 5       | 5       | 9               | 4               | 1               | 2               | ....              | 146             | 456                                |
| 100- 149 .....                            | 155                           | 63      | 27      | 25      | 15              | 21              | 14              | 2               | 2                 | 324             | 876                                |
| 150- 199 .....                            | 128                           | 53      | 37      | 36      | 28              | 15              | 6               | 5               | ....              | 308             | 778                                |
| 200- 299 .....                            | 214                           | 88      | 106     | 147     | 86              | 67              | 31              | 7               | 2                 | 748             | 1,406                              |
| 300- 399 .....                            | 143                           | 67      | 86      | 131     | 135             | 65              | 36              | 9               | 5                 | 677             | 1,091                              |
| 400- 499 .....                            | 91                            | 49      | 75      | 134     | 189             | 124             | 49              | 16              | 1                 | 728             | 957                                |
| 500- 699 .....                            | 87                            | 43      | 82      | 182     | 333             | 356             | 180             | 40              | 4                 | 1,307           | 1,604                              |
| 700- 999 .....                            | 52                            | 32      | 44      | 132     | 287             | 505             | 516             | 152             | 7                 | 1,727           | 1,955                              |
| 1,000-1,999 .....                         | 30                            | 19      | 34      | 88      | 268             | 610             | 1,194           | 1,111           | 161               | 3,515           | 3,741                              |
| 2,000 and over .....                      | 12                            | 1       | 5       | 12      | 20              | 68              | 271             | 673             | 754               | 1,816           | 1,874                              |
| Total .....                               | 1,665                         | 538     | 643     | 1,114   | 1,631           | 2,071           | 2,495           | 2,151           | 1,267             | 13,575          | 23,004                             |

In the preceding tables sheep flocks at 31 March 1969, in size groups, are classified according to the size of the holding and to the area of established pasture. Of the 23,004 holdings of all types, sheep were carried on 13,575. Holdings of between 1,000 and 5,000 acres accounted for 62 per cent of the flocks and holdings which carried between 1,000 and 3,000 sheep for 46 per cent of the flocks. Of the holdings carrying sheep 11,746 or 87 per cent had some established pasture and 10,518, or 77 per cent had 200 acres and over.

An analysis of collected data relating to breeds of sheep as at 31 March 1968 showed that Merinos accounted for 91 per cent of the total. Corriedales, Polwarths and British breeds, the most important of which are Romney Marsh, Dorset Horn, South Down, Border Leicester and Suffolk, comprised 4 per cent and the remaining 5 per cent was made up of Crossbreds, including Merino Comebacks. With low wool prices operating during the ten years prior to the war, some farmers turned to the production of fat lamb carcasses for export, mainly to the United Kingdom. The industry which developed as a result was based on the use of Corriedale and British breeds of rams, which in 1968 comprised about 17 per cent of the rams in the State. As a result of the high wool prices during the Korean war the 'fat lamb' industry declined sharply in 1950-51 and 1951-52 but recovered in 1952-53. The recovery in the industry was maintained for some years and exports of lamb fluctuated between 4.08 million lb in 1953-54 and 11.5 million lb in 1960-61. Increased lamb production in the United Kingdom and variable market prices then led to a sharp decline in the export of lamb, the total falling to 2.06 million lb in 1967-68. A recovery occurred in 1968-69 when 9.17 million lb were exported but in 1969-70 total exports fell to 6.61 million lb.

The following table shows the numbers of each breed of sheep in the State at 31 March 1968.

BREEDS OF SHEEP (a)

| Breed                                      | At 31 March 1968               |             |            |                                           |
|--------------------------------------------|--------------------------------|-------------|------------|-------------------------------------------|
|                                            | Rams<br>(one year and<br>over) | Other sheep | Total      | Number of<br>holdings<br>with rams<br>(b) |
| Merino ....                                | 343,009                        | 26,943,090  | 27,286,099 | 9,941                                     |
| Other recognised breeds—                   |                                |             |            |                                           |
| Border Leicester ....                      | 10,880                         | 139,346     | 150,226    | 803                                       |
| Cheviot ....                               | 361                            | 3,522       | 3,883      | 46                                        |
| Corriedale ....                            | 22,480                         | 781,767     | 804,247    | 1,216                                     |
| Dorset Horn ....                           | 10,812                         | 58,667      | 69,479     | 1,030                                     |
| English Leicester ....                     | 452                            | 5,769       | 6,221      | 31                                        |
| Pol Dorset ....                            | 1,089                          | 5,250       | 6,339      | 75                                        |
| Polwarth ....                              | 4,259                          | 126,829     | 131,088    | 216                                       |
| Romney Marsh ....                          | 5,177                          | 60,285      | 65,462     | 449                                       |
| Ryeland ....                               | 304                            | 1,140       | 1,444      | 37                                        |
| Shropshire ....                            | 410                            | 1,402       | 1,812      | 33                                        |
| South Down ....                            | 11,773                         | 33,724      | 45,497     | 947                                       |
| South Suffolk ....                         | 737                            | 1,601       | 2,338      | 59                                        |
| Suffolk ....                               | 2,800                          | 12,847      | 15,647     | 374                                       |
| Other ....                                 | 33                             | 29          | 62         | (e)                                       |
| Total, Other recognised breeds ....        | 71,567                         | 1,232,178   | 1,303,745  | (e)                                       |
| Merino Comeback (c) ....                   | 1,294                          | 337,642     | 338,936    | 84                                        |
| Crossbreds (d) and other mixed breeds .... | 1,702                          | 1,230,395   | 1,232,097  | 222                                       |
| GRAND TOTAL ....                           | 417,572                        | 29,743,305  | 30,160,877 | 12,340                                    |

(a) Statistics collected triennially. (b) Components do not add to total because more than one breed of ram may be reported by any one holding. (c) More than one-half Merino. (d) British breed to the extent of one-half or more. (e) Not available.

## Wool

Total wool production in 1969-70 amounted to 335.0 million lb, compared with 191.4 million lb ten years earlier. Shorn wool in 1969-70 accounted for 316.3 million lb. It was shorn from 35.5 million sheep and lambs, the average weight of wool shorn being

8.9 lb, compared with 10.0 lb in the previous season. The balance of the 1969-70 production comprised 2.30 million lb of dead and fellmongered wool, and 16.4 million lb of wool exported on skins.

During the war years wool was compulsorily acquired by the Commonwealth Government in accordance with an agreement with the United Kingdom. The scheme was administered by the Central Wool Committee and the price paid was determined by a system of appraisalment which, however, operated within limits agreed upon by the two Governments. During this period large stocks of wool were accumulated and after the war an organisation was formed with the object of selling this surplus with the least possible disturbance to ruling prices. Government control of wool ceased after the war and wool auctions operated by members of the National Council of Wool Selling Brokers of Australia were resumed in Perth in 1946. These sales are attended by Australian and overseas buyers who bid for individual lots. Some wool is auctioned at sales conducted independently of the National Council and a significant portion of the clip is purchased on farms by wool dealers who buy direct from producers. In September 1957, auctions were held at Albany for the first time. Sales in Perth were discontinued in 1960 and the selling centre was transferred to Fremantle.

The number of sheep and lambs shorn, the average weight of wool shorn per sheep or lamb, and production of wool for five years to 30 June 1970 are given in the following table. The succeeding table shows the gross value of wool production for the same period.

#### SHEEP SHORN AND WOOL PRODUCTION

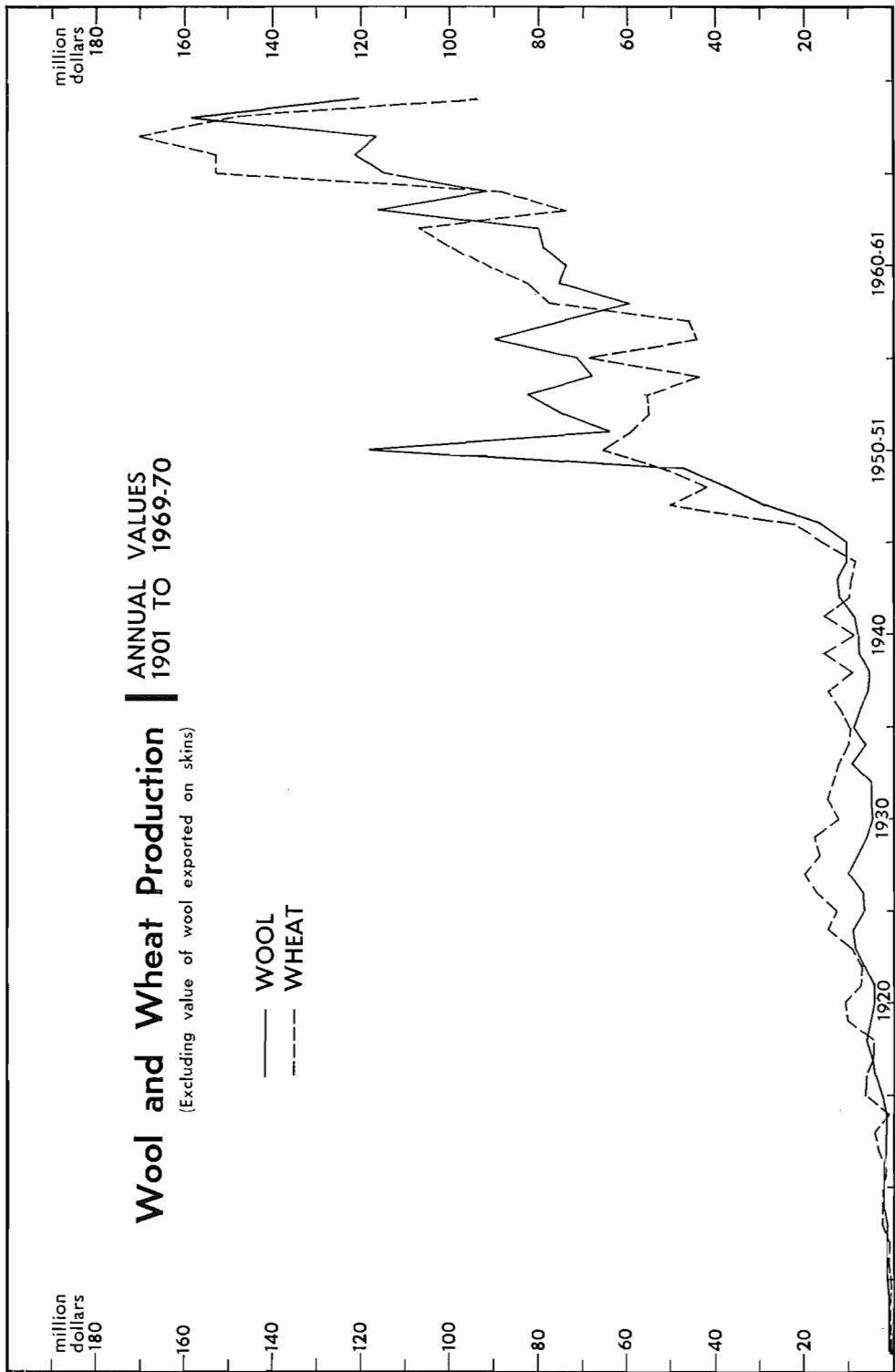
| Year         | Sheep shorn |       |        | Average weight of wool shorn | Wool production (in the grease) |                       |                   |         |
|--------------|-------------|-------|--------|------------------------------|---------------------------------|-----------------------|-------------------|---------|
|              | Sheep       | Lambs | Total  |                              | Shorn                           | Dead and fellmongered | Exported on skins | Total   |
|              | '000        | '000  | '000   | lb                           | '000 lb                         | '000 lb               | '000 lb           | '000 lb |
| 1965-66 .... | 20,458      | 5,177 | 25,635 | 9.2                          | 234,850                         | 3,506                 | 9,174             | 247,530 |
| 1966-67 .... | 22,824      | 5,857 | 28,681 | 9.1                          | 261,000                         | 2,852                 | 8,723             | 272,575 |
| 1967-68 .... | 25,249      | 6,560 | 31,809 | 9.0                          | 286,281                         | 3,361                 | 10,587            | 300,229 |
| 1968-69 .... | 28,438      | 7,404 | 35,842 | 10.0                         | 358,953                         | 3,283                 | 13,414            | 375,650 |
| 1969-70 .... | 28,541      | 6,989 | 35,530 | 8.9                          | 316,322                         | 2,305                 | 16,389            | 335,016 |

#### GROSS VALUES OF WOOL PRODUCTION (\$'000)

| Year         | Shorn wool | Dead wool and fellmongered wool | Wool exported on skins | Total   |
|--------------|------------|---------------------------------|------------------------|---------|
| 1965-66 .... | 114,049    | 1,134                           | 3,015                  | 118,198 |
| 1966-67 .... | 120,437    | 1,072                           | 3,312                  | 124,821 |
| 1967-68 .... | 115,756    | 897                             | 2,493                  | 119,146 |
| 1968-69 .... | 157,544    | 720                             | 3,325                  | 161,589 |
| 1969-70 .... | 120,266    | 554                             | 4,010                  | 124,829 |

Although the greater proportion of the wool clip is exported in the grease, scouring, or degreasing, is done in the State and degreased wool is an appreciable item in the external wool trade. During 1969-70 exports of greasy and degreased wool were 265.0 million lb and 27.7 million lb respectively. The most important buyers of greasy wool were Japan, the Federal Republic of Germany, France, the United Kingdom, Italy, the Union of Soviet Socialist Republics and Belgium-Luxembourg. Principal purchasers of degreased wool were the United States of America, the Union of Soviet Socialist Republics, the United Kingdom, Italy, the Federal Republic of Germany, Iran and India. Further details of exports of greasy and degreased wool, both interstate and overseas, are given in Chapter IX, Part 1—*External Trade*.





### Cattle

Cattle are classified according to the two main purposes of 'meat production' and 'milk production', irrespective of breed.

The table below shows the numbers of cattle for meat production kept on rural holdings at 31 March 1966 to 1970. The table on page 369 details, for 1967 to 1970, the numbers kept for milk production. Cattle numbers in each State and Territory at 31 March 1970 are given in the second table on page 372.

In 1970 the Kimberley Statistical Division carried 647,196 head of cattle for meat production, or 43.2 per cent of the State total. Other pastoral areas carried 114,323 head and agricultural areas 737,496.

The cattle which were originally shipped or driven overland from the other Australian Colonies to start the industry in the northern pastoral areas were predominantly shorthorn breeds, and these still form the great bulk of all cattle kept for meat production in those areas. Carcass weights, however, have been increased by importing better-type bulls, by improving watering facilities on the cattle stations and by the almost complete replacement of droving by the transport of the animals from stations to abattoirs in large road trucks.

Killing and freezing works operate at the ports of Wyndham, Broome and Derby and consignments of frozen and chilled beef from these centres go mainly to overseas destinations. Some of it is sent south for consumption in the metropolitan area and live cattle are also shipped from northern ports to be slaughtered for the metropolitan market. By far the greater proportion of beef consumed in the southern part of the State, however, is supplied from the agricultural areas, some of it being from stock culled from dairy herds.

The following table shows the numbers and proportions of cattle for meat production in agricultural areas and in pastoral areas at 31 March 1966 to 1970. The agricultural areas have become an increasingly important source of meat production in recent years, and now contain almost half of the cattle kept for this purpose, compared with little more than one-quarter ten years earlier.

CATTLE FOR MEAT PRODUCTION—NUMBERS AND DISTRIBUTION

| Particulars                | At 31 March— |           |           |           |           |
|----------------------------|--------------|-----------|-----------|-----------|-----------|
|                            | 1966         | 1967      | 1968      | 1969      | 1970      |
| Number of head—            |              |           |           |           |           |
| In agricultural areas .... | 451,062      | 532,608   | 596,104   | 660,250   | 737,496   |
| In pastoral areas ....     | 610,705      | 625,304   | 638,834   | 703,229   | 761,519   |
| Total ....                 | 1,061,767    | 1,157,912 | 1,234,938 | 1,363,479 | 1,499,015 |
|                            | per cent     | per cent  | per cent  | per cent  | per cent  |
| Proportion of total—       |              |           |           |           |           |
| In agricultural areas .... | 42.5         | 46.0      | 48.3      | 48.4      | 49.2      |
| In pastoral areas ....     | 57.5         | 54.0      | 51.7      | 51.6      | 50.8      |

In two tables on page 367 herds of cattle kept for meat production at 31 March 1969, in size groups, are classified according to the size of the holding and the area of established pasture. Of the 23,004 rural holdings of all types, cattle for meat production were carried on 8,902. Holdings of between 1,000 and 5,000 acres accounted for 40 per cent of the herds, and holdings which carried less than fifty cattle for meat production for 57 per cent of the herds. Of the holdings carrying cattle for meat production 7,931, or 89 per cent, had some established pasture and 5,988, or 67 per cent, had 200 acres and over.

**CATTLE FOR MEAT PRODUCTION AT 31 MARCH 1969**  
**CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD**

| Size of holding<br>(acres) | Size of cattle herd (numbers) |       |       |       |       |         |         |         |                   |                | Total,<br>all<br>rural<br>holdings |
|----------------------------|-------------------------------|-------|-------|-------|-------|---------|---------|---------|-------------------|----------------|------------------------------------|
|                            | 1-9                           | 10-19 | 20-29 | 30-49 | 50-99 | 100-199 | 200-299 | 300-999 | 1,000<br>and over | Total<br>herds |                                    |
| 1- 99 ....                 | 397                           | 177   | 90    | 48    | 23    | 1       | ....    | ....    | ....              | 736            | 4,410                              |
| 100- 199 ....              | 155                           | 110   | 96    | 143   | 133   | 10      | 3       | ....    | ....              | 650            | 1,214                              |
| 200- 299 ....              | 119                           | 73    | 73    | 115   | 179   | 56      | 4       | 1       | ....              | 620            | 985                                |
| 300- 399 ....              | 80                            | 60    | 53    | 80    | 140   | 107     | 8       | 1       | ....              | 529            | 811                                |
| 400- 499 ....              | 68                            | 42    | 32    | 69    | 114   | 96      | 17      | 5       | ....              | 443            | 665                                |
| 500- 599 ....              | 42                            | 39    | 36    | 39    | 96    | 75      | 27      | 7       | ....              | 361            | 550                                |
| 600- 799 ....              | 68                            | 44    | 33    | 74    | 137   | 117     | 60      | 22      | ....              | 555            | 885                                |
| 800- 999 ....              | 62                            | 31    | 29    | 50    | 85    | 96      | 41      | 29      | ....              | 423            | 771                                |
| 1,000- 1,399 ....          | 135                           | 68    | 50    | 85    | 120   | 113     | 46      | 49      | 1                 | 667            | 1,446                              |
| 1,400- 1,999 ....          | 189                           | 92    | 59    | 100   | 149   | 104     | 49      | 46      | ....              | 788            | 1,960                              |
| 2,000- 2,999 ....          | 314                           | 110   | 93    | 132   | 188   | 134     | 55      | 53      | 3                 | 1,082          | 3,166                              |
| 3,000- 4,999 ....          | 306                           | 111   | 72    | 139   | 195   | 127     | 43      | 56      | 5                 | 1,054          | 3,741                              |
| 5,000- 9,999 ....          | 172                           | 56    | 29    | 54    | 91    | 74      | 26      | 52      | 2                 | 556            | 1,555                              |
| 10,000-19,999 ....         | 22                            | 12    | 5     | 10    | 17    | 18      | 6       | 25      | 7                 | 122            | 279                                |
| 20,000-49,999 ....         | 4                             | 1     | 1     | ....  | 4     | 2       | 3       | 8       | 4                 | 27             | 59                                 |
| 50,000 and over ....       | 14                            | 12    | 7     | 22    | 34    | 32      | 23      | 45      | 100               | 289            | 507                                |
| Total ....                 | 2,147                         | 1,038 | 758   | 1,160 | 1,705 | 1,162   | 411     | 399     | 122               | 8,902          | 23,004                             |

**CATTLE FOR MEAT PRODUCTION AT 31 MARCH 1969**  
**CLASSIFIED ACCORDING TO SIZE OF HERD AND AREA OF ESTABLISHED PASTURE**

| Area of established<br>pasture<br>(acres) | Size of cattle herd (numbers) |       |       |       |       |         |         |         |                   |                | Total,<br>all<br>rural<br>holdings |
|-------------------------------------------|-------------------------------|-------|-------|-------|-------|---------|---------|---------|-------------------|----------------|------------------------------------|
|                                           | 1-9                           | 10-19 | 20-29 | 30-49 | 50-99 | 100-199 | 200-299 | 300-999 | 1,000<br>and over | Total<br>herds |                                    |
| Nil ....                                  | 297                           | 109   | 72    | 112   | 124   | 83      | 30      | 49      | 95                | 971            | 6,486                              |
| 1- 9 ....                                 | 99                            | 17    | 6     | 1     | 1     | 1       | ....    | ....    | ....              | 125            | 384                                |
| 10- 19 ....                               | 90                            | 32    | 5     | 7     | 2     | ....    | ....    | ....    | ....              | 136            | 322                                |
| 20- 29 ....                               | 54                            | 40    | 14    | 4     | 2     | ....    | ....    | ....    | ....              | 114            | 256                                |
| 30- 49 ....                               | 63                            | 63    | 36    | 16    | 8     | 1       | 1       | ....    | ....              | 188            | 415                                |
| 50- 69 ....                               | 52                            | 51    | 53    | 31    | 15    | ....    | ....    | ....    | ....              | 202            | 403                                |
| 70- 99 ....                               | 48                            | 42    | 58    | 65    | 41    | 3       | ....    | ....    | ....              | 257            | 456                                |
| 100- 149 ....                             | 92                            | 67    | 49    | 131   | 124   | 11      | 3       | ....    | ....              | 477            | 876                                |
| 150- 199 ....                             | 107                           | 57    | 38    | 64    | 145   | 30      | 2       | ....    | 1                 | 444            | 778                                |
| 200- 299 ....                             | 158                           | 80    | 70    | 111   | 209   | 142     | 11      | 5       | ....              | 786            | 1,406                              |
| 300- 399 ....                             | 98                            | 53    | 46    | 72    | 140   | 159     | 22      | 3       | ....              | 593            | 1,091                              |
| 400- 499 ....                             | 77                            | 41    | 37    | 56    | 99    | 100     | 39      | 7       | 1                 | 457            | 957                                |
| 500- 699 ....                             | 162                           | 56    | 55    | 83    | 168   | 147     | 75      | 39      | 1                 | 786            | 1,604                              |
| 700- 999 ....                             | 175                           | 86    | 61    | 121   | 152   | 139     | 64      | 58      | ....              | 856            | 1,955                              |
| 1,000-1,999 ....                          | 378                           | 178   | 113   | 195   | 289   | 200     | 102     | 129     | 4                 | 1,588          | 3,741                              |
| 2,000 and over ....                       | 197                           | 66    | 45    | 91    | 186   | 146     | 62      | 109     | 20                | 922            | 1,874                              |
| Total ....                                | 2,147                         | 1,038 | 758   | 1,160 | 1,705 | 1,162   | 411     | 399     | 122               | 8,902          | 23,004                             |

## Slaughtering

### LIVESTOCK SLAUGHTERED AND MEAT PRODUCED

| Year         | Livestock slaughtered (a) |                    |        |                    |        |                    |        |                    | Meat produced (b)     |                     |
|--------------|---------------------------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|-----------------------|---------------------|
|              | Sheep                     |                    | Lambs  |                    | Cattle |                    | Calves |                    | Mutton<br>and<br>lamb | Beef<br>and<br>veal |
|              | Number                    | Gross<br>value (c) | Number | Gross<br>value (c) | Number | Gross<br>value (c) | Number | Gross<br>value (c) |                       |                     |
| 1965-66 .... | '000                      | \$'000             | '000   | \$'000             | '000   | \$'000             | '000   | \$'000             | tons                  | tons                |
| 1966-67 .... | 1,696                     | 9,293              | 858    | 7,293              | 299    | 27,524             | 16     | 721                | 44,695                | 58,089              |
| 1967-68 .... | 1,695                     | 8,912              | 905    | 6,829              | 284    | 25,836             | 17     | 734                | 46,381                | 54,811              |
| 1968-69 .... | 2,036                     | 8,418              | 1,165  | 7,177              | 309    | 27,750             | 24     | 958                | 55,059                | 59,249              |
| 1969-70 .... | 2,413                     | 8,953              | 1,431  | 8,057              | 347    | 34,652             | 20     | 961                | 67,713                | 67,751              |
| 1969-70 .... | 3,229                     | 10,140             | 1,371  | 8,037              | 384    | 37,425             | 20     | 875                | 76,814                | 71,902              |

(a) Mainly slaughtering for human consumption but also includes small numbers of livestock slaughtered for boiling down. Details of pigs slaughtered and production of pigmeat are shown on page 372. (b) Dressed carcass weight; excludes condemned carcasses and offal. (c) Value 'on hoof' at principal market.

The previous table gives details of slaughterings in abattoirs, butcheries and on stations and farms. A table showing particulars of pigs slaughtered and pigmeat produced appears on page 372.

Beef from cattle slaughtered at Wyndham, Broome and Derby in the Kimberley Division is principally for export. The local market for meat is supplied mainly from abattoirs at Midland, Fremantle, Waroona, Harvey, Bunbury, Albany, Geraldton, Wooroloo and Kalgoorlie but most of these establishments also slaughter for the export trade. Small establishments operating in country towns also contribute substantially to total production, and most stations and many farms slaughter sufficient for all or part of their own requirements.

## DAIRYING

Compared with the wheat, wool and meat producing industries, dairying as a major well-organised rural activity is of fairly recent origin. Its growth was retarded initially by the difficulty of clearing heavily-timbered country in the South-West and the need for special methods of pasture establishment, but these problems have been progressively overcome and dairying is now a significant feature of primary production, although only limited development has taken place in recent years.

Until the establishment of the first butter factory at Busselton in 1898, dairy farming in Western Australia was essentially for the production of whole milk, although small quantities of farm butter were marketed. As more factories commenced processing, the industry steadily developed and its growth was further stimulated by the establishment of irrigation areas, the first at Harvey in 1916, and by the introduction of the Group Settlement Scheme in 1921. Another important factor in increasing production was the successful establishment of subterranean clover which resulted in a marked improvement in pastures.

The industry has been assisted by the extensive experimental work carried out by the Department of Agriculture and the advisory service which it provides on all aspects of dairy farming.

Price instability has been one of the major difficulties of the industry and in 1926 the 'Paterson Plan', which was a voluntary scheme of price stabilisation, was introduced. It met with considerable success but weaknesses finally became apparent and it was abandoned in 1934 in favour of the Dairy Products Marketing Regulation Act passed by the State Parliament. On 1 April 1946, Western Australia entered the voluntary butter price equalisation scheme, operated since 1936 by the Commonwealth Dairy Produce Equalisation Committee Limited, and in January 1947 the State extended its participation to include cheese. The Committee, which comprises certain members of the State Dairy Products Boards and other persons representing the industry, enters into agreements with manufacturers to secure to them equal rates from sales of butter and also of cheese, and for this purpose may fix basic prices at which these products sold in Australia or abroad are to be taken into account. The effect is that local and export trade are distributed among manufacturers in equitable proportions. The Committee fixes basic prices and equalises returns to factories through an Equalisation Fund. In addition, subsidies provided by the Commonwealth Government are distributed by the Committee, through factories to dairy farmers, by payments on butter and cheese manufactured. The fourth five-year stabilisation plan, which came into operation on 1 July 1967, provides a fixed bounty of \$27 million annually for the Australian industry. The average subsidy rates per cwt in 1969-70 were \$5.40 on butter and \$2.58 on cheese.

From 1942 until 30 June 1948, and again from 1 July 1949 to 30 June 1952, a subsidy was paid by the Commonwealth Government on milk supplied for the manufacture of processed milk products. By means of the *Processed Milk Products Bounty Act* 1962, the Commonwealth provided for payment of a maximum amount of \$700,000 as a bounty on exports of processed milk products during the year ended 30 June 1963. For the purpose of the Act, processed milk products are goods containing butterfat and produced



#### BEEF CATTLE IN THE KIMBERLEY

Nearly one-half of the cattle kept for meat production in the State are located in the pastoral areas and, of these, the majority are carried in the Kimberley Statistical Division which contained over 624,000 head at 31 March 1971. Droving in the northern pastoral areas has been almost completely replaced by the use of large road trucks to transport the animals from the cattle stations to abattoirs at the ports of Wyndham, Broome and Derby.

*Photograph by courtesy of the Department of Development and Decentralisation*

from cow's milk, but excluding butter, cheese and certain other specified goods. By later amendments to the Act, bounty was continued up to a maximum of \$1,000,000 in respect of exports during 1963-64 and of \$800,000 on those for 1964-65. Subsequent amendments extend the operations of the Act until 30 June 1972, the maximum amount of bounty payable each year being maintained at \$800,000.

The following table shows the numbers of cattle kept for milk production on rural holdings at 31 March 1967 to 1970.

## CATTLE FOR MILK PRODUCTION

| Particulars                                         | At 31 March— |         |         |         |
|-----------------------------------------------------|--------------|---------|---------|---------|
|                                                     | 1967         | 1968    | 1969    | 1970    |
|                                                     | number       | number  | number  | number  |
| Bulls of dairy breeds used or intended for service— |              |         |         |         |
| Aged one year and over .....                        | 3,324        | 3,087   | 2,739   | 2,666   |
| Calves (aged under one year) .....                  | 1,615        | 1,301   | 1,303   | 1,741   |
| Total .....                                         | 4,939        | 4,388   | 4,042   | 4,407   |
| Cattle used or intended for production of—          |              |         |         |         |
| Milk or cream for sale—                             |              |         |         |         |
| Cows—In milk and dry .....                          | 102,920      | 99,547  | 97,122  | 101,094 |
| Heifers—Aged one year and over .....                | 49,904       | 49,624  | 46,369  | 36,530  |
| Heifer calves—Aged under one year .....             | 31,941       | 29,536  | 27,709  | 33,202  |
| Milk or cream for use on rural holdings—            |              |         |         |         |
| House cows and heifers .....                        | 9,426        | 8,903   | 7,533   | 6,842   |
| Total .....                                         | 194,191      | 187,610 | 178,733 | 177,668 |
| Total cattle for milk production .....              | 199,130      | 191,998 | 182,775 | 182,075 |

In the next two tables herds of cattle kept for milk production at 31 March 1969, in size groups, are classified according to the size of the holding and the area of established pasture. Of the 23,004 rural holdings of all types, cattle for milk production were carried on 2,299. Holdings of between 1,000 and 5,000 acres accounted for 20 per cent of the herds but 66 per cent of these herds had less than ten head each. All holdings with less than ten head accounted for 28 per cent of the herds in the State. Of the holdings carrying cattle for milk production 2,152, or 94 per cent, had some established pasture and 1,443, or 63 per cent, had 200 acres and over.

CATTLE FOR MILK PRODUCTION (a) AT 31 MARCH 1969  
CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

| Size of holding<br>(acres) | Size of cattle herd (numbers) |      |       |       |       |       |       |         |                 |                | Total,<br>all<br>rural<br>holdings |
|----------------------------|-------------------------------|------|-------|-------|-------|-------|-------|---------|-----------------|----------------|------------------------------------|
|                            | 1-4                           | 5-9  | 10-19 | 20-39 | 40-59 | 60-79 | 80-99 | 100-149 | 150<br>and over | Total<br>herds |                                    |
| 1- 19 .....                | 19                            | 2    | 2     | 1     | ....  | ....  | ....  | ....    | 1               | 25             | 2,675                              |
| 20- 29 .....               | 7                             | 3    | 2     | 2     | ....  | ....  | ....  | 1       | ....            | 15             | 541                                |
| 30- 49 .....               | 10                            | 6    | 7     | 2     | ....  | ....  | ....  | ....    | ....            | 25             | 538                                |
| 50- 69 .....               | 3                             | 1    | 3     | 6     | 3     | ....  | ....  | ....    | ....            | 16             | 309                                |
| 70- 99 .....               | 11                            | 3    | 1     | 13    | 4     | 5     | ....  | ....    | ....            | 39             | 347                                |
| 100- 149 .....             | 21                            | 4    | 13    | 24    | 28    | 20    | 10    | 6       | 2               | 128            | 655                                |
| 150- 199 .....             | 12                            | .... | 11    | 30    | 32    | 26    | 21    | 16      | 1               | 149            | 559                                |
| 200- 299 .....             | 31                            | 2    | 7     | 39    | 58    | 80    | 62    | 50      | 15              | 344            | 985                                |
| 300- 399 .....             | 23                            | 1    | 5     | 20    | 38    | 59    | 35    | 72      | 39              | 292            | 811                                |
| 400- 499 .....             | 17                            | 1    | 4     | 7     | 28    | 35    | 35    | 54      | 37              | 218            | 665                                |
| 500- 699 .....             | 25                            | 2    | 3     | 12    | 22    | 40    | 35    | 77      | 75              | 291            | 1,048                              |
| 700- 999 .....             | 32                            | 1    | 2     | 7     | 8     | 13    | 18    | 39      | 75              | 195            | 1,158                              |
| 1,000-1,999 .....          | 40                            | 1    | 3     | 6     | 11    | 7     | 6     | 14      | 28              | 116            | 1,446                              |
| 1,400-1,999 .....          | 60                            | 2    | 1     | ....  | 4     | 5     | 5     | 5       | 26              | 108            | 1,960                              |
| 2,000-4,999 .....          | 187                           | 9    | 2     | 1     | 4     | 4     | 1     | 4       | 19              | 231            | 6,907                              |
| 5,000 and over .....       | 96                            | 4    | 2     | 1     | ....  | 1     | ....  | 1       | 2               | 107            | 2,400                              |
| Total .....                | 594                           | 42   | 68    | 171   | 240   | 295   | 230   | 339     | 320             | 2,299          | 23,004                             |

(a) Excludes herds with no cattle for milk production other than house cows.

**CATTLE FOR MILK PRODUCTION (a) AT 31 MARCH 1969**  
**CLASSIFIED ACCORDING TO SIZE OF HERD AND AREA OF ESTABLISHED PASTURE**

| Area of established pasture (acres) | Size of cattle herd (numbers) |      |       |       |       |       |       |         |              |             | Total, all rural holdings |
|-------------------------------------|-------------------------------|------|-------|-------|-------|-------|-------|---------|--------------|-------------|---------------------------|
|                                     | 1-4                           | 5-9  | 10-19 | 20-39 | 40-59 | 60-79 | 80-99 | 100-149 | 150 and over | Total herds |                           |
| Nil ....                            | 75                            | 6    | 4     | 6     | 11    | 14    | 14    | 11      | 6            | 147         | 6,486                     |
| 1- 9 ....                           | 12                            | 2    | 2     | ....  | ....  | ....  | ....  | ....    | ....         | 16          | 384                       |
| 10- 19 ....                         | 10                            | 1    | 4     | 3     | 2     | ....  | 1     | 2       | ....         | 23          | 322                       |
| 20- 29 ....                         | 10                            | 5    | 3     | 4     | 2     | 1     | 1     | ....    | ....         | 27          | 256                       |
| 30- 49 ....                         | 7                             | 5    | 9     | 11    | 1     | 1     | 1     | 2       | ....         | 37          | 415                       |
| 50- 69 ....                         | 15                            | 2    | 6     | 14    | 5     | 2     | 4     | ....    | 1            | 49          | 403                       |
| 70- 99 ....                         | 15                            | 3    | 2     | 30    | 17    | 9     | 3     | 2       | ....         | 81          | 456                       |
| 100- 149 ....                       | 25                            | .... | 16    | 36    | 59    | 37    | 18    | 8       | 2            | 201         | 876                       |
| 150- 199 ....                       | 23                            | 2    | 5     | 28    | 52    | 84    | 45    | 29      | 7            | 275         | 778                       |
| 200- 299 ....                       | 39                            | 1    | 8     | 15    | 46    | 71    | 88    | 97      | 30           | 395         | 1,406                     |
| 300- 399 ....                       | 25                            | 1    | 3     | 6     | 16    | 34    | 20    | 90      | 53           | 248         | 1,091                     |
| 400- 499 ....                       | 31                            | 1    | ....  | 8     | 16    | 22    | 14    | 50      | 48           | 190         | 957                       |
| 500- 699 ....                       | 45                            | 1    | 3     | 8     | 7     | 11    | 9     | 32      | 89           | 205         | 1,604                     |
| 700- 999 ....                       | 49                            | 2    | 1     | 2     | 2     | 6     | 10    | 10      | 43           | 125         | 1,955                     |
| 1,000-1,999 ....                    | 128                           | 4    | 1     | ....  | 3     | 3     | 2     | 5       | 34           | 180         | 3,741                     |
| 2,000 and over ....                 | 85                            | 6    | 1     | ....  | 1     | ....  | ....  | ....    | 7            | 100         | 1,874                     |
| Total ....                          | 594                           | 42   | 68    | 171   | 240   | 295   | 230   | 339     | 320          | 2,299       | 23,004                    |

(a) Excludes herds with no cattle for milk production other than house cows.

The quantity and gross value of whole milk produced in each of the years 1965-66 to 1969-70 are given in the following table.

**WHOLE MILK PRODUCTION (a)**

| Particulars                 | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|-----------------------------|---------|---------|---------|---------|---------|
| Quantity .... '000 gal      | 61,865  | 55,611  | 55,411  | 58,222  | 55,873  |
| Gross value (b) .... \$'000 | 16,220  | 15,087  | 15,335  | *16,697 | 16,255  |

(a) Year ended 30 June. Includes milk used for processing into butter, cheese and condensery products. Details of butter and cheese production appear in Part 2 of this Chapter. (b) Includes subsidy paid by Commonwealth Government.  
 \* Revised.

### Pig Raising

For many years the rearing of pigs has been carried on in conjunction with the production of butterfat as cream, thus providing a practical means of using the skim milk obtained. This is now on the decline, however, owing to the current trend for whole milk to be supplied in bulk by the dairy farmers direct to processing plants. In the main, pigs are now raised on grain-growing holdings and in 1970 over 70 per cent of the pigs in the State were in the wheat belt. There are also a number of farmers in the districts around Perth who specialise in pig raising and in fattening for market pigs obtained from country areas.

The principal breeds in Western Australia are the Berkshire, Large White and Land-race and crosses of these breeds. Pigs are reared for bacon and ham as well as pork and, although the greater proportion of production is consumed locally, there is some export trade, mainly to other Australian States. In 1969-70 a total of 2,426,290 lb of pork was shipped interstate and 742,689 lb overseas, mainly to Japan, Singapore, Christmas Island (Indian Ocean), the Trucial States and Iran.

In two tables on page 371 pig herds at 31 March 1969, in size groups, are classified according to the size of the holding and the size of the herd of cattle for milk production on the holding. Of the 23,004 rural holdings of all types, pigs were carried on 3,771. Holdings with between 1,000 and 5,000 acres of land accounted for 57 per cent of the pig herds and those which carried over fifty head for 37 per cent of the herds. Of the holdings carrying pigs 685, or 18 per cent, had some cattle for milk production and 477, or 13 per cent, had ten or more cattle for milk production.



**PIG HERDS AT 31 MARCH 1969**  
**CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD**

| Size of holding<br>(acres) | Size of pig herd (numbers) |     |       |       |       |       |       |       |                 |                | Total,<br>all<br>rural<br>holdings |
|----------------------------|----------------------------|-----|-------|-------|-------|-------|-------|-------|-----------------|----------------|------------------------------------|
|                            | 1-4                        | 5-9 | 10-14 | 15-19 | 20-29 | 30-39 | 40-49 | 50-99 | 100<br>and over | Total<br>herds |                                    |
| 1- 19                      | 29                         | 11  | 7     | 7     | 6     | 7     | 5     | 21    | 34              | 127            | 2,675                              |
| 20- 29                     | 5                          | 2   | 7     | ....  | 3     | 2     | 1     | 9     | 9               | 38             | 541                                |
| 30- 49                     | 7                          | 3   | 2     | 3     | 5     | 5     | ....  | 12    | 11              | 48             | 538                                |
| 50- 69                     | 4                          | 2   | 1     | 2     | 6     | 5     | 1     | 6     | 10              | 37             | 309                                |
| 70- 99                     | 7                          | 2   | 7     | 3     | 3     | 5     | 4     | 10    | 11              | 52             | 347                                |
| 100- 149                   | 13                         | 9   | 8     | 4     | 9     | 11    | 4     | 13    | 12              | 83             | 655                                |
| 150- 199                   | 12                         | 7   | 5     | 3     | 7     | 1     | 6     | 14    | 7               | 62             | 559                                |
| 200- 299                   | 18                         | 17  | 8     | 14    | 18    | 7     | 8     | 36    | 18              | 144            | 985                                |
| 300- 399                   | 23                         | 16  | 9     | 6     | 17    | 17    | 6     | 17    | 16              | 127            | 811                                |
| 400- 499                   | 18                         | 16  | 5     | 9     | 10    | 4     | 8     | 14    | 13              | 97             | 665                                |
| 500- 699                   | 13                         | 10  | 14    | 15    | 19    | 13    | 15    | 28    | 19              | 146            | 1,048                              |
| 700- 999                   | 14                         | 18  | 11    | 10    | 25    | 23    | 14    | 32    | 20              | 167            | 1,158                              |
| 1,000-1,399                | 26                         | 20  | 20    | 24    | 48    | 30    | 19    | 50    | 34              | 271            | 1,446                              |
| 1,400-1,999                | 19                         | 27  | 36    | 31    | 67    | 54    | 40    | 114   | 56              | 444            | 1,960                              |
| 2,000-4,999                | 80                         | 106 | 96    | 97    | 190   | 187   | 148   | 363   | 183             | 1,450          | 6,907                              |
| 5,000 and over             | 29                         | 30  | 32    | 32    | 48    | 54    | 41    | 130   | 82              | 478            | 2,400                              |
| Total ....                 | 317                        | 296 | 268   | 260   | 481   | 425   | 320   | 869   | 535             | 3,771          | 23,004                             |

**PIG HERDS AT 31 MARCH 1969, ACCORDING TO SIZE OF HERD  
OF CATTLE FOR MILK PRODUCTION AND SIZE OF PIG HERD**

| Size of herd<br>of cattle for<br>milk production<br>(numbers) | Size of pig herd (numbers) |      |       |       |       |       |       |       |                 |                | Total,<br>all<br>rural<br>holdings |
|---------------------------------------------------------------|----------------------------|------|-------|-------|-------|-------|-------|-------|-----------------|----------------|------------------------------------|
|                                                               | 1-4                        | 5-9  | 10-14 | 15-19 | 20-29 | 30-39 | 40-49 | 50-99 | 100<br>and over | Total<br>herds |                                    |
| Nil ....                                                      | 235                        | 219  | 217   | 208   | 389   | 370   | 273   | 728   | 447             | 3,086          | 20,705                             |
| 1- 4 .....                                                    | 14                         | 16   | 13    | 12    | 28    | 16    | 12    | 49    | 31              | 191            | 594                                |
| 5- 9 .....                                                    | 2                          | 2    | 3     | ....  | 3     | ....  | 5     | 1     | 1               | 17             | 42                                 |
| 10- 14 .....                                                  | ....                       | 1    | 2     | ....  | 2     | 3     | ....  | 1     | 2               | 11             | 35                                 |
| 15- 19 .....                                                  | 5                          | .... | 1     | 1     | 1     | 3     | 1     | 1     | ....            | 13             | 33                                 |
| 20- 29 .....                                                  | 4                          | 6    | 4     | 2     | 3     | 2     | 1     | 3     | ....            | 25             | 71                                 |
| 30- 39 .....                                                  | 4                          | 5    | 1     | 2     | 4     | ....  | 2     | 7     | 1               | 26             | 100                                |
| 40- 49 .....                                                  | 3                          | 4    | 7     | 3     | 3     | 2     | 3     | 6     | 2               | 33             | 111                                |
| 50- 59 .....                                                  | 10                         | 15   | 1     | 5     | 7     | 3     | 3     | 9     | 2               | 55             | 129                                |
| 60- 69 .....                                                  | 7                          | 6    | 7     | 10    | 9     | 4     | 3     | 10    | 5               | 61             | 167                                |
| 70- 79 .....                                                  | 5                          | 6    | 2     | 5     | 4     | 8     | 3     | 10    | 7               | 50             | 128                                |
| 80- 89 .....                                                  | 5                          | 5    | 2     | 2     | 10    | 3     | 3     | 9     | 2               | 41             | 121                                |
| 90- 99 .....                                                  | 2                          | 1    | 4     | 4     | 3     | 2     | 2     | 6     | 3               | 30             | 109                                |
| 100-149 .....                                                 | 10                         | 7    | 4     | 3     | 13    | 3     | 7     | 21    | 16              | 88             | 339                                |
| 150-199 .....                                                 | 5                          | 3    | ....  | 3     | 1     | 2     | 2     | 5     | 3               | 24             | 158                                |
| 200 and over .....                                            | 6                          | .... | ....  | ....  | 1     | ....  | ....  | 3     | 10              | 20             | 162                                |
| Total ....                                                    | 317                        | 296  | 268   | 260   | 481   | 425   | 320   | 869   | 535             | 3,771          | 23,004                             |

In the table below, the numbers of pigs on rural holdings at 31 March are shown for each of the years 1966 to 1970. The number of pigs at 31 March 1970 was 250,051, maintaining the steady increase of previous years.

**PIG NUMBERS**

| At 31 March— |      |      |      |      | Boars | Breeding sows | Other pigs (a) | Total   |
|--------------|------|------|------|------|-------|---------------|----------------|---------|
| 1966         | .... | .... | .... | .... | 3,110 | 20,696        | 120,216        | 144,022 |
| 1967         | .... | .... | .... | .... | 3,302 | 23,652        | 134,029        | 160,983 |
| 1968         | .... | .... | .... | .... | 3,653 | 26,913        | 151,941        | 182,507 |
| 1969         | .... | .... | .... | .... | 4,076 | 32,143        | 183,568        | 219,787 |
| 1970         | .... | .... | .... | .... | 4,174 | 34,645        | 211,232        | 250,051 |

(a) Includes baconers, porkers, suckers, weaners and slips.

The next table shows the numbers and gross value of pigs slaughtered in each of the years 1965-66 to 1969-70, together with the quantity of meat produced. Factory production of bacon and ham is also shown.

## PIGS SLAUGHTERED (a) AND MEAT PRODUCED

| Year    | Pigs slaughtered |                 | Pigmeat produced (c) | Bacon and ham produced (d) |
|---------|------------------|-----------------|----------------------|----------------------------|
|         | Number           | Gross value (b) |                      |                            |
| 1965-66 | 195,439          | \$'000 5,953    | '000 lb 23,395       | '000 lb 9,605              |
| 1966-67 | 214,637          | 6,021           | 25,948               | 10,259                     |
| 1967-68 | 243,312          | 7,809           | 29,476               | 11,404                     |
| 1968-69 | 263,774          | 7,407           | 31,375               | 12,133                     |
| 1969-70 | 317,188          | 8,813           | 37,448               | (e) 12,855                 |

(a) Comprises slaughterings in abattoirs, butcheries and on stations and farms. (b) Value 'on hoof' at principal market or at factory door. (c) Dressed carcass weight; excludes condemned carcasses and offal but includes quantities used to produce bacon and ham. (d) Factory production. (e) Preliminary; subject to revision.

## LIVESTOCK IN AUSTRALIA

The following table gives details of livestock numbers in each State and Territory of Australia at 31 March 1970.

LIVESTOCK NUMBERS AT 31 MARCH 1970—AUSTRALIA  
(Thousands)

| State or Territory           | Sheep       | Cattle                                                           |                                          |                                  |        | Pigs  |
|------------------------------|-------------|------------------------------------------------------------------|------------------------------------------|----------------------------------|--------|-------|
|                              |             | Bulls<br>(1 year and<br>over) used<br>or intended<br>for service | For<br>production<br>of milk<br>or cream | Mainly for<br>meat<br>production | Total  |       |
| New South Wales              | 72,284      | 102                                                              | 898                                      | 4,637                            | 5,637  | 708   |
| Victoria                     | 33,157      | 88                                                               | 1,927                                    | 2,447                            | 4,462  | 495   |
| Queensland                   | 16,446      | 147                                                              | 692                                      | 6,676                            | 7,515  | 480   |
| South Australia              | 19,747      | 22                                                               | 229                                      | 775                              | 1,026  | 351   |
| Western Australia            | 33,634      | 30                                                               | 178                                      | 1,473                            | 1,681  | 250   |
| Tasmania                     | 4,560       | 11                                                               | 237                                      | 398                              | 646    | 111   |
| Northern Territory           | (a) 8       | 32                                                               | 1                                        | 1,146                            | 1,179  | 4     |
| Australian Capital Territory | 244         | (b)                                                              | 2                                        | 13                               | 15     | (b)   |
| Australia                    | (c) 180,080 | 432                                                              | 4,164                                    | 17,566                           | 22,162 | 2,398 |

(a) At 30 June 1970.

(b) Less than 500.

(c) See footnote (a).

## POULTRY FARMING

Poultry farming in Western Australia is now mainly a specialist industry and a large proportion of the egg production is on holdings which carry sufficient birds to make the activity the sole or predominant source of income. Most of the commercial poultry farms are situated in the Perth Statistical Division, within a thirty-mile radius of Perth, but birds are also kept for commercial production on orchards, dairy farms and wheat farms throughout the agricultural areas.

On specialist poultry farms modern developments in breeding, sexing and nutrition have resulted in considerably higher egg production per bird. Egg-producing birds are largely first-cross hens, bred mainly from White Leghorn cocks and Australorp hens. Production of poultry meat has increased considerably in recent years. It is now predominantly a specialised industry using strains of birds which have been developed specifically for meat production.

Under the *Marketing of Eggs Act, 1945-1970*, all producers in the South-West Land Division are required to market their eggs either through the Western Australian Egg Marketing Board or under the permit system which is administered by the Board. The principal purpose of this legislation is to ensure satisfactory disposal of eggs, including that surplus over local requirements which is consistently produced and which must be sold overseas at prices which usually do not offer a reasonable return to the producer. In order to provide a fund with which to equalise returns from local and export sales the

Board, prior to 1 July 1965, made a charge on all eggs sold locally. This charge was subsequently replaced by a levy imposed by Commonwealth legislation which came into operation on 1 July 1965.

The *Poultry Industry Levy Act* 1965-1966 provides for the imposition throughout Australia of a levy on hens not less than six months old kept for commercial purposes. Special exemptions are made in respect of 'broiler breeder hens', being hens used to produce chickens for table purposes. The levy, which does not apply to flocks of fewer than twenty-one hens, nor to the first twenty hens in any flock, is payable fortnightly and may not exceed \$1 annually per bird. In December 1971 the levy stood at 4c per fortnight for each hen.

Under the *Poultry Industry Levy Collection Act* 1965-1966 the authority responsible for the collection of the levy in this State is the Western Australian Egg Marketing Board. The *Poultry Industry Assistance Act* 1965-1966 establishes a Poultry Industry Trust Fund for the receipt of the amount of the levy and other moneys. The Act provides for payment from the Fund to a State, by way of financial assistance, of such amounts as the Commonwealth Minister may determine upon the recommendation of The Council of Egg Marketing Authorities of Australia.

Although the Commonwealth levy replaces the egg equalisation levies formerly imposed by the several State authorities for the purpose of equalising returns from local markets and export sales, the State authorities continue to make charges necessary to defray the costs of handling, grading and marketing of eggs.

In 1969-70 Saudi Arabia, Kuwait, the Bahrain Islands, the Trucial States, India and Qatar were the most important overseas markets for eggs in the shell. Exports of egg pulp in 1969-70 were valued at \$96,330.

#### POULTRY NUMBERS (a)

| At 31 March— |      |      |      |      |      | Fowls     | Ducks  | Turkeys |
|--------------|------|------|------|------|------|-----------|--------|---------|
| 1966         | .... | .... | .... | .... | .... | 1,914,759 | 15,729 | 15,621  |
| 1967         | .... | .... | .... | .... | .... | 2,460,144 | 25,831 | 22,678  |
| 1968         | .... | .... | .... | .... | .... | 2,865,676 | 30,254 | 23,225  |
| 1969         | .... | .... | .... | .... | .... | 3,299,907 | 22,078 | 21,399  |
| 1970         | .... | .... | .... | .... | .... | 3,230,492 | 28,005 | 22,550  |

(a) Figures from 1967 include details of poultry for non-commercial purposes on rural holdings which are excluded in previous years.

#### EGGS SOLD AND POULTRY SLAUGHTERED FOR TABLE PURPOSES

| Year ended 31 March— |      |      |      |      |      | Eggs sold (a) |             | Poultry slaughtered for table purposes (b) |             |
|----------------------|------|------|------|------|------|---------------|-------------|--------------------------------------------|-------------|
|                      |      |      |      |      |      | Quantity      | Gross value | Dressed weight                             | Gross value |
|                      |      |      |      |      |      | '000 dozen    | \$'000      | '000 lb                                    | \$'000      |
| 1966                 | .... | .... | .... | .... | .... | 10,063        | 4,735       | 12,234                                     | 3,666       |
| 1967                 | .... | .... | .... | .... | .... | 9,603         | 4,863       | 16,634                                     | 4,922       |
| 1968                 | .... | .... | .... | .... | .... | 10,946        | 4,811       | 18,759                                     | 5,501       |
| 1969                 | .... | .... | .... | .... | .... | 11,859        | 5,852       | 22,653                                     | 6,412       |
| 1970                 | .... | .... | .... | .... | .... | 12,231        | 6,276       | 23,668                                     | 6,702       |

(a) Figures from 1967 include details of poultry for non-commercial purposes on rural holdings which are excluded in previous years.

(b) Year ended 30 June.

#### BEE KEEPING

Commercial producers of honey in Western Australia may be divided into three categories. There are a comparatively small number of specialist apiarists, engaged solely or mainly in honey production, who operate on a large scale and transport their hives from district to district. There are also some substantial producers who are engaged in agricultural activities and use their farms as a central site from which they may transport their hives

to other areas as necessary. Finally there are the many farmers and orchardists who keep a few hives and produce honey as a minor supplementary activity. This pattern of production is illustrated by the following table.

BEE KEEPERS, BEEHIVES AND HONEY PRODUCTION (a)—1969-70

| Classification of hives (a) | Bee keepers (b) |                                | Productive beehives (c) |                                | Honey production |                                |
|-----------------------------|-----------------|--------------------------------|-------------------------|--------------------------------|------------------|--------------------------------|
|                             | Number          | Proportion of total (per cent) | Number                  | Proportion of total (per cent) | Quantity         | Proportion of total (per cent) |
| 5-19 .....                  | 190             | 46.34                          | 840                     | 2.26                           | 33,773           | 0.46                           |
| 20-49 .....                 | 84              | 20.49                          | 1,161                   | 3.12                           | 52,932           | 0.71                           |
| 50-99 .....                 | 39              | 9.51                           | 1,772                   | 4.77                           | 157,331          | 2.12                           |
| 100-199 .....               | 30              | 7.32                           | 2,811                   | 7.57                           | 285,375          | 3.85                           |
| 200-299 .....               | 20              | 4.88                           | 3,789                   | 10.20                          | 587,162          | 7.92                           |
| 300-499 .....               | 19              | 4.63                           | 6,916                   | 18.61                          | 1,816,766        | 24.52                          |
| 500-799 .....               | 21              | 5.12                           | 11,118                  | 29.92                          | 2,604,557        | 35.15                          |
| 800 and over .....          | 7               | 1.71                           | 8,749                   | 23.55                          | 1,871,320        | 25.26                          |
| Total .....                 | 410             | 100.00                         | 37,156                  | 100.00                         | 7,409,216        | 100.00                         |

(a) Excludes details of bee keepers with less than 5 hives. (b) At 30 June 1970. (c) Represents the number of hives at 30 June 1970 from which honey was taken during the year and excludes hives kept for production but from which no honey was taken, nuclei, pollination hives, etc.

In 1969-70 exports of honey totalled 4,748,182 lb, the export value being \$597,175. The principal buyers were the United Kingdom, which purchased 2,611,342 lb; the Federal Republic of Germany, 490,383 lb; and Denmark, 322,015 lb.

BEEHIVES AND PRODUCTION OF HONEY AND BEES-WAX (a)

| Year          | Beehives (b)   |                  | Honey production |             | Bees-wax production |             |
|---------------|----------------|------------------|------------------|-------------|---------------------|-------------|
|               | Productive (c) | Unproductive (d) | Quantity         | Gross value | Quantity            | Gross value |
|               | number         | number           | '000 lb          | \$'000      | '000 lb             | \$'000      |
| 1965-66 ..... | 41,749         | 8,782            | 10,923           | 650         | 138                 | 52          |
| 1966-67 ..... | 40,830         | 10,402           | 6,882            | 440         | 99                  | 44          |
| 1967-68 ..... | 37,960         | 10,823           | (e) 3,410        | 212         | 49                  | 27          |
| 1968-69 ..... | 35,394         | 10,299           | 6,553            | 491         | 94                  | 51          |
| 1969-70 ..... | 37,156         | 7,920            | 7,409            | 600         | 99                  | 58          |

(a) Excludes particulars of bee keepers with less than 5 hives. (b) Number at 30 June. (c) Hives from which honey was taken during the year. (d) Includes hives kept for production but from which no honey was taken during the year, nuclei, pollination hives, etc. (e) Lowest recorded since 1954-55.

## THE DEPARTMENT OF AGRICULTURE

Brief references have been made earlier in this Part to the important services rendered to rural producers by the Department of Agriculture. The Department is the branch of the State Government Service responsible for bringing scientific advice to farmers and pastoralists, for carrying out research into a wide range of technical problems and for administering Acts of Parliament dealing with agricultural and pastoral matters. Its activities can be classified under the four headings: investigation or research; advisory, now more commonly called 'extension' functions; provision of certain services for the assistance of the man on the land; and regulatory work which consists of carrying out the provisions of some of the laws relating to agriculture.

The operations of the Department are organised under a series of Divisions and Branches, the heads of which are responsible to the Director of Agriculture. The Divisions are Animal (including Animal Health and Nutrition Laboratory and sections for Veterinary Services, Animal Husbandry, Apiculture, Poultry and Brands), Wheat and Sheep (including the Cereal Products and Fleece Testing Laboratories), Dairy, Horticulture (covering Fruit and Vegetables), Soils (including Soil Conservation, Irrigation and

Range Land Management), Plant Research and Biological Services (including Plant Pathology, Entomology, Botany, Seed Certification and Weed Control). In addition there are separate sections covering Rural Economics and Marketing, Information, Abattoirs and Library and close liaison is maintained with the Agriculture Protection Board. Muresk Agricultural College was formerly controlled and staffed by the Department but, as from 1 January 1969, the College became part of The Western Australian Institute of Technology.

Sections of government administration known as Departments of Agriculture usually originated in the demands of farmers for government assistance in coping with their technical problems. The Western Australian Department of Agriculture had its origin in a Bureau of Agriculture which was formed in 1894. In 1898 the Department of Agriculture was established and absorbed the staff of the Bureau. Up to this time, some seventy years after the first settlement, agriculture in Western Australia had made little progress. The area of cleared arable land was less than 2 per cent of the present area. Superphosphate had not been used on Western Australian farms and wheat varieties suitable for the drier districts to the east of Northam were not then available. There was little comprehension of the many problems associated with land development and not much public appreciation of the part that science might play in solving them.

From small beginnings the Department's responsibilities and activities extended as agriculture developed. In the first quarter of a century of its existence, expansion and consolidation of farming in the wheat belt overshadowed other activities. That was only natural, as the acreage of wheat for grain expanded from 200,000 in 1905 to nearly 4 million acres in 1930, and for much of that time the State's development was synonymous with wheat belt expansion.

### State Farms and Research Stations

Perhaps the most important work in the Department's first ten or fifteen years was that concerned with the establishment of experiment farms, or 'State farms' as they were at first called. The first of these had its origin in plots which were established at Hamel in 1896. Valuable work was carried on at this centre for nearly twenty years in connection with the growing of potatoes, fruit, cereals, hops, fodder crops and pasture, and some success was achieved with wheat breeding.

Government farms were opened at Narrogin in 1901 and at Nabawa, twenty-five miles north of Geraldton, in 1902. In 1907 a farm at Nangeenan, near Merredin, was taken over from the Lands Department and is now the Merredin Research Station. In the same year a farm was established in the South-West at Brunswick in order to provide object lessons in dairying, as it was felt that there were great possibilities of expanding the dairying industry. After functioning for several years this farm was closed and the land was subsequently used for closer settlement purposes.

In 1911 a change was made in the policy of the government farms in the wheat belt and their character changed from 'experimental' to 'experiment' farms and ultimately to 'research stations'. Instead of being conducted mainly with the object of producing revenue they were to be used primarily for collecting information concerning local conditions that would be of value to the district. In addition, wheat, oats and barley were bred and pure pedigree seed produced. It would be difficult to over-estimate the subsequent value of the farms in this new role, which is still an important function although the emphasis has now changed to complex experiments which are of value to the study of farms as economic units. In later years more research stations were established and they now number twenty-three.

Research stations at Nabawa, Badgingarra, Wongan Hills, Merredin, Beverley, Mount Barker, Newdegate, Salmon Gums and Esperance deal with agriculture in the cereal-growing and sheep-raising districts and stations at Bramley (though dealing mainly with beef cattle), Denmark and Wokalup serve the dairying districts. Vegetable research stations are situated at Medina and Manjimup, a pig research unit has been established at the Medina station and beef cattle research is taking place at the Northam Research

Station. The poultry industry is served by a station at Herdsman Lake. A viticultural research station has been established at Upper Swan and a horticultural research station at Stoneville in the Darling Range to the east of Perth.

The Kimberley Research Station, operated in conjunction with the Commonwealth Scientific and Industrial Research Organization, is concerned with problems of irrigation in relation to agriculture in the tropics, with particular reference to the agricultural settlement now taking place on the Ord River. The Fitzroy Pastoral Research Station in West Kimberley studies problems of the beef cattle industry while at Abydos, near Port Hedland, regeneration of overgrazed pastoral country and a study of sheep breeding problems are the main concerns. At the Gascoyne Research Station at Carnarvon, problems of growing tropical fruits and winter vegetables, and pastoral problems in the area are being investigated. The Wiluna Groundwater Research Station is for the study of the controlled use of underground water supplies, lucerne growing and sheep feeding problems.

### Advisory Services

Extension work is perhaps the Department's most important function and has exercised a powerful influence in publicising and accelerating the adoption of better farming methods. It is difficult to assess the results of any educational undertaking in terms of money, but the desirability of having a well-informed farming community, receptive to new ideas, is obvious. Although the best method of taking advice to farmers is for the technical officer to visit farms for discussion with the farmer on his own property, this is unfortunately not always possible as an officer may have between 500 and 1,000 farms in his district. Individual visits often have to be restricted to cases where a specific request has been made or where some urgent action is required.

Extension officers support the formation of farmers' organisations and attend meetings and field days where talks can be given to groups of farmers. Organised group discussions on major problems such as farm management are now a particular feature. It is estimated that in the past year approximately 8,000 farmers attended nearly 160 field days with which the Department was associated. Field experiments, both at the stations and on farmers' properties, form an excellent basis for demonstrations and talks. The various competitions in which extension officers act as judges provide another means of bringing farmers together for discussion. These competitions are generally concerned with crops and pastures but may include other types such as those conducted by Junior Farmers' Clubs for show exhibits and for debates. Extensive use is made of the radio which, in Western Australia, probably reaches more people than does any other medium. Between 200 and 300 broadcasts are given by departmental officers each year and in addition to a weekly press service a series of television programmes is prepared. The Department also produces several publications including a monthly *Journal of Agriculture*, which has a circulation of about 20,000, a special quarterly publication for dairy farmers and bulletins covering a wide range of subjects.

Advisory work is not concentrated in a single Division but is carried out by several Divisions and Branches of the Department. In recent years to provide local services for farmers, groups of officers have been stationed at Albany, Armadale, Bridgetown, Bunbury, Busselton, Carnarvon, Denmark, Derby, Esperance, Geraldton, Halls Creek, Harvey, Jerramungup, Kalamunda, Kalgoorlie, Katanning, Kununurra, Lake Grace, Manjimup, Margaret River, Merredin, Midland, Moora, Mount Barker, Mundaring, Narrogin, Northam, Three Springs, Wiluna, Wyndham and at the Kimberley Research Station. An officer is also stationed at each of the following places: Camballin, Donnybrook, Kellerberrin, Koorda, Muchea, Narembreen, Pinjarra, Port Hedland and Trayning.

### Research Activities

In the field of investigation and research, problems which have been dealt with would comprise a lengthy list and only a few of the more important can be mentioned here. The value to the State of cereal-breeding activities is well known. Cereal varieties pro-

duced by the Department have increased the income of farmers by many millions of dollars over the years in which they have been grown. The introduction of new plant species and varieties, the evaluation of their suitability for local conditions and the determination of rotations for improving yields and maintaining soil fertility are important features of the work in cereal-growing districts.

Research into plant diseases and deficiencies forms another important section of the Department's investigational work. Considerable success has been achieved in the recognition and remedying of deficiencies of trace elements in soils, notably of copper, zinc and molybdenum. As a result of this work, fertilisers containing trace elements have been applied in recent years to extensive areas of the State's farming land. These investigations, together with allied work on superphosphate and sulphur and the establishment of subterranean clover pastures, constitute the technical factors which have made possible the rapid post-war expansion of light land development.

In the pastoral areas of the North-West the sheep-carrying capacity of large tracts of country has been seriously reduced by drought and overgrazing. Recent work by officers of the Department has shown that much of this country can be reclaimed by adopting systems of grazing management different from those employed in the past.

Nutritional disorders and diseases of farm animals cause considerable loss to farmers and pastoralists. Some of the Department's most notable successes have been achieved when dealing with problems in this field, which include enzootic ataxia, enterotoxaemia, toxic paralysis, clover disease in sheep, copper and cobalt deficiencies in cattle, contagious pleuro-pneumonia, Kimberley horse disease, plant poisoning of stock and infertility in dairy cows. Problems of sheep infertility, of lupinosis, brucellosis in sheep and in beef herds in the South-West and of mastitis in dairy cows are among investigations at present in progress.

A soil conservation service was established in the Department in 1947. Since then a great deal of information about the incidence and nature of erosion has been collected and many farmers have been assisted with their erosion problems. Considerable attention has also been given to the salt-land problem in the agricultural districts.

In somewhat more restricted fields the development of nematode resistant rootstocks and the use of a hormone spray instead of cincturing, for currant vines, are noteworthy changes in agricultural practice resulting from investigations by the Department. The selection of the rust-resistant runner bean variety, 'Westralia', has greatly reduced one of the hazards with which the bean grower has to contend.

### **Agriculture Protection**

For the control, prevention and eradication of noxious weeds and vermin, there is an Agriculture Protection Board which operates in collaboration with the Department of Agriculture.

The Board, which was established in 1951 following recommendations by a Royal Commission, is constituted under the provisions of the *Agriculture Protection Board Act, 1950-1970*, and comprises the Director of Agriculture or his deputy, as Chairman; the Chief Vermin Control Officer of the Department of Agriculture; an officer of the State Treasury; two representatives of the agricultural industry; one representative of the pastoral industry; and five representatives of local government authorities.

The income of the Board consists of appropriations from the Consolidated Revenue Fund and other moneys as prescribed by the Agriculture Protection Board Act.

For the purposes of the Agriculture Protection Board Act, the term 'noxious weeds' means those plants which are so proclaimed or declared under the *Noxious Weeds Act, 1950-1971*. 'Vermin' means any animal, bird or insect proclaimed to be vermin as provided by the *Vermin Act, 1918-1971*, and includes rabbits, foxes, dingoes, sparrows, emus, starlings, Argentine ants and grasshoppers.

The Board formulates policies for the control, prevention and eradication of noxious weeds and vermin, advises on methods, directs and assists in general operations, provides services to help local government authorities and landholders in destruction work and

conducts scientific research and investigations for the improvement of control techniques and policies. Control work extends to Crown lands, including reserves, for the benefit of adjoining landholders.

Improvements in the control of both noxious weeds and vermin have resulted from the activities of the Agriculture Protection Board and there have been some notable successes, including a great reduction in rabbit numbers effected by the use of myxomatosis virus and by organised drives for their destruction, mainly by poisoning.

### Other Services

The Department operates certain services which assist the producer to increase his efficiency. Probably the best known is the production of pure pedigree varieties of seed wheat, oats and barley. These are of value to the cereal grower, who is able to obtain his requirements at moderate cost. Sponsoring and supervising the production of approved lines of seed, notably potatoes and beans, has led to the wide use of these specialised lines with a resulting increased yield, and certification of pure lines of pasture seed gives farmers a guarantee of quality in the seed they buy. Assistance to dairy farmers to form herd-testing units, thus enabling them to gauge the performance of their herds, is another service of similar nature. Assistance and technical advice is given to farmers concerned with the installation of irrigation schemes and the preparation of land for irrigation.

The producers who benefit from the services mentioned in this section pay something for them, but not necessarily the full amount of the cost of providing them.

### Administration of Acts

The Department of Agriculture is responsible for administering some fifty Acts concerning a wide range of subjects. Some of the more important relate to animal and plant diseases and insect pests, industry trust funds, soil conservation, vermin control, marketing of agricultural products and registration of feeding stuffs, fertilisers and stock brands.

### ARTIFICIAL BREEDING BOARD

The Artificial Breeding Board was established under the *Artificial Breeding Board Act, 1965* which came into operation by proclamation on 16 December 1966. The Act provides that the board shall consist of a chairman, vice-chairman and three other members, of whom one shall be a veterinary surgeon. Responsibility for promotion of artificial breeding of stock has been placed in the hands of the Board which, in effect, assumed control of artificial insemination work established in 1956 by the Department of Agriculture at the Wokulup Research Station.

### FARM MANAGEMENT SERVICE LABORATORY

The University of Western Australia, by resolution of the Senate, approved the establishment of the Farm Management Service Laboratory within the University in 1966. The aims of the Laboratory are to develop concepts and services in management accounting, planning and animal breeding which are specially suited to the needs of farmers; to make these developments available to farmers; and to use information processed by the Laboratory for teaching and research within the Institute of Agriculture at the University of Western Australia.

The Laboratory hires its own staff and computer time, and pays its own operating expenses. Fees are charged to cover costs, though initially the Laboratory has been drawing on capital grants made to it by various firms and institutions through the John Thomson Agricultural Economics Centre at the Institute of Agriculture.

Services provided by the Laboratory include computer techniques for planning farm businesses and solving farm problems. A set of programmes is being developed to enable farmers to breed for maximum genetic improvement of economically important traits in sheep flocks at least cost. Pilot studies are under way.



## TRAPPING

Although trapping has been carried on from the first years of settlement, it has never been an important industry. In 1969-70 the recorded gross value was only \$1,098,386 but reliable and complete information is difficult to obtain and this amount could therefore be deficient.

Kangaroos have been destroyed in great numbers from the earliest days, the principal reason for the organised destruction being the damage done to pastures and fencing. As early as 1849 the export of kangaroo skins for the year was no less than 12,387. Skins are still exported and some are also used in local factories. Kangaroo meat is used as pet food.

The earliest recorded export of rabbit skins relates to the year 1900 and the meat and skins of these animals have been a source of income to trappers ever since. In an attempt to reduce the damage done to crops and pastures, various methods of control have been adopted and since the second World War an intensive campaign, using myxomatosis virus, poisons and warren ripping, has met with considerable success. As a result, the quantity of rabbit meat produced and the number of skins exported and treated locally have declined greatly and are now insignificant.

Wild goats are slaughtered and the meat is exported.

The skins of animals other than marsupials and rabbits, together with exports of Western Australian fauna, are taken into account in the value of the trapping industry (see tables on page 341) but these are not significant.

## FORESTRY

**The Prime Indigenous Forests**

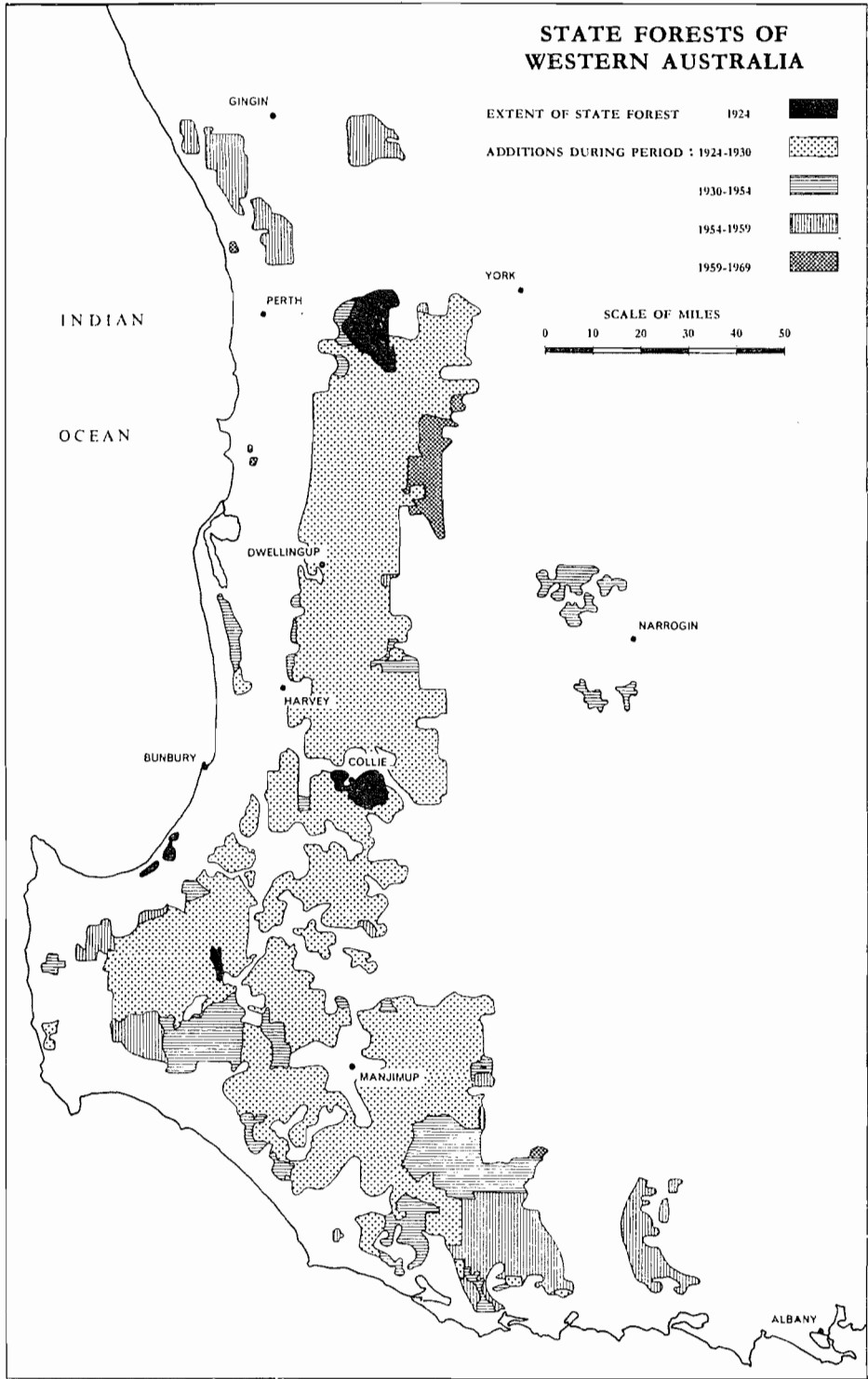
Although the prime indigenous forests of Western Australia cover only a small percentage of the area of the State, they are of considerable economic importance. This is not only on account of the durability, strength and general-purpose nature of their hardwood timbers, but also because of their occurrence on the water catchment areas in the high-rainfall and closely-populated section of the State. Being easy to regenerate after cutting, they form a natural and effective protection against soil erosion, and provide for the increasing public demand for forest recreation. Nearly 4.5 million acres have been permanently dedicated as State Forests and approximately 2.5 million acres have been established as Timber Reserves under the Forests Act and the Land Act.

Jarrah (*Eucalyptus marginata*) is the State's principal timber and the prime forest covers over 3 million acres of the State Forests. Karri (*E. diversicolor*) is next in importance and is distributed over some 800,000 acres but only about 20 per cent of it is in pure stands. Wandoo (*E. redunca* var. *elata*) accounts for a smaller portion of the dedicated area and Tuart (*E. gomphocephala*), another valuable timber, has a restricted area of about 6,000 acres. Blackbutt (*E. patens*) occurs in patches throughout the jarrah and karri forests and is an important milling timber with properties and uses similar to jarrah. Marri (*E. calophylla*), the most widespread of the commercial eucalypts, is noted as a pole timber and is now being sawn in increasing quantities for building scantling. Of greatest importance, however, is the potential of marri as a resource for a wood chip or wood pulp industry.

Other eucalypts and many trees of different genera occur within the prime forest belt but they are not of major economic importance. The main distribution of the prime forests, which are practically confined to the south-western portion of the State, is shown on the accompanying map.

**The Inland Forests**

Beyond the area of prime forest is an inland forest of sclerophyllous woodland, within which are a number of eucalypts (both tree and mallee form), as well as several types of *Acacia*, such as the wattles and mulgas, tea tree (*Melaleuca spp.*) and casuarinas.



Sandalwood (*Santalum spicatum*), indigenous to the wheat belt and semi-arid areas of the State, is still exported to Asian countries but is now obtained only from the semi-arid regions.

While none of the inland forest can be classed as suitable for sawmilling in the ordinary sense, it forms an important source of timber for mining and agricultural purposes. During recent years, soil conservation in the regions of low rainfall has received increasing attention and the importance of controlling clearing, grazing and firewood cutting has been recognised. The Forests Department maintains a staff to exercise these controls and to advise on tree planting.

### Forestry Administration

Scientific forestry was given considerable impetus in Western Australia with the passing of the Forests Act in 1918. Extensive cutting over the previous fifty years had seriously depleted the State's timber resources and adequate provision had not been made for protection and regeneration. Under the Act, however, wide powers are conferred on the Forests Department, which is granted nine-tenths of the net annual government revenue from forestry sources. The sum received, together with various other grants, is used for regeneration, fire control and associated purposes.

The forests are now managed on a long-range working plan to ensure continuity of the industry, trees being approved for cutting and marked accordingly by trained foresters, who work under the direction of the Conservator of Forests and closely control both the indigenous forest and the mallet and pine plantations. The future productivity of the forests is also safeguarded by ensuring that cutting is carried out in such a way as to protect immature growth and to encourage natural regeneration, which is a very important feature of the Department's policy.

Brown Mallet (*Eucalyptus astringens*), the bark of which has a high tannin content, once covered large areas in the wandoo forest belt but was practically exterminated by clearing for farms and by excessive exploitation. Regenerated areas and plantations of mallet now total 19,111 acres and it is unlikely that this total area will increase.

Plantation methods are being employed to grow pines, principally *Pinus pinaster* and *Pinus radiata*, as the State has no indigenous softwoods of commercial significance. Financial assistance granted by the Commonwealth in terms of the *Softwood Forestry Agreements Act* 1967 has enabled the State to increase its planting rate to an average 6,000 acres per annum. It was hoped to lift the rate to 8,000 acres a year but lack of finance has prevented this. Thirteen plantations, with a planted area (including trial plots) of 73,738 acres have been established to 31 December 1970, and it is planned to provide 250,000 acres by the turn of the century. Much of the land selected for pine planting is of limited value for agriculture but when used for pines it constitutes a valuable long-term investment, with the prospective development of industries for the manufacture of paper, wallboard and similar products.

Because of the hot, dry summers experienced in most of the areas covered by State Forests, there is a considerable risk of damage by fire and intensive precautions are taken by the Department to minimise this danger. Look-out towers, provided with radio or telephone communication, are manned at strategic points and controlled burning of approximately 900,000 acres per year is carried out during spring and, to a lesser extent, in autumn. About half the burning is carried out by dropping incendiaries from a low-flying aircraft. Restrictions are placed on all burning operations by farmers and other persons when the fire hazard is high and at such times warnings are issued emphasising the danger.

In association with the system of cutting control, various royalties, licence and permit fees are collected as part of the Consolidated Revenue of the State.

The protection of native flora is also vested with the Forests Department which administers the *Native Flora Protection Act, 1935-1938*. The main provision of the Act is the authority given to the Governor of Western Australia to declare by proclamation that any or all wildflowers or native plants are protected in any specified part or parts of Western Australia.

Penalties are provided under the Act for picking protected wildflowers or plants or for selling or offering them for sale. The Act, however, empowers the Minister for Forests to issue licences to pick protected wildflowers or native plants for scientific or other purposes approved by the Minister.

Prior to 1963, only certain wildflowers and native plants were declared protected in various parts of the State. However, owing to extensive land-clearing operations and the consequent rapid decline in areas of wildflowers, it was decided in 1963 to issue a proclamation protecting all wildflowers and native plants on all Crown lands, State Forests, lands reserved for public purposes, and every road within the South-West and Eucla Land Divisions and on all flora and fauna reserves throughout the rest of the State. Further proclamations have since been issued protecting specific wildflowers and plants throughout Western Australia.

Policing of the Act is carried out by officers of the Forests Department and Honorary Inspectors appointed under the *Native Flora Protection Act, 1935-1938*. Notices prohibiting the picking of wildflowers are supplied by the Forests Department to Shire Councils for erection on road verges.

### Principal Forest Products

Sawn timber from jarrah and karri is the principal form of forest production, but there has been a rapid increase in the local use of logs for plywood manufacture during recent years. Karri and locally-grown pine logs are used for this purpose, together with imported logs. Small-size thinnings from coastal plantations of *Pinus pinaster*, supplemented by some *Pinus radiata* thinnings from southern plantations and waste cores and off-cuts from plywood peeling, are used in the manufacture of particle board. This is becoming an increasingly important product and the volume of chipwood logs used in 1969-70 was 1,299,052 cubic feet, being approximately double the quantity for 1967-68.

In addition to these major products, the State's forest wealth includes wandoo (the whole tree) and mallet bark for tannin extract, sandalwood for export and as a source of sandalwood oil, firewood for general purposes, and various seeds and plants for propagation both in Australia and abroad. Wandoo and jarrah are used as a source of charcoal for the high-grade charcoal pig-iron produced at Wundowie. The karri, wandoo, marri and some inland species are important nectar producers for apiarists, who move their bees to various forest sites in following the nectar flow.

The following table gives details of sawn and round timber production from 1965-66 to 1969-70. Production of sawn timber has fluctuated over the ten years to 1969-70, reaching a maximum of 211.7 million superficial feet in 1967-68, with a minimum of 185.8 million superficial feet in 1962-63. In the same period the output of round timber, which consists mainly of mining timber, piles, poles, fencing posts and rails, ranged between a maximum of 37.9 million superficial feet in 1968-69 and a minimum in 1962-63 of 20.0 million superficial feet.

TIMBER PRODUCTION (a)

| Particulars                      | 1965-66 | 1966-67 | 1967-68 | 1968-69     | 1969-70     |
|----------------------------------|---------|---------|---------|-------------|-------------|
| Timber—Sawn .... '000 sup. feet  | 211,638 | 204,505 | 211,726 | (b) 188,294 | (b) 190,845 |
| Timber—Round .... '000 sup. feet | 22,109  | 21,229  | 24,448  | 37,899      | 25,583      |

(a) From local logs and includes railway sleepers and plywood veneers.

(b) Preliminary.

Sawmilling is dealt with in greater detail under *Secondary Industry* in Part 2 of this Chapter.

In 1969-70 exports of railway sleepers totalled 13.8 million superficial feet, of which 5.9 million went to other Australian States and 7.9 million to overseas markets, mainly the United Kingdom. In the same year 18.7 million superficial feet of other rough, sawn or dressed timber were exported to other Australian States, and 8.0 million shipped overseas, the principal markets being the United Kingdom, New Zealand and South Africa.

## FISHERIES (INCLUDING WHALING AND PEARLING)

The fishing industry in Western Australia consists of three distinct activities, the catching of edible species, whaling and pearl-shell production. In addition, pearl culture has been successfully established in recent years.

**General Fisheries**

Since the end of the second World War, rock lobsters have become the most important item of production of that section of the industry which is concerned with the catching of edible species. Prior to the war there was a small local market for fresh rock lobsters, but in 1941 production was stimulated by canning for the armed forces. Although canning continued until 1950, it had become far less important by 1947 than another development, the freezing of rock lobster tails for export, mainly to the United States of America. The overseas demand, which developed rapidly in post-war years, gave great impetus to the industry and the take increased greatly after 1947 to a record production of 22·0 million lb in 1967-68 valued at \$16·9 million. Although the catch for 1968-69 decreased to 18·0 million lb, the value of \$17·8 million was the highest ever recorded. In 1969-70 the catch of rock lobsters declined further to 15·3 million lb valued at \$12·1 million. Overseas and interstate exports of rock lobster tails in 1969-70 totalled 6·6 million lb with an f.o.b. value of \$15·7 million.

The most important commercial species of rock lobsters in Western Australian waters is *Panulirus cygnus*, which occurs off the south-west coast between Murchison River and Bunbury. The principal localities around which rock lobsters are caught are the Abrolhos Islands, Geraldton, Dongara, Beagle Island, Green Head, Jurien Bay, Cervantes, Lancelin, Ledge Point and Fremantle. The industry is protected from overfishing by such measures as the declaration of closed seasons; the proclamation of fishing zones; the prohibition of the taking of lobsters of less than a prescribed size or of female rock lobsters having berry (i.e. eggs) attached; requiring that every rock lobster pot shall have an escape gap of specified dimensions; the granting only in special circumstances of new licences for boats for rock lobster-fishing; and limiting the number of pots that a boat may carry or use at any one time. The catch is processed either on specially equipped freezer boats or at shore stations licensed under the *Fisheries Act, 1905-1971* as processing establishments.

The large catches of Australian salmon (*Arripis trutta*), which school in the bays on the south and lower south-western coasts, yield a large proportion of the production of inshore and beach fishing and are used almost exclusively for canning. The remainder of the catch from this type of fishing comprises chiefly tailor (*Pomatomus saltator*), sea herring or ruff (*Arripis georgianus*), Western sand whiting (*Sillago schomburgki*), sea mullet (*Mugil cephalus*) and trevally or skipjack (*Usacaranx georgianus*). This is sold mainly as wet fish on the local market, but large quantities of sea herring are canned and there are some exports, principally of whiting, to the other Australian States.

The coastal waters northward from the mouth of the Murchison River to North West Cape and Exmouth Gulf are the source of several species of commercial importance. Snapper (*Chrysophrys auratus*) are caught between the Murchison River and North West Cape, during the northern schooling season from May to August. Cod and Spanish mackerel, though in smaller quantities, are also caught between the Murchison River and North West Cape. At Shark Bay a prawn-fishing industry has been successfully established in recent years, the catch being processed at Carnarvon. The species caught are the Western king prawn (*Penaeus latisulcatus*) and the brown tiger prawn (*P. esculentus*). A prawn fishery has also been established at Exmouth Gulf, the principal species caught being the brown tiger prawn and the Western king prawn. Quantities of endeavour prawn (*Metapanaeus endeavouri*) and banana prawn (*P. merguiensis*) are also caught. The catch is processed at Learmonth and on freezer boats. As a conservation measure the number of fishing boats licensed to operate has been limited to thirty at Shark Bay and twenty at Exmouth Gulf. From a catch of 238,937 lb in 1961-62, the State production of prawns has increased significantly and in 1969-70 was 5,492,000 lb. Production is expected to increase

still further due to the establishment of commercial prawn fishing in the Nickol Bay area, near Roebourne, and because of promising experimental trawling being carried out in other areas along the north and north-west coast.

The first fishing grounds to be exploited were the estuaries and rivers and, although they are not now as important as other grounds, they still provide substantial quantities of fish of a fairly wide variety. The principal species are cobbler (*Cnidogobius macrocephalus*) and yellow-eye mullet (*Aldrichetta forsteri*), most of which are caught in Leschenault and Peel Inlets and the Harvey and Swan estuaries. Other species include garfish (*Hemirhamphus australis*), Perth herring (*Fluvialosa vlaminghi*), sea mullet, tailor, sand whiting, King George whiting (*Sillaginodes punctatus*), and flathead. Crabs (*Portunus pelagicus*), green-tail prawns (*Metapenaeus bennettiae*) and Western king prawns are also caught commercially in these waters.

The principal species of edible fish are shown in the following table with the quantities and value of each species caught in the years 1967-68 to 1969-70.

FISH, CRUSTACEANS AND MOLLUSCS: CATCH AND VALUE

| Species—Common name                  | Quantity (a) ('000 lb) |               |               | Value (b) (\$'000) |                 |                 |
|--------------------------------------|------------------------|---------------|---------------|--------------------|-----------------|-----------------|
|                                      | 1967-68                | 1968-69       | 1969-70       | 1967-68            | 1968-69         | 1969-70         |
| <b>Fish—</b>                         |                        |               |               |                    |                 |                 |
| Anchovy (Whitebait) ....             | 62                     | 76            | 114           | 6.2                | 7.6             | 17.1            |
| Bream, Black ....                    | 33                     | 23            | 10            | 6.5                | 4.1             | 2.2             |
| Bream, Buffalo ....                  | 28                     | 26            | 60            | 2.0                | 3.2             | 3.0             |
| Bream, Western Yellowfin ....        | 35                     | 22            | 18            | 3.7                | 1.3             | 2.4             |
| Cobbler ....                         | 155                    | 158           | 234           | 27.1               | 21.3            | 37.7            |
| Cod ....                             | 35                     | 38            | 42            | 5.3                | 6.2             | 5.1             |
| Emperor (North-West Snapper) ....    | 1                      | 9             | 54            | 0.2                | 1.2             | 7.5             |
| Flathead, Dusky ....                 | 18                     | 17            | 15            | 2.1                | 2.0             | 1.8             |
| Garfish, Sea ....                    | 39                     | 37            | 44            | 5.7                | 4.3             | 6.1             |
| Groper, Blue, Brown or Red ....      | 29                     | 21            | 33            | 4.6                | 3.5             | 4.2             |
| Herring, Perth ....                  | 424                    | 492           | 183           | 23.6               | 37.0            | 12.8            |
| Jewfish, Westralian ....             | 230                    | 226           | 301           | 79.3               | 84.9            | 105.4           |
| Mackerel, Scaly ....                 | 89                     | 104           | 60            | 11.5               | 5.9             | 3.6             |
| Mackerel, Spanish ....               | 200                    | 165           | 131           | 34.7               | 28.6            | 21.0            |
| Mullet, Sea ....                     | 654                    | 689           | 782           | 73.3               | 80.9            | 78.2            |
| Mullet, Yellow-eye ....              | 730                    | 577           | 764           | 43.7               | 51.0            | 61.2            |
| Mulloway (River Kingfish) ....       | 26                     | 26            | 13            | 2.2                | 1.8             | 1.0             |
| Perch, Giant (Barramundi) ....       | 12                     | 16            | 22            | 1.6                | 2.2             | 1.2             |
| Pike, Short-finned (Snook) ....      | 14                     | 18            | 17            | 1.4                | 3.7             | 3.8             |
| Pilchard ....                        | 438                    | 244           | 309           | 29.0               | 22.6            | 27.8            |
| Ruff (Sea Herring) ....              | 745                    | 1,363         | 1,353         | 21.5               | 47.3            | 47.3            |
| Salmon, Australian ....              | 10,502                 | 5,576         | 4,713         | 397.1              | 204.7           | 188.5           |
| Samson Fish (Sea Kingfish) ....      | 78                     | 101           | 100           | 7.8                | 12.6            | 9.8             |
| Shark ....                           | 710                    | 763           | 826           | 104.6              | 92.0            | 104.0           |
| Skates and Rays ....                 | 16                     | 16            | 11            | 0.4                | 0.3             | 0.3             |
| Snapper ....                         | 559                    | 313           | 455           | 73.6               | 53.2            | 61.9            |
| Tailor ....                          | 79                     | 80            | 112           | 8.6                | 9.7             | 10.1            |
| Trevally (Skipjack) ....             | 48                     | 46            | 45            | 8.7                | 4.7             | 4.1             |
| Tuna ....                            | 144                    | 714           | 1,122         | 14.1               | 35.9            | 78.5            |
| Whiting, King George ....            | 58                     | 73            | 131           | 17.3               | 21.9            | 23.5            |
| Whiting, Western Sand ....           | 458                    | 309           | 425           | 71.4               | 57.6            | 76.6            |
| Other species ....                   | 98                     | 86            | 94            | 10.6               | 9.1             | 11.2            |
| <b>Total Fish</b> ....               | <b>16,747</b>          | <b>12,425</b> | <b>12,592</b> | <b>1,099.5</b>     | <b>922.3</b>    | <b>1,018.8</b>  |
| <b>Crustaceans—</b>                  |                        |               |               |                    |                 |                 |
| Crabs ....                           | 68                     | 61            | 68            | 12.4               | 9.9             | 17.8            |
| Prawns—Banana ....                   | 813                    | 187           | 260           | 277.9              | 69.5            | 88.4            |
| Brown Tiger (c) ....                 | 1,881                  | 1,625         | 2,942         | 803.5              | 783.8           | 1,529.6         |
| Endeavour ....                       | 36                     | 81            | 258           | 9.2                | 31.8            | 80.0            |
| Green-tail ....                      | 125                    | 69            | 157           | 62.4               | 34.5            | 42.5            |
| Western King ....                    | 1,007                  | 1,862         | 1,875         | 412.6              | 882.5           | 956.1           |
| <b>Total Prawns</b> ....             | <b>3,862</b>           | <b>3,823</b>  | <b>5,492</b>  | <b>1,565.7</b>     | <b>1,802.1</b>  | <b>2,696.6</b>  |
| <b>Rock lobsters</b> ....            | <b>22,024</b>          | <b>18,030</b> | <b>15,335</b> | <b>16,862.7</b>    | <b>17,801.2</b> | <b>12,114.9</b> |
| <b>Total Crustaceans</b> ....        | <b>25,955</b>          | <b>21,914</b> | <b>20,896</b> | <b>18,440.8</b>    | <b>19,613.3</b> | <b>14,829.3</b> |
| <b>Molluscs—</b>                     |                        |               |               |                    |                 |                 |
| Scallops ....                        | 55                     | 267           | 2,862         | 8.4                | 21.3            | 200.4           |
| Abalone ....                         | 9                      | (d)           | 38            | 2.4                | (d)             | 7.5             |
| Other Molluscs ....                  | 29                     | 40            | 39            | 6.5                | 9.9             | 6.4             |
| <b>Total Molluscs</b> ....           | <b>93</b>              | <b>307</b>    | <b>2,939</b>  | <b>17.3</b>        | <b>31.2</b>     | <b>214.2</b>    |
| <b>TOTAL, WESTERN AUSTRALIA</b> .... | <b>....</b>            | <b>....</b>   | <b>....</b>   | <b>19,557.6</b>    | <b>20,566.6</b> | <b>16,062.3</b> |

(a) Live (whole) weight. (b) Gross value paid to fishermen.  
available for publication; included in 'Other Molluscs'.

(c) Previously known as 'Tiger Prawn'.

(d) Not



#### OPEN-CUT COAL MINE AT COLLIE

The only commercial production of coal in Western Australia occurs at the Collie River Mineral Field, although discoveries elsewhere in the State have been reported. Originally, all coal was won by deep mining but open-cuts now provide about 60 per cent of production because of lower extraction costs.

*Photograph by courtesy of the Department of Development and Decentralisation*



There are no indigenous inland or freshwater fish of commercial value. A relatively large crustacean, the marron (*Cherax tenuimanus*), occurs in the streams of the lower South-West and some success has been achieved in stocking farm dams with this species. Brown trout, rainbow trout and English perch have been introduced into the streams of the southern districts.

The Western Australian Department of Fisheries and Fauna, in association with the Commonwealth Scientific and Industrial Research Organization and other State and Commonwealth authorities, is undertaking research on rock lobsters, prawns, whiting, scallops, abalone, tuna and Australian salmon in Western Australian marine waters. These organisations are also involved in research into problems relating to estuaries and freshwaters, including examination of the effects of dredging and damming, the introduction of trout and marron into dams and freshwater streams, the pollution of inland lakes, and the tourist and recreational potential of the estuaries and freshwaters of the State. A special group of Fisheries Department officers is investigating the potential for commercial exploitation of selected species of fish from areas which, to date, have not been commercially exploited.

A marine research centre has been built at Waterman, about fourteen miles north of Fremantle, for the Department of Fisheries and Fauna. It incorporates eleven separate laboratories and a large aquarium, with circulating water, for experiments and studies of fish behaviour. Fisheries research workers from the Department of Fisheries and Fauna, the Commonwealth Scientific and Industrial Research Organization and the University of Western Australia are employed at the centre.

A summary of the principal statistics of the fishing industry is given in the following table.

## GENERAL FISHERIES

| At<br>31 December— | Boats<br>licensed | Value of<br>boats and<br>equipment | Fishermen<br>licensed<br>(a) | Year          | Production      |        |                 |        |
|--------------------|-------------------|------------------------------------|------------------------------|---------------|-----------------|--------|-----------------|--------|
|                    |                   |                                    |                              |               | Rock lobsters   |        | Other fish (b)  |        |
|                    |                   |                                    |                              |               | Quantity<br>(c) | Value  | Quantity<br>(d) | Value  |
|                    | number            | \$'000                             | number                       |               | '000 lb         | \$'000 | '000 lb         | \$'000 |
| 1965 .....         | 1,458             | 8,796                              | 2,346                        | 1965-66 ..... | 17,794          | 11,388 | 14,343          | 1,256  |
| 1966 .....         | 1,475             | 9,707                              | 2,350                        | 1966-67 ..... | 18,943          | 11,344 | 15,949          | 1,013  |
| 1967 .....         | 1,487             | 11,413                             | 2,724                        | 1967-68 ..... | 22,024          | 16,863 | 16,747          | 1,100  |
| 1968 .....         | 1,412             | 14,603                             | 2,785                        | 1968-69 ..... | 18,030          | 17,801 | 12,425          | 922    |
| 1969 .....         | 1,450             | 18,243                             | 3,005                        | 1969-70 ..... | 15,335          | 12,115 | 12,592          | 1,019  |

(a) Comprises employees and working proprietors. (b) Excludes crustaceans, edible molluscs and turtles. (c) Live weight of whole rock lobsters. (d) Estimated live weight.

## Whaling

Whaling has been conducted along the Western Australian coast from the first years of settlement and whale oil and whale bone were among the earliest exports from the Colony. Activity since then has fluctuated widely and at times ceased altogether. The latest large-scale revival of the industry began in 1949, when a station at Point Cloates on the north-west coast was reopened after a lapse of more than twenty years. A treatment plant was established by the Australian Whaling Commission at Babbage Island, near Carnarvon, in 1951 and a plant at Frenchman Bay near Albany was enlarged in the following year. In 1956, the company operating from Point Cloates purchased the Australian Whaling Commission's station at Babbage Island and transferred its activities to that base.

During the 1963 season the two whaling companies operating in Western Australia took only eighty-seven humpback whales, compared with a quota of 550 allocated under the procedure laid down by the International Whaling Commission. At a meeting held in London in July 1963 the Commission decided that more stringent measures should be adopted to prevent further depletion of numbers. Accordingly it imposed a total ban on the taking of humpback whales for an indefinite period in all waters of the Southern Hemisphere. The company operating from Carnarvon, which relied mainly on the taking of humpbacks, ceased whaling activities at its Carnarvon base in August 1963.

Before the 1962 season the whales taken were predominantly humpbacks. The only station now operating is at Frenchman Bay where sperm whaling has been carried on since 1955.

The figures in the following table have been derived from information provided by the Fisheries Branch of the Commonwealth Department of Primary Industry.

#### WHALING

| Particulars                 | 1966  | 1967  | 1968  | 1969  | 1970  |
|-----------------------------|-------|-------|-------|-------|-------|
| Sperm whales taken .... No. | 606   | 587   | 658   | 679   | 799   |
| Oil produced (a) .... tons  | 4,042 | 3,738 | 3,912 | 4,487 | 5,281 |

(a) 1 ton = 6 barrels (approximately).

#### Pearl-shell Fishing and Pearl Culture

Pearl and pearl-shell fishing has been a valuable industry for many years, the main centre being Broome. The pearls obtained were once an important feature of production but the success of the industry now depends almost entirely on the shell produced and the price obtainable for it. Activities were suspended following the outbreak of war with Japan, when valuable luggers and equipment were lost. After the war recovery of the industry was slow because of a shortage of suitable boats and the difficulty in obtaining experienced divers. In 1953 the rate of progress improved when the services of trained Japanese divers again became available. By 1957 production of shell had reached the pre-war level of about 1,000 tons but due to the depressed state of the market it fell to 753 tons in 1958. Except for a slight recovery in 1960, production declined in each year from 1959 until 1964, when 138 tons of shell were raised. Due to the increased demand for shell for pearl culture, production then increased slightly and in 1970 was 212 tons.

#### PEARL AND PEARL-SHELL PRODUCTION (Excluding Pearl Culture)

| Particulars | Year ended 31 December— |      |      |      |      |
|-------------|-------------------------|------|------|------|------|
|             | 1966                    | 1967 | 1968 | 1969 | 1970 |

#### VESSELS OPERATING

|                                     |         |         |         |         |         |
|-------------------------------------|---------|---------|---------|---------|---------|
| Number ....                         | 13      | 14      | 13      | 12      | 11      |
| Aggregate tonnage ....              | 301     | 332     | 319     | 296     | 259     |
| Value (including equipment) .... \$ | 106,000 | 123,500 | 124,000 | 174,000 | 171,000 |

#### NUMBER OF PERSONS ENGAGED

|                            |     |      |      |      |      |
|----------------------------|-----|------|------|------|------|
| European ....              | 7   | 9    | 5    | 6    | 8    |
| Australian Aboriginal .... | 17  | 8    | 11   | 10   | 19   |
| Asian—                     |     |      |      |      |      |
| Chinese ....               | 2   | 1    | .... | .... | .... |
| Japanese ....              | 34  | 37   | 35   | 28   | 26   |
| Koepanger ....             | 2   | 1    | .... | .... | .... |
| Malay ....                 | 60  | 76   | 68   | 63   | 69   |
| Other ....                 | 1   | .... | .... | .... | .... |
| Total ....                 | 99  | 115  | 103  | 91   | 95   |
| Total persons engaged .... | 123 | 132  | 119  | 107  | 122  |

#### PEARL-SHELL AND PEARLS PRODUCED

|                                    |         |         |         |         |         |
|------------------------------------|---------|---------|---------|---------|---------|
| Pearl-shell—<br>Quantity .... tons | 185     | 221     | 212     | 246     | 212     |
| Value .... \$                      | 290,448 | 354,845 | 333,008 | 370,561 | 407,262 |
| Value of pearls .... \$            | 1,329   | 4,200   | 1,050   | 336     | 6,037   |

In 1956 a licence was granted to a company to culture pearls at Kuri Bay in Brecknock Harbour, 130 miles north-east of Derby and the initial harvest of pearls was gathered in 1957. Licences have since been issued to two other companies and pearl culture farms have been established in Samson Inlet, Hiro Bay and Mura Bay and in King Sound and at Exmouth Gulf near Giralda Landing. Pearls were harvested at Exmouth Gulf for the first time in 1965. During 1966 approximately 50,000 live shells were shipped from Western Australia to Papua, where they were used to establish the pearl culture industry at Fairfax Harbour. A further 40,000 live shells were shipped in 1967. Figures in the following table do not include details of culture pearl production.

## MINING

Mineral statistics presented in the following pages are derived principally from the annual census of mining conducted by the Bureau of Census and Statistics. Data from the census are supplemented where necessary by publishable information made available by the Western Australian Department of Mines. Up to and including 1968 the annual census related to the period January to December inclusive. Commencing with the 1968-69 census the period was changed to the year ended 30 June. In the tables that follow, the minerals have been valued on an ex-mine basis (*i.e.* selling value less cost of transportation). In previous issues of the Year Book the minerals were valued at selling value at the point of sale. In respect of the year 1968-69, the Commonwealth Bureau of Census and Statistics conducted the annual census of mining as part of a programme of fully integrated economic censuses covering mining and manufacturing industries, and wholesale and retail trade. This has been a major undertaking involving the development of new concepts, definitions and procedures. For 1969-70 the census of mining was conducted on the same basis as the 1968-69 census. The table below brings together revised preliminary results for 1968-69 and provisional estimates for 1969-70 of the major variables collected in the census of mining. Although the data are now comparable between each census, because of the changes necessary to bring about integration of economic censuses they are not comparable with information published for years prior to 1968-69. Brief definitions relevant to the items in the table appear below. Further details relating to the integrated economic censuses and of the new concepts and methods adopted appear in the *Appendix* of the previous issue of the Year Book and in the bulletin *Economic Censuses: 1968-69—Mining Establishments, Preliminary Statement* issued by the Commonwealth Statistician, Canberra. All the data in the table are subject to revision and the details for 1968-69 include revisions to data published in the bulletin mentioned above. Further bulletins for 1968-69 and 1969-70 will be issued progressively by the Commonwealth Statistician and in those bulletins some of the figures shown in the table may be revised.

**NUMBER OF ESTABLISHMENTS.** The number of establishments which operated during any period of the year. These relate in general to a separate physical location predominantly engaged in mining. Numbers of separately-located administrative offices and ancillary units predominantly engaged in providing a service (*e.g.* administration, transport, storage) to mining establishments of the same enterprise are not included.

**PERSONS EMPLOYED.** Working proprietors at the end of June and employees on the pay-roll of the last pay-period in June, including those working at separately-located administrative offices and ancillary units in the State.

**WAGES AND SALARIES.** The wages and salaries of all employees, including those at separately-located administrative offices and ancillary units in the State. Amounts drawn by working proprietors are not included.

**SALES, TRANSFERS OUT AND OTHER OPERATING REVENUE.** Sales of goods whether produced by the establishment or not, plus transfers out of goods to other establishments of the same enterprise, plus all other operating revenue from outside the enterprise, such as commission, repair and service revenue. This excludes rents, leasing revenue, interest, royalties and receipts from the sale of fixed tangible assets.

**PURCHASES, TRANSFERS IN AND SELECTED EXPENSES.** Purchases of materials, fuel, power, stores, containers, etc. plus transfers in of goods from other establishments of the same enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments.

**VALUE ADDED.** Sales, transfers out and other operating revenue, plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

**SUMMARY OF MINING OPERATIONS, BY INDUSTRY SUB-DIVISION  
1968-69 AND 1969-70 (a)**

| Item                                                  | Metallic minerals |               | Fuel minerals (b) |              | Construction materials |              | Other non-metallic minerals |              | Total mining  |               |
|-------------------------------------------------------|-------------------|---------------|-------------------|--------------|------------------------|--------------|-----------------------------|--------------|---------------|---------------|
|                                                       | 1968-69           | 1969-70       | 1968-69           | 1969-70      | 1968-69                | 1969-70      | 1968-69                     | 1969-70      | 1968-69       | 1969-70       |
| Number of establishments ....                         | No. 77            | No. 70        | No. 4             | No. 4        | No. 45                 | No. 53       | No. 33                      | No. 30       | No. 159       | No. 157       |
| Persons employed (c)—                                 |                   |               |                   |              |                        |              |                             |              |               |               |
| Males ....                                            | 6,577             | 7,370         | 676               | 707          | 375                    | 430          | 337                         | 402          | 8,015         | 8,909         |
| Females ....                                          | 261               | 424           | 12                | 13           | 16                     | 50           | 16                          | 19           | 305           | 506           |
| Total ....                                            | 6,838             | 7,794         | 688               | 720          | 391                    | 480          | 353                         | 421          | 8,320         | 9,415         |
| Wages and salaries paid ....                          | \$'000 23,812     | \$'000 36,100 | \$'000 2,760      | \$'000 2,900 | \$'000 1,780           | \$'000 2,300 | \$'000 977                  | \$'000 1,600 | \$'000 29,329 | \$'000 42,900 |
| Sales, transfers out and other operating revenue .... | 205,602           | 316,300       | 40,066            | 51,200       | 11,500                 | 10,500       | 2,923                       | 5,300        | 260,091       | 383,400       |
| Opening stocks ....                                   | 16,432            | 25,100        | 2,358             | 3,400        | 672                    | 1,600        | 104                         | 600          | 19,566        | 30,600        |
| Closing stocks ....                                   | 23,993            | 33,400        | 2,415             | 2,600        | 1,711                  | 2,300        | 226                         | 1,400        | 28,345        | 39,700        |
| Purchases, transfers in and selected expenses ....    | 80,907            | 116,900       | 3,830             | 3,000        | 4,796                  | 5,100        | 1,574                       | 3,400        | 91,107        | 128,400       |
| Value added ....                                      | 132,256           | 207,700       | 36,693            | 47,400       | 7,744                  | 6,200        | 1,275                       | 2,800        | 177,968       | 264,000       |

(a) Revised preliminary data for 1968-69 and provisional estimates for 1969-70. (b) Comprises coal mining and crude petroleum including natural gas mining. (c) At 30 June ; includes working proprietors.

The mining industry has been for many years of considerable significance in the Western Australian economy and it has recently increased in importance due to the exploitation of iron ore, nickel, oil and other minerals. The mineral resources of the State are extremely varied in character and are widely distributed geographically. Extensive exploratory work is being undertaken to evaluate the known deposits and also to locate other reserves of minerals. The geology of the State is described in Chapter II, Part 1—*Physical Features and Geology*, and reference is made there to the occurrence of mineral deposits.

The development of mining as a major industry in Western Australia began with the discovery of gold in the Kimberley in 1885, although some forty years earlier coal had been found at the Irwin River and copper and lead in the Northampton district. The impetus given to prospecting by the Kimberley finds led to other gold strikes between 1887 and 1891 and the rich discoveries at Coolgardie in 1892 and at Kalgoorlie in 1893.

Developments in recent years have led to a great increase in the value of mineral production. Vast deposits of iron ore in the State are being mined and the ore exported overseas and interstate or used by establishments located in Western Australia to produce iron ore pellets and pig iron. Nickel concentrates have also contributed considerably to the increase in the value of minerals. Crude oil is produced at Barrow Island and distribution of natural gas from fields at Dongara to domestic and industrial consumers in the Perth metropolitan area has commenced. Ilmenite and other mineral sands are being produced from deposits in the south-west of the State and bauxite mined from deposits in the Darling Range is being worked as a source of alumina.

Employment in the mining industry has fluctuated considerably over the years. Until recently the gold mining industry was the major employer of labour. However, owing to increasing costs of mining, the depletion of higher grade deposits and the fixed price for gold, the gold mining industry has declined. This decline, together with the exploitation in recent years of the vast deposits of iron ore, has resulted in the iron ore industry becoming the major employer of labour in the mining sector in Western Australia.

The mining laws of the State have been designed to encourage as well as to control activity in the industry. This policy and the experience of other countries were given due consideration in framing them and they are regarded as equitable and offering all reasonable incentives to mining development. The various tenures are described in detail in Chapter VII, Part 1 of the *Western Australian Year Book*, No. 8—1969.

The following table gives details of mineral production during the calendar year 1968 and the fiscal years 1968-69 and 1969-70, valued on an ex-mine basis.

MINERAL PRODUCTION (a)

| Item                                  | 1968       |           | 1968-69 (b) |           | 1969-70 (b) |           |
|---------------------------------------|------------|-----------|-------------|-----------|-------------|-----------|
|                                       | Quantity   | Value (c) | Quantity    | Value (c) | Quantity    | Value (c) |
|                                       | tons       | \$'000    | tons        | \$'000    | tons        | \$'000    |
| Asbestos ....                         | 67         | 1         | ....        | ....      | 27          | 1         |
| Barytes ....                          | 656        | 7         | 1,084       | 16        | 419         | 6         |
| Bauxite ....                          | 1,607,988  | (d)       | 2,075,306   | (d)       | 2,860,679   | (d)       |
| Beryl ....                            | 14         | 6         | 10          | 5         | (d)         | (d)       |
| Clays—all kinds (e)                   | 1,073,272  | 636       | 1,192,853   | 891       | 1,331,013   | 1,000     |
| Coal ....                             | 1,087,379  | 4,817     | 1,102,621   | 4,853     | 1,159,101   | 5,407     |
| Construction materials—               |            |           |             |           |             |           |
| Building and monumental stone ....    | 169,793    | 364       | 184,643     | 406       | 173,773     | 357       |
| Crushed and broken stone ....         | 3,056,309  | 6,938     | 3,747,597   | 9,724     | 3,428,213   | 10,324    |
| Crushed and broken limestone ....     | 603,737    | 221       | 867,268     | 363       | 851,933     | 298       |
| Copper ore for fertiliser ....        | 691        | 45        | 940         | 113       | 271         | 32        |
| Copper concentrate ....               | (f) 4,276  | (f) 914   | 3,353       | 647       | 3,440       | 795       |
| Crude oil (g)                         | 10,776,534 | 31,036    | 11,649,067  | 33,549    | 15,582,841  | 44,879    |
| Felspar ....                          | 469        | 7         | 579         | 9         | 604         | 9         |
| Gold bullion (h)                      | 765,417    | 19,780    | 668,618     | 18,935    | 542,139     | 15,760    |
| Gypsum ....                           | 103,929    | 294       | 107,854     | 315       | 69,638      | 199       |
| Iron ore ....                         | 18,828,000 | 110,942   | 23,345,000  | 140,075   | 34,130,079  | 195,074   |
| Lead concentrate ....                 | 418        | 33        | 4,429       | 150       | 271         | 35        |
| Limestone for industrial purposes (i) | 732,523    | 579       | 831,707     | 587       | 1,511,498   | 1,072     |
| Magnesite ....                        | 166        | 1         | ....        | ....      | ....        | ....      |
| Manganese ore ....                    | 150,338    | 735       | 163,169     | 1,159     | 152,209     | 948       |
| Mineral sands—                        |            |           |             |           |             |           |
| Ilmenite ....                         | 535,232    | 4,532     | 638,533     | 5,334     | 677,743     | 6,300     |
| Leucoxene ....                        | 1,607      | 70        | 8,730       | 358       | 9,402       | 420       |
| Monazite ....                         | 1,256      | 142       | 3,014       | 348       | 3,550       | 437       |
| Rutile ....                           | 845        | 64        | 1,260       | 100       | 2,441       | 232       |
| Xenotime ....                         | 18         | 45        | 38          | 76        | 101         | 119       |
| Zircon ....                           | 28,096     | 827       | 51,785      | 1,194     | 54,537      | 1,350     |
| Natural gas ....                      | '000 cu ft | 46        | '000 cu ft  | 72        | '000 cu ft  | 151       |
|                                       | tons       |           | tons        |           | tons        |           |
| Nickel concentrate ....               | 36,880     | (d)       | 51,140      | (d)       | 157,555     | (d)       |
| Ochre ....                            | 515        | 7         | 588         | 9         | ....        | ....      |
| Pyrite concentrate ....               | 32,879     | 308       | 17,153      | 188       | 10,863      | 125       |
| Salt ....                             | (d)        | (d)       | 195,647     | 613       | 1,014,968   | 3,176     |
| Semi-precious stones ....             | (d)        | 8         | (d)         | 11        | (d)         | 37        |
| Talc ....                             | (d)        | (d)       | 29,159      | 413       | 41,388      | 683       |
|                                       | lb         |           | lb          |           | lb          |           |
| Tantalite concentrate ....            | *238,134   | 338       | 202,868     | 261       | (d)         | (d)       |
|                                       | tons       |           | tons        |           | tons        |           |
| Tin concentrate ....                  | 895        | 1,630     | 899         | 1,773     | 895         | 1,914     |
| Other (value only) (j)                | ....       | 9,949     | ....        | 12,473    | ....        | 48,741    |
| Total value ex-mine ....              | ....       | 195,320   | ....        | 235,017   | ....        | 339,879   |

(a) The annual mining census (including quarrying) was changed to a fiscal year basis commencing with the year ended 30 June 1969. (b) Preliminary figures; subject to revision. (c) Value is ex-mine. Previous issues of the Year Book reported value at point of sale. (d) Not available for publication; value included in 'Other'. (e) Includes production of bentonite. (f) Excludes copper concentrates from nickel mining. (g) Value based on price per barrel published by Ampol Petroleum Limited. (h) Values include amounts realised by the Gold Producers' Association Ltd. on sales of Western Australian gold—in 1968, \$795,000; in 1968-69, \$2,214,000; in 1969-70, \$1,780,000. They also include Commonwealth net subsidy paid to gold producers—in 1968, \$2,621,000; in 1968-69, \$1,586,000; in 1969-70, \$1,653,000. (i) Comprises limestone used for agriculture, cement making, flux, glassmaking, lime burning and iron ore pelletising. (j) Includes those minerals for which values are not available for publication. \* Revised.

## Gold

Although specimens of gold had been found in earlier years at several places in the Colony, it was first discovered in payable quantities in the Kimberley in 1885. This find led to widespread prospecting activity, resulting in further gold strikes between 1887 and 1891 in the Yilgarn, Pilbara, Ashburton and Murchison districts. These were followed

by spectacular discoveries in 1892 at Coolgardie and in 1893 at Kalgoorlie where the famous Golden Mile was developed. The Golden Mile is still the principal source of gold in the State and accounts for about one-half of Australia's total production. By 1900 all the present proclaimed goldfields, ranging from Kimberley in the north to Phillips River in the south, had been opened up.

Production of fine gold reached a maximum of 2,064,800 fine ounces in 1903 but there followed a gradual and continuous decline, due mainly to exhaustion of surface deposits, until in 1929 the yield was only 377,176 fine ounces. In succeeding years various economic factors stimulated activity in the industry and there was a well-maintained improvement until 1939 when production reached 1,214,238 fine ounces. The second World War brought about a decline which was accelerated by the introduction early in 1942 of a rigid system of manpower control. Production recovered to some extent in post-war years reaching 874,819 fine ounces in 1958 but, after a short period of fluctuating output between 1959 and 1963, it then declined. In 1969-70 production of fine gold from all sources totalled 397,135 fine ounces.

The figures given in the following table relate to production of gold bullion and do not include gold contained in other minerals. Values include amounts distributed by the Gold Producers' Association Ltd. from premiums on sales of Western Australian gold. The amounts shown as 'Commonwealth net subsidy' represent payments made to gold producers under the Gold-Mining Industry Assistance Act passed by the Commonwealth Parliament in 1954. An amendment to the Act in 1965 liberalised the conditions applying to subsidy payments and continued the operation of the Act until 30 June 1970. A further amendment in 1970 to the Gold-Mining Industry Assistance Act extended the Act for a further three years from 1 July 1970.

MINE PRODUCTION OF GOLD BULLION (a)

| Item                                              | Unit    | 1966    | 1967    | 1968    | 1968-69 (b) | 1969-70 (b) |
|---------------------------------------------------|---------|---------|---------|---------|-------------|-------------|
| Gold bullion produced .....                       | oz      | 947,306 | 877,221 | 765,417 | 668,618     | 542,139     |
| Metallic content of gold bullion —                |         |         |         |         |             |             |
| Gold .....                                        | fine oz | 625,663 | 572,557 | 514,821 | 477,739     | 390,727     |
| Silver .....                                      | fine oz | 226,912 | 218,442 | 183,553 | 160,031     | 122,092     |
| Payments by Gold Producers' Association Ltd. .... | \$'000  | 116     | 71      | 795     | 2,214       | 1,780       |
| Commonwealth net subsidy .....                    | \$'000  | 3,550   | 3,618   | 2,621   | 1,586       | 1,653       |
| Total value ex-mine .....                         | \$'000  | 23,358  | 21,776  | 19,780  | 18,935      | 15,760      |

(a) See footnote (a) to table on page 389.

(b) Preliminary figures; subject to revision.

## Silver

The greater portion of silver produced in Western Australia has been obtained as a by-product of gold mining, details of the silver content of gold bullion being given in the previous table. The other silver production is from silver-lead, silver-lead-zinc and copper ores and concentrates exported for treatment outside the State but quantities so obtained are of relatively minor importance.

## Asbestos

Several types of asbestos occur in the State but only two, crocidolite and chrysotile, have been produced in significant quantities. The production of crocidolite (blue asbestos) from deposits at Wittenoom Gorge in the West Pilbara district ceased in 1966. Peak production of crocidolite occurred in 1962 when 15,617 tons were mined. Chrysotile, which occurs at a number of places in the Pilbara and West Pilbara districts, has been relatively less important than crocidolite. Small quantities of chrysotile have been recovered from old ore dumps in the Pilbara during recent years.

## Bauxite

Following a survey of bauxite deposits, which occur over a large area in the Darling Range, trial shipments of bauxite totalling 36,741 tons were sent to Tasmania and Japan in 1959 and 1960. In 1961 the Alumina Refinery Agreement Act was passed by the State

Parliament ratifying an agreement between the Government and Western Aluminium No Liability for the construction of a refinery at Kwinana to produce alumina from bauxite mined in the Darling Range and for the export of bauxite. A summary of the main provisions of the Act appears on page 104 of the *Official Year Book of Western Australia*, No. 4—1964. The refinery commenced production of alumina towards the end of 1963 with an initial annual capacity of 210,000 metric tons. This capacity has been progressively expanded and at 30 November 1971 was 1,250,000 metric tons per annum. Alumina from the refinery is shipped to Victoria for reduction to aluminium, and exported to Japan, the United States of America and the Middle East.

An agreement between the State Government and Western Aluminium No Liability permitting the company to construct a second refinery to be located in the Pinjarra area south of Perth was ratified by Parliament in terms of the *Alumina Refinery (Pinjarra) Agreement Act, 1969*. The initial capacity of the refinery is planned to be 420,000 metric tons per annum and production of alumina commenced in April 1972. Alcoa of Australia (W.A.) Limited has since replaced Western Aluminium No Liability as the operating company in both agreements.

Development of the extensive bauxite deposits discovered in the Admiralty Gulf area in the Kimberley in 1965 by Amax Bauxite Corporation is planned under the provisions of the *Alumina Refinery (Mitchell Plateau) Agreement Act, 1969*. Total expenditure on developing the mine, and on the construction of a townsite, port, alumina refinery and other ancillary services is expected to exceed \$300 million. It is anticipated that construction will commence during 1972 and shipment of ore will begin towards the end of 1974.

### Beryllium Ore

Beryl occurs in many localities throughout the State but is obtained mainly from the Coolgardie district. Production was negligible until, as a result of the wartime demand for beryllium-copper alloys, 548 tons were produced in 1943 and 387 tons in 1944. It then declined but later recovered to some extent, reaching a post-war peak of 350 tons in 1957. In recent years production has been quite small and in 1968-69 was only 10 tons.

### Coal

The first reports of coal discoveries, in the Murray district and on the Irwin River, were made in 1846 but the only commercial production in Western Australia occurs at the Collie River Mineral Field. The coal is sub-bituminous in rank and there are substantial reserves in the area.

Annual production exceeded 1 million tons for the first time in 1954, but in 1956 it fell to 830,007 tons. It increased in each of the next four years and in 1960 production totalled 922,393 tons. A major producer closed its mines on the termination in December 1960 of its contract for the supply of coal to the State Government, and production declined to 765,740 tons in 1961. There was a substantial recovery in 1962, when 919,112 tons were produced. This recovery has been maintained and production in 1969-70 was 1,159,101 tons, the highest ever recorded.

COAL PRODUCTION (a)

| Particulars            |  |  |  |  |  |  |  | 1966         | 1967  | 1968  | 1968-69<br>(b) | 1969-70<br>(b) |
|------------------------|--|--|--|--|--|--|--|--------------|-------|-------|----------------|----------------|
| Coal produced—         |  |  |  |  |  |  |  |              |       |       |                |                |
| From underground mines |  |  |  |  |  |  |  | 493          | 494   | 482   | 479            | 480            |
| From surface mines     |  |  |  |  |  |  |  | 568          | 568   | 605   | 624            | 679            |
| Total                  |  |  |  |  |  |  |  | 1,061        | 1,062 | 1,087 | 1,103          | 1,159          |
| Value                  |  |  |  |  |  |  |  | \$'000 4,562 | 4,765 | 4,817 | 4,853          | 5,407          |

(a) See footnote (a) to table on page 389.

(b) Preliminary figures ; subject to revision.

Surface mining was commenced at Collie in 1943 and the amount produced by this means increased rapidly until in 1952 almost one-half of the total production came from surface mines. In each year from 1953 to 1960 the proportion of coal from surface mines

was less than in 1952, and in 1960 was little more than one-eighth of all coal produced. New contracts for government requirements, which came into operation at the beginning of 1961, provided for an increase in supplies from surface mines, and in 1969-70 more than 59 per cent of all coal produced came from this source.

### Copper Ore and Concentrates

Copper ore in commercial quantities was discovered in 1849 in the Northampton district. High-grade ore was found in 1855 at Bowes River in the same area and in 1872 one of the richest deposits was discovered in the West Pilbara near Roebourne. Considerable quantities of copper have been produced at the mines in the Northampton district, where it occurs in association with lead, and also in the Ravensthorpe area, in association with gold. Another important producer has been the Murrin Murrin district in the Mount Margaret area.

Due to low prices, rising costs of mining and treatment and the exhaustion of rich secondary ores near the surface, production was on a very small scale between 1925 and 1956. It then increased substantially and in 1961 reached 6,290 tons. In the succeeding years production has fluctuated and in 1969-70 amounted to 3,440 tons. Production of copper concentrates ceased during 1971.

PRODUCTION OF COPPER CONCENTRATES (a)  
(For smelting to copper)

| Year             | Quantity | Metallic content |         |         | Value  |
|------------------|----------|------------------|---------|---------|--------|
|                  |          | Copper           | Gold    | Silver  |        |
|                  | tons     | tons             | fine oz | fine oz | \$'000 |
| 1966 ....        | 3,268    | 678              | 1,389   | 5,699   | 544    |
| 1967 ....        | 3,093    | 662              | 1,198   | 5,131   | 578    |
| 1968 ....        | 4,276    | 963              | 1,129   | 3,806   | 914    |
| 1968-69 (b) .... | 3,353    | (c)              | (c)     | (c)     | 647    |
| 1969-70 (b) .... | 3,440    | 691              | (c)     | (c)     | 795    |

(a) See footnote (a) to table on page 389. (b) Preliminary figures; subject to revision.  
(c) Not available for publication.

### Copper Ore (for fertiliser)

The demand for copper to remedy trace element deficiencies in soils created a market for low-grade ores for use in chemical fertilisers. Until this development, the production of ores having a low copper content was uneconomical because of high costs of transport and smelting.

PRODUCTION OF COPPER ORE FOR FERTILISER (a)

| Year             | Quantity | Metallic content | Value   |
|------------------|----------|------------------|---------|
|                  |          | Copper           |         |
|                  | tons     | tons             | \$      |
| 1966 ....        | 962      | 136              | 76,890  |
| 1967 ....        | 776      | 101              | 48,069  |
| 1968 ....        | 691      | 90               | 45,009  |
| 1968-69 (b) .... | 940      | 117              | 112,619 |
| 1969-70 (b) .... | 271      | 43               | 32,305  |

(a) See footnote (a) to table on page 389. (b) Preliminary figures; subject to revision.

Production for use in fertilisers commenced in 1947 and increased to 7,731 tons in 1955. After reaching a peak of 11,859 tons in 1959, it declined in 1960 and 1961 but improved to 9,275 tons in 1962. In subsequent years production decreased substantially and in 1969-70 amounted to only 271 tons. The Yalgoo, Pilbara and Peak Hill areas are the principal sources of supply.



## Mineral Sands

Ilmenite, leucoxene, monazite, rutile, xenotime and zircon concentrates are being produced from mineral sands mined at Capel, Wonnerup and Stratham, and treated at Bunbury and Capel. The ilmenite content is of particular importance because it is virtually chrome-free and little difficulty is experienced in producing a concentrate of high quality. Production of ilmenite concentrates commenced in 1956, when recorded production was 3,293 tons. Output has risen rapidly and in 1969-70 amounted to 677,743 tons. Production of the other concentrates, which are recovered as by-products from the treatment of the beach sands for ilmenite, commenced in 1958 and output of leucoxene, monazite, rutile, xenotime and zircon in 1969-70 totalled 70,031 tons.

Research into the feasibility of producing upgraded ilmenite concentrates as an alternative to natural rutile as an input in the manufacture of chloride pigments has been undertaken in recent years and is continuing. In early 1970 Western Titanium N L undertook a major engineering study for a full-scale upgrading plant with a planned capacity of 100,000 tons per annum of finished product.

PRODUCTION OF MINERAL BEACH SANDS (a)

| Particulars             | Unit | 1966      | 1967      | 1968      | 1968-69 (b) | 1969-70 (b) |
|-------------------------|------|-----------|-----------|-----------|-------------|-------------|
| Ilmenite concentrates—  |      |           |           |           |             |             |
| Quantity ....           | ton  | 497,848   | 529,914   | 535,232   | 638,533     | 677,743     |
| Value ....              | \$   | 4,204,909 | 4,362,469 | 4,531,740 | 5,334,097   | 6,299,866   |
| Leucoxene concentrates— |      |           |           |           |             |             |
| Quantity ....           | ton  | 756       | 696       | 1,607     | 8,730       | 9,402       |
| Value ....              | \$   | 29,401    | 32,653    | 70,312    | 357,925     | 420,457     |
| Monazite concentrates—  |      |           |           |           |             |             |
| Quantity ....           | ton  | 1,346     | 1,570     | 1,256     | 3,014       | 3,550       |
| Value ....              | \$   | 132,342   | 189,058   | 142,167   | 347,693     | 436,939     |
| Rutile concentrates—    |      |           |           |           |             |             |
| Quantity ....           | ton  | 576       | 400       | 845       | 1,260       | 2,441       |
| Value ....              | \$   | 38,079    | 26,285    | 63,748    | 100,392     | 232,310     |
| Xenotime concentrates—  |      |           |           |           |             |             |
| Quantity ....           | ton  | ....      | 18        | 18        | 38          | 101         |
| Value ....              | \$   | ....      | 45,000    | 45,000    | 76,300      | 119,351     |
| Zircon concentrates—    |      |           |           |           |             |             |
| Quantity ....           | ton  | 25,159    | 32,166    | 28,096    | 51,785      | 54,537      |
| Value ....              | \$   | 761,027   | 1,067,539 | 826,606   | 1,193,667   | 1,349,937   |

(a) See footnote (a) to table on page 389.

(b) Preliminary figures; subject to revision.

## Iron

Iron-ore deposits are widely distributed throughout Western Australia and the State's measured, indicated and inferred reserves of iron ore with an iron content of 50 per cent or higher have been assessed at 20,000 million tons. Since 1951 large quantities of hematite have been produced at Cockatoo Island (Yampi Sound) in the West Kimberley district for shipment to Kwinana in Western Australia, other Australian States and overseas. The first shipment of ore from the deposits on the adjacent Koolan Island was made in January 1965, following the completion of mining and loading facilities which had been under development since 1960.

In recent years there have been a number of developments in connection with iron-ore deposits which have led to greatly expanded production.

As a result of the passage in 1960 of the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act, which ratifies an agreement between the State Government and the Company relating to the establishment of an integrated iron and steel industry in Western Australia, a mine was developed at Koolyanobbing which commenced production in April 1967. The ore is being railed to Kwinana for use in the blast furnace established at Kwinana in terms of the agreement, and for export interstate and overseas.

The announcement in December 1960 of the Commonwealth Government's decision to modify its embargo on overseas exports, which had been in force since 1938, caused increased interest in Western Australian deposits. The subdivision of the deposits (other

than those reserved for the domestic iron and steel industry under the Commonwealth's revised export policy) into three categories was announced by the State Government in March 1961. The first category includes known high-grade deposits, not covered by lease agreements, which are to be retained by the Crown to ensure supplies for the State's steel requirements or for export. The second category, being known medium and low-grade deposits, and the third category, comprising deposits as yet undiscovered, may be made the subject of temporary reservations granting the right to explore, each such reservation being limited to a maximum area of fifty square miles.

The State Parliament ratified a number of agreements between the Government and private companies for the mining and export of iron ore and, in certain instances, for secondary processing of the ore as a later development and, ultimately, for the establishment of integrated iron and steel works. The provisions of these agreements are referred to on pages 106 and 110 of the *Official Year Book of Western Australia*, No. 4—1964, in the section *Legislation during 1963 and 1964* in Chapter III of the succeeding issue, on page 114 of the *Western Australian Year Book*, No. 6—1967, on page 111 of the 1969 Year Book, on page 113 of the 1970 issue and on page 106 of the Year Book for 1971. The ore is now being exported overseas, mainly to Japan. A number of contracts between leading Japanese steel mills and certain of the mining companies resulted in large-scale mining operations which commenced in 1966. Ore from Koolanooka Hills, near Morawa, is being transported by rail to the port of Geraldton, 100 miles distant. From Mount Goldsworthy, about seventy miles east of Port Hedland, ore is being railed to a deep-water port on Finucane Island, just off Port Hedland. Ore mined at Mount Tom Price, in the Hamersley Range area south-west of Port Hedland, is being railed 182 miles to the port of Dampier in King Bay, which is west of Roebourne. From Mount Whaleback in the Ophthalmia Range ore is railed to Port Hedland, 265 miles to the north. The first shipments of iron ore under these contracts were made from Geraldton on 17 March 1966; from Port Hedland on 2 June 1966; and from Dampier on 22 August 1966. At 31 March 1971 contracts had been signed for the delivery of 1,020 million tons of iron ore and pellets with an f.o.b. value of \$7,465 million and at 30 November 1971 more than \$680 million had been spent by the companies on mine development, railways, townships, deep-water ports and pelletising facilities. Further development to which the iron ore enterprises are already committed will involve expenditure currently estimated in excess of \$960 million.

#### PRODUCTION OF IRON ORE (a)

| Year        | Quantity  | Metallic content | Value   |
|-------------|-----------|------------------|---------|
|             |           | Iron             |         |
|             | '000 tons | '000 tons        | \$'000  |
| 1966        | 6,106     | 3,909            | 29,901  |
| 1967        | 12,161    | 7,868            | 70,253  |
| 1968        | 18,828    | 12,157           | 110,942 |
| 1968-69 (b) | 23,345    | 14,945           | 140,075 |
| 1969-70 (b) | 34,130    | 21,514           | 195,074 |

(a) See footnote (a) to table on page 389.  
liminary figures; subject to revision.

(b) Pre-

#### Lead Ore

Lead ore was discovered near the lower Murchison River in 1848. It has since been found in other localities, principally in the Pilbara, Ashburton and West Kimberley districts, and half a million tons have been raised, the great bulk of it from the mineral field around Northampton, the area of the first finds. Production fluctuated very widely and ceased almost entirely during the war, but a substantial increase occurred in the post-war years and in 1956 it rose to 7,613 tons. After 1956 it declined rapidly and in 1963 only 185 tons were produced. In 1964, when 3,354 tons were produced, there was a revival of lead mining in the West Kimberley mineral field. After a further gain to 4,878 tons in 1965, production again declined and in 1969-70 was only 271 tons.

Although the ore from the Northampton field is almost free from silver, that from other areas further north, notably the Ashburton, Pilbara and West Kimberley, has a silver content which may be as much as ten ounces per ton. Production of such ores is included in the following table.

PRODUCTION OF LEAD CONCENTRATES (a)

| Year        | Quantity | Metallic content |       |      | Value   |
|-------------|----------|------------------|-------|------|---------|
|             |          | Silver           | Lead  | Zinc |         |
|             | tons     | fine oz          | tons  | tons | \$      |
| 1966 ....   | 2,681    | 4,120            | 706   | 644  | 84,249  |
| 1967 ....   | 910      | ....             | 688   | .... | 82,460  |
| 1968 ....   | 418      | 46               | 311   | .... | 33,381  |
| 1968-69 (b) | 4,429    | 64               | 1,367 | .... | 149,501 |
| 1969-70 (b) | 271      | 56               | 179   | (c)  | 35,115  |

(a) See footnote (a) to table on page 389. (b) Preliminary figures; subject to revision. (c) Not available for publication.

### Manganese Ore

Deposits of manganese ore occur in several parts of the State but up to the end of 1947 only 252 tons had been mined. After 1947 production increased rapidly and in 1961 totalled 83,660 tons. After a decline to 34,808 in 1963, production increased and in 1967 a record output of 195,065 tons was produced. In 1969-70 production fell to 152,209 tons.

PRODUCTION OF MANGANESE ORE (a)

| Year        | Quantity | Metallic content | Value  |
|-------------|----------|------------------|--------|
|             |          | Manganese        |        |
|             | tons     | tons             | \$'000 |
| 1966 ....   | 183,109  | 86,885           | 1,128  |
| 1967 ....   | 195,065  | 89,024           | 1,277  |
| 1968 ....   | 150,338  | 69,398           | 735    |
| 1968-69 (b) | 163,169  | 75,613           | 1,159  |
| 1969-70 (b) | 152,209  | 76,612           | 948    |

(a) See footnote (a) to table on page 389. (b) Preliminary figures; subject to revision.

### Nickel

The discovery on 28 January 1966 of nickel deposits at Kambalda, thirty-five miles south of Kalgoorlie, was announced by Western Mining Corporation Limited on 4 April 1966 and production from the deposits commenced in June 1967. Since 1966 there has been rapid expansion in the nickel industry accompanied by a very high level of exploration activity. At the end of 1971 mines were operating at Kambalda, Scotia and Nepean and development work in preparation for mining was being carried out at Mount Windarra, Carr Boyd, Spargoville, Widgiemooltha, Redross and Wannaway.

The nickel refinery of Western Mining Corporation at Kwinana, constructed in terms of the *Nickel Refinery (Western Mining Corporation Limited) Agreement Act, 1968*, was completed in May 1970. Production of nickel metal, using nickel concentrates railed from the Company's Kambalda plant, commenced in the same month and the refinery began operating at its designed capacity of 15,000 tons of nickel metal per annum early in 1971. Plans to increase the capacity of the refinery to 20,000 tons of nickel metal per annum have been announced by the Company.

A nickel smelter, due for completion early in 1973, is being constructed at Kalgoorlie for Western Mining Corporation Limited. The smelter will have an initial capacity to treat 200,000 tons of nickel concentrates per annum and produce 20,000 tons of nickel matte annually.

Details of production of nickel concentrates from 1967 to 1969-70 are given in the following table. The value of production is not available for publication.

PRODUCTION OF NICKEL CONCENTRATES (a)

| Year             | Quantity | Metallic content— |        |        |
|------------------|----------|-------------------|--------|--------|
|                  |          | Nickel            | Copper | Cobalt |
|                  | tons     | tons              | tons   | tons   |
| 1967 ....        | 15,753   | 2,061             | 264    | 45     |
| 1968 ....        | 36,880   | 4,603             | 538    | 121    |
| 1968-69 (b) .... | 51,140   | 6,086             | 767    | 99     |
| 1969-70 (b) .... | 157,555  | 17,762            | 1,814  | 170    |

(a) Production commenced in 1967. See also footnote (a) to table on page 389.  
(b) Preliminary figures; subject to revision.

### Petroleum

Reference to petroleum exploration in Western Australia is made on page 399. In May 1966 Barrow Island, sixty miles north-east of Onslow, was declared a commercial oilfield, after prolonged testing. Production commenced in 1967 and the first shipment of crude oil from this field was made on 25 April 1967. A construction and development programme on the island has been completed by West Australian Petroleum Pty. Ltd. and crude oil production at the end of 1971 was approaching 50,000 barrels daily. Recoverable reserves of oil are estimated at 200 million barrels.

Following an extensive exploratory drilling programme by West Australian Petroleum Pty. Ltd. the Dongara gas field, approximately sixty miles south-east of Geraldton, was declared commercially viable on 1 July 1970. Construction of a 255-mile underground pipeline, from Dongara to Kwinana and Pinjarra, costing in excess of \$19 million commenced on 25 January 1971. West Australian Natural Gas Pty. Limited, a sister company of West Australian Petroleum Pty. Ltd., is marketing the gas to major industries and to the State Electricity Commission for domestic supply and power generation. Supply of the gas to domestic consumers commenced on 1 December 1971.

PRODUCTION OF PETROLEUM (a)

| Year             | Crude oil |        | Natural gas |        |
|------------------|-----------|--------|-------------|--------|
|                  | Quantity  | Value  | Quantity    | Value  |
|                  | '000 bbls | \$'000 | '000 cu ft  | \$'000 |
| 1967 ....        | 4,819     | 13,900 | 25,575      | (b)    |
| 1968 ....        | 10,777    | 31,036 | 92,922      | 46     |
| 1968-69 (c) .... | 11,649    | 33,549 | 143,603     | 72     |
| 1969-70 (c) .... | 15,583    | 44,879 | 301,605     | 151    |

(a) Production commenced in 1967. See also footnote (a) to table on page 389.  
(b) Not available for publication.  
(c) Preliminary figures; subject to revision.

### Potash

At Lake MacLeod, north of Carnarvon, Texada Mines Pty. Limited has completed a \$300,000 proving programme for the production of potash from brine and the company is proceeding with the establishment of a potash industry at an estimated cost of \$13 million. An agreement between the Western Australian Government and Texada Mines Pty. Limited relating to the production of potash and other evaporites at or near Lake MacLeod was ratified by Parliament in terms of the *Evaporites (Lake MacLeod) Agreement Act, 1967*.

### Pyrites

The mining of iron pyrites was developed during the war to provide a substitute for overseas supplies of sulphur required for the manufacture of sulphuric acid for superphosphate. Production at Norseman, which was the principal source of supply since

1942, ceased in June 1968. A second source of supply was developed in 1956 when a metropolitan works commenced using concentrates from a gold mine at Kalgoorlie for the extraction of gold and sulphur. Production from this source ceased in February 1972.

#### PRODUCTION OF PYRITE CONCENTRATES (a)

| Year             | Quantity | Sulphur content | Value  |
|------------------|----------|-----------------|--------|
|                  | tons     | tons            | \$'000 |
| 1966 ....        | 76,136   | 33,198          | 931    |
| 1967 ....        | 78,685   | 34,359          | 988    |
| 1968 ....        | 32,879   | 14,433          | 308    |
| 1968-69 (b) .... | 17,153   | 7,508           | 188    |
| 1969-70 (b) .... | 10,863   | 4,982           | 125    |

(a) See footnote (a) to table on page 389. (b) Preliminary figures; subject to revision.

#### Salt

Common salt (sodium chloride) occurs extensively in Western Australia both in maritime lagoons and inland lakes and has been harvested on a commercial basis for many years from dry lake beds. In November 1968 Lefroy Salt Pty. Ltd. commenced large-scale production of salt from Lake Lefroy in the Shire of Coolgardie where the salt deposited has an exceptional purity.

In recent years the production of salt by the solar evaporation of sea water has become the major source of salt in this State. The low rainfall in the North-West coupled with the high evaporation rate make the north-west coast ideal for solar salt production. Leslie Salt Company is producing salt near Port Hedland; Texada Mines Pty. Limited is producing at Lake MacLeod near Carnarvon and the Shark Bay Salt and Gypsum Venture is engaged in salt production at Useless Loop in Shark Bay. Dampier Salt Limited at Dampier and Exmouth Salt (1969) Pty. Ltd. at Exmouth Gulf are also engaged in the construction of solar salt projects. The salt industry is being developed principally for the export market and to date all exports have been to Japan. During the year ended June 1970 1,015,000 tons of salt valued at \$3,176,000 were produced.

#### Tin Ore

Tin ore was first discovered at Greenbushes in 1888. It has since been found at several other places, but the Greenbushes and Pilbara fields have been the only major producers. Output declined during the war but increased substantially after 1949 and reached a peak in 1956 when 358 tons of ore and concentrates were produced. By 1958, however, it had declined to 138 tons, the decrease being due mainly to contraction of operations in the Greenbushes field. After 1958 production again increased and in 1969-70 total output was 895 tons valued at \$1,914,000.

#### PRODUCTION OF TIN CONCENTRATES (a)

| Year             | Quantity | Tin content | Value  |
|------------------|----------|-------------|--------|
|                  | tons     | tons        | \$'000 |
| 1966 ....        | 973      | 667         | 2,047  |
| 1967 ....        | 1,074    | 747         | 2,150  |
| 1968 ....        | 895      | 624         | 1,630  |
| 1968-69 (b) .... | 899      | 624         | 1,773  |
| 1969-70 (b) .... | 895      | 609         | 1,914  |

(a) See footnote (a) to table on page 389. (b) Preliminary figures; subject to revision.

#### Other Minerals

In addition to the other minerals listed in the table on page 389 there are some which have a high potential value but are not produced in large quantities at present. Zinc is associated with many of the silver-lead ores and some of the copper ores and has been

mined as the carbonate with a zinc content of 38 per cent. Arsenious oxide and antimonial concentrates were produced commercially for some years as by-products in the treatment of auriferous ores. Small amounts of bismuth concentrates assaying as high as 73 per cent bismuth have also been produced. Tungsten ores have been produced in small quantities for some years with a slight increase during the war. Since then, output has been spasmodic. Glass sand (silica) is being produced and significant quantities are being exported overseas. Lithium, yttrium, cerium, thorium, vanadium, niobium, and molybdenum-bearing minerals are known to occur in commercial quantities and small amounts of minerals containing uranium, rubidium and caesium have been found. Deposits of bentonite, barytes, graphite, mica, kyanite, sillimanite, spodumene and vermiculite are also known and small amounts have been produced.

### Construction Materials

The following table gives details of the production of certain construction materials from 1966 to 1969-70. It should be noted that gravel, sand and clays, for which reliable and complete information cannot be obtained are not included.

PRODUCTION OF CONSTRUCTION MATERIALS (a)

| Year             | Building and monumental stone (b) |        | Crushed and broken stone (c) |        | Crushed and broken limestone (d) |        |
|------------------|-----------------------------------|--------|------------------------------|--------|----------------------------------|--------|
|                  | Quantity                          | Value  | Quantity                     | Value  | Quantity                         | Value  |
|                  | '000 tons                         | \$'000 | '000 tons                    | \$'000 | '000 tons                        | \$'000 |
| 1966 ....        | 147                               | 318    | 2,157                        | 5,303  | 806                              | 836    |
| 1967 ....        | 127                               | 258    | 2,480                        | 5,603  | 578                              | 234    |
| 1968 ....        | 170                               | 364    | 3,056                        | 6,938  | 604                              | 221    |
| 1968-69 (e) .... | 185                               | 406    | 3,748                        | 9,724  | 867                              | 363    |
| 1969-70 (e) .... | 174                               | 357    | 3,428                        | 10,324 | 852                              | 298    |

(a) See footnote (a) to table on page 389.  
roads, concrete aggregate and rail ballast.

(b) Limestone, granite, sandstone and other stone.  
(d) Principally for road construction.

(c) Principally for  
(e) Preliminary figures; subject to revision.

## PRIVATE EXPLORATION FOR MINERALS

### Mineral Exploration (excluding petroleum)

Mineral exploration in the State has shown very rapid growth in recent years and is now at the highest level ever known in Western Australia. The search, which covers a major portion of the State, is concerned chiefly with exploration for iron, nickel, copper, gold, lead, tin, bauxite, manganese, phosphates, evaporites, asbestos and coal, apart from petroleum (see following section).

In the next table, details are given of private exploration in Western Australia for the years 1966 to 1969-70. The data have been derived from the annual Mineral Exploration Census (excluding Petroleum Exploration) which is carried out by the Commonwealth Bureau of Census and Statistics. The first census was conducted in respect of the year 1965 and for further information and statistics in greater detail, the reader is referred to the mimeographed publication *Mineral Exploration* issued by the Commonwealth Statistician, Canberra.

For the purpose of the census, 'mineral exploration' consists of the search for, and/or appraisal of, new ore occurrences and known deposits of minerals (including extensions to deposits being worked) by geological, geophysical, geochemical, and other methods, including drilling. The construction of shafts and adits is included if primarily for exploration purposes but mine development activities and exploration for water are excluded.

## MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM) (a)

| Particulars                                  | Unit     | 1966    | 1967    | 1968    | 1968-69 | 1969-70 |
|----------------------------------------------|----------|---------|---------|---------|---------|---------|
| PRIVATE EXPLORATION (b) ON PRODUCTION LEASES |          |         |         |         |         |         |
| Expenditure (c)—                             |          |         |         |         |         |         |
| On drilling ....                             | \$'000   | 645     | 801     | 909     | 2,184   | 2,921   |
| Other (d) ....                               | \$'000   | 777     | 329     | 468     | 1,120   | 3,082   |
| Total ....                                   | \$'000   | 1,422   | 1,130   | 1,377   | 3,305   | 6,004   |
| Payments to contractors (e) ....             | \$'000   | 91      | 194     | 204     | 1,435   | 2,196   |
| Employment (f)—                              |          |         |         |         |         |         |
| Professional persons (g) ....                | man-week | 1,598   | 895     | 795     | 1,566   | 3,296   |
| Non-professional persons (h) ....            | man-week | 5,776   | 3,742   | 4,819   | 5,255   | 10,732  |
| Total man-weeks worked ....                  | man-week | 7,374   | 4,637   | 5,614   | 6,821   | 14,028  |
| Footage drilled, sunk or driven—             |          |         |         |         |         |         |
| Drilled—                                     |          |         |         |         |         |         |
| Core ....                                    | feet     | 168,805 | 134,010 | 111,297 | 228,086 | 335,235 |
| Non-core ....                                | feet     | 63,138  | 111,346 | 244,919 | 307,234 | 467,420 |
| Total ....                                   | feet     | 231,943 | 245,356 | 356,216 | 535,320 | 802,655 |
| Sunk or driven (i) ....                      | feet     | 6,560   | 2,605   | 11,190  | 83,549  | 37,587  |

## OTHER PRIVATE EXPLORATION (b)

|                                   |          |         |         |           |           |           |
|-----------------------------------|----------|---------|---------|-----------|-----------|-----------|
| Expenditure (c)—                  |          |         |         |           |           |           |
| On drilling ....                  | \$'000   | 1,580   | 2,512   | 5,558     | 8,279     | 11,372    |
| Other (d) ....                    | \$'000   | 3,532   | 6,561   | 16,213    | 23,828    | 42,445    |
| Total ....                        | \$'000   | 5,112   | 9,073   | 21,771    | 32,107    | 53,817    |
| Payments to contractors (e) ....  | \$'000   | 1,671   | 2,965   | 7,382     | 12,226    | 17,915    |
| Employment (f)—                   |          |         |         |           |           |           |
| Professional persons (g) ....     | man-week | 4,742   | 12,885  | 13,668    | 16,770    | 22,960    |
| Non-professional persons (h) .... | man-week | 11,102  | 20,097  | 33,555    | 44,083    | 66,325    |
| Total man-weeks worked ....       | man-week | 15,844  | 32,982  | 47,223    | 60,853    | 89,285    |
| Footage drilled, sunk or driven—  |          |         |         |           |           |           |
| Drilled—                          |          |         |         |           |           |           |
| Core ....                         | feet     | 150,588 | 227,658 | 603,532   | 771,062   | 844,985   |
| Non-core ....                     | feet     | 247,094 | 426,128 | 785,363   | 1,064,579 | 4,628,395 |
| Total ....                        | feet     | 397,682 | 653,786 | 1,388,895 | 1,835,641 | 5,473,380 |
| Sunk or driven (i) ....           | feet     | 3,351   | 5,347   | 11,530    | 38,041    | 30,446    |

## TOTAL PRIVATE EXPLORATION (b)

|                                   |          |         |         |           |           |           |
|-----------------------------------|----------|---------|---------|-----------|-----------|-----------|
| Expenditure (c)—                  |          |         |         |           |           |           |
| On drilling ....                  | \$'000   | 2,225   | 3,313   | 6,467     | 10,464    | 14,293    |
| Other (d) ....                    | \$'000   | 4,309   | 6,890   | 16,681    | 24,948    | 45,527    |
| Total ....                        | \$'000   | 6,534   | 10,203  | 23,148    | 35,412    | 59,821    |
| Payments to contractors (e) ....  | \$'000   | 1,762   | 3,159   | 7,586     | 13,661    | 20,111    |
| Employment (f)—                   |          |         |         |           |           |           |
| Professional persons (g) ....     | man-week | 6,340   | 13,780  | 14,463    | 18,336    | 26,256    |
| Non-professional persons (h) .... | man-week | 16,878  | 23,839  | 38,374    | 49,338    | 77,057    |
| Total man-weeks worked ....       | man-week | 23,218  | 37,619  | 52,837    | 67,674    | 103,313   |
| Footage drilled, sunk or driven—  |          |         |         |           |           |           |
| Drilled—                          |          |         |         |           |           |           |
| Core ....                         | feet     | 319,393 | 361,668 | 714,829   | 999,148   | 1,180,220 |
| Non-core ....                     | feet     | 310,232 | 537,474 | 1,030,282 | 1,371,813 | 5,095,815 |
| Total ....                        | feet     | 629,625 | 899,142 | 1,745,111 | 2,370,961 | 6,276,035 |
| Sunk or driven (i) ....           | feet     | 9,911   | 7,952   | 22,720    | 121,590   | 68,033    |

(a) The annual census of mineral exploration was changed to a fiscal year basis commencing with the year ended 30 June 1969.  
 (b) Excludes exploration by the Western Australian Department of Mines and the Commonwealth Bureau of Mineral Resources, Geology and Geophysics.  
 (c) Expenditure whether charged as working expenses or capitalised. Includes payments to contractors.  
 (d) Includes expenditure on geological work and on adits, shafts, etc.  
 (e) Amounts paid to drilling contractors, geological consultants, technical advisers, etc. for exploration services. Included in preceding figures.  
 (f) Comprises the operator and his staff only; includes time spent on report writing and similar off-site activities associated with exploration; excludes contractors and their employees.  
 (g) Geologists, geophysicists, engineers, etc. engaged in exploration work.  
 (h) Drill operators, field hands, etc.  
 (i) Includes shafts, winzes, etc. sunk; drives, adits, etc. driven; and costans, small pits, etc.

## Petroleum Exploration

An extensive programme of oil exploration using modern geophysical and drilling techniques commenced in 1952 and resulted in the discovery of flow oil in the Exmouth Gulf area of the Carnarvon Basin in 1953. The discovery proved to be of non-commercial significance, but it stimulated further exploration for oil in Western Australia. A large area of the State has now been scientifically examined and geophysical and geological surveys are still being carried out. Discoveries of crude oil and/or gas have been made at Barrow Island and Yardarino (1964), at Gingin (1965), at Dongara (1966), at Pascoe Island (1967), at Mondarra (1968).

In recent years exploration off the coast of Western Australia has intensified and at 31 December 1971 crude oil and/or gas had been discovered in a number of offshore wells located on the north-west continental shelf, north of 21 degrees latitude.

Information on petroleum exploration expenditure and on drilling in Western Australia for the five years 1966 to 1970 is given in the tables below. These figures have been compiled from data published by the Commonwealth Bureau of Mineral Resources, Geology and Geophysics.

Petroleum exploration is defined as consisting of the search for, and/or appraisal of, deposits of crude petroleum and/or gas by geological, geophysical, geochemical and other means, including drilling. Included in the expenditure are the costs of drilling exploratory oil and/or gas wells and the testing of such wells. Also included are the costs of access roads, site construction, permits, licences and similar fees, relevant office buildings and furniture, transportation equipment, storage facilities, plant and equipment and review work if primarily for the purposes of exploration for deposits of petroleum or natural gas. The cost of drilling developmental oil and/or gas wells and expenditure on production facilities, and pipelines and production costs, etc. are excluded.

**PRIVATE PETROLEUM EXPLORATION—EXPENDITURE AND SOURCE OF FUNDS**  
(\$'000)

| Particulars                 | 1966    | 1967    | 1968    | 1969    | 1970   |
|-----------------------------|---------|---------|---------|---------|--------|
| Private expenditure (a)—    |         |         |         |         |        |
| Geological ....             | 482     | 1,159   | 449     | 516     | 801    |
| Geophysical ....            | 9,242   | 7,282   | *6,026  | 6,684   | 8,876  |
| Drilling ....               | 7,829   | 6,397   | *17,463 | 23,847  | 21,771 |
| Other ....                  | *747    | *390    | *1,621  | *1,432  | 2,714  |
| Total ....                  | *18,300 | *15,228 | *25,559 | *32,480 | 34,161 |
| Source of funds—            |         |         |         |         |        |
| Private sources ....        | *14,945 | *11,788 | *21,532 | *26,194 | 29,557 |
| Government subsidy (b) .... | *3,355  | 3,441   | 4,027   | 6,286   | 4,604  |

(a) Includes expenditure financed by payments under the *Petroleum Search Subsidy Act* 1959–1969 (Commonwealth).  
(b) Comprises payments under the *Petroleum Search Subsidy Act* 1959–1969. \* Revised.

**PRIVATE PETROLEUM EXPLORATION—WELLS AND FOOTAGE DRILLED (a)**

| Particulars                                     | 1966    | 1967    | 1968    | 1969    | 1970    |
|-------------------------------------------------|---------|---------|---------|---------|---------|
| Wells drilled (b) ....                          | 37      | 194     | 127     | 206     | 63      |
| Average total depth of wells drilled (c) ....   | 6,449   | 5,444   | 5,832   | 7,500   | 6,654   |
| Wells completed as potential oil producers .... | 12      | 164     | 53      | 97      | 13      |
| Wells completed as potential gas producers .... | 5       | 2       | 1       | 7       | 2       |
| Wells drilled or drilling over 10,000 ft ....   | 7       | 4       | 5       | 9       | 5       |
| Footage drilled—                                |         |         |         |         |         |
| Completed wells ....                            | 178,681 | 561,324 | 406,189 | 636,818 | 217,347 |
| Uncompleted holes (d) ....                      | 21,448  | 7,714   | 30,811  | 10,871  | 28,737  |
| Total footage drilled ....                      | 200,129 | 569,038 | 437,000 | 647,689 | 246,084 |

(a) With the exception of 'Average total depth of wells drilled' for 1966, the data exclude particulars for developmental wells.  
(b) Number of holes which reached total depth during the year. (c) See footnote (a). (d) Comprises wells suspended and wells on which drilling was in progress at 31 December of the year shown.





*Block by courtesy of the Fremantle Port Authority*

#### TRENCH DIGGING NEAR PINJARRA FOR NATURAL GAS PIPELINE

Construction of a pipeline from the Dongara gas field to Perth and industrial centres at Kwinana and Pinjarra began on 25 January 1971. The pipeline, 255 miles in length and costing \$19 million, has been laid entirely underground, with a minimum cover of thirty inches to allow normal agricultural activities to be continued.

## *Chapter VIII—continued*

### **Part 2—Secondary Industry**

For 1968-69 and subsequent years manufacturing statistics are based on concepts and definitions which differ considerably from those which apply to the data presented below in the section *Historical Review*. These changes in concept and definition arose from the integration of the manufacturing census (which prior to 1968-69 included electricity and gas-producing establishments) with censuses of mining, wholesale, retail and selected services as part of a programme of fully integrated economic censuses as from the year 1968-69. The nature of the changes made in 1968-69 are explained briefly later in this Part in the section *Manufacturing Censuses, 1968-69 and 1969-70* commencing on page 403.

As a consequence of the changes, data for 1968-69 and subsequent years are not directly comparable with that for previous periods shown in the following historical review.

#### **HISTORICAL REVIEW**

While secondary industry in Western Australia has grown considerably since 1900 the greatest advance both in the number and the size of factories operating has occurred since 1945. One of the factors contributing to this growth has been the provision of adequate power in the south-western portion of the State by the expansion of electricity supplies provided by generating stations linked in a grid system.

In 1900 there were 632 factories operating in Western Australia. By 1910 the number had risen to 822 and by 1920 to 998. Progress during the first World War was comparatively slow, mainly because the more advanced manufacturing facilities already existing in other States were better suited to rapid development. During the decade 1921-1930, however, efforts were made to foster Western Australian secondary industry and considerable success was achieved during the latter years of this period, the number of factories increasing from 1,170 in 1926 to 1,466 in 1930. Although some decline occurred in the depression years of 1930 to 1933, there were 1,658 factories in operation in 1935 and by 1940 the number had reached 2,129.

No immediate stimulus to the State's manufacturing activity followed the outbreak of the second World War, but the more direct threat to Australia which resulted from the fall of Singapore called for a total use of industrial potential, and from 1942 onwards an increasing volume of war contracts was placed in Western Australia. The greatest demand was for processed foodstuffs but other forms of war production which were especially developed included munitions manufacture, shipbuilding (principally of wooden coastal craft) and marine engineering. Although fewer factories operated because of the decline in those classes of production which were purely for civilian purposes, employment and output increased substantially.

Production which had developed largely to meet the demands of the armed services declined sharply at the conclusion of the war and this was reflected particularly in the decreased manufacture of processed foodstuffs, the full production of which considerably exceeded civilian requirements. Secondary industry as a whole benefited greatly, however, from the engineering skills and equipment acquired in wartime activities and their transfer to civilian uses facilitated the expansion of the metal industries in the State and influenced the production of small to medium-sized machine tools and the establishment of a factory producing several types of tractors and farm machinery.

Such advances enlarged the scope of Western Australian secondary industry and by 1967-68 the number of factories had increased to 5,404. Net production per head of population, however, still remained higher in all the other States except Queensland.

Manufacturing net production per head of mean population in each of the States and in Australia as a whole during 1967-68 was as follows: New South Wales, \$720; Victoria, \$725; Queensland, \$383; South Australia, \$565; Western Australia, \$435; Tasmania, \$522; and Australia, \$623.

The average number of persons employed in Western Australian factories from 1900 to 1968 is given in the table below. Total employment in factories for additional years appear in the *Statistical Summary from 1829* following Chapter X.

The large increase between 1944-45 and 1949-50 was due in part to the establishment of many smaller types of factory, such as motor-repair workshops, dry-cleaning works and bakeries, resulting from the return to civilian life of service personnel and from unusually large population gains by natural increase and from immigration. This high level of population increase was maintained in the following five years and in 1954-55 average factory employment reached 49,314. In 1955-56 the number of persons engaged in factories exceeded 50,000 for the first time but then declined in each of the three succeeding years and in 1958-59 had fallen to 48,417. An improvement in 1959-60, when the average for the year rose to 49,651, was maintained over the next eight years and by 1967-68 employment in factories had risen to 67,335.

SELECTED ITEMS OF FACTORY ACTIVITY (a)

| Year           | Number of factories (c) | Persons employed (b) |         |        | Book values of—        |                         | Engines and electric motors used to drive machinery (e) | Net production (f) |
|----------------|-------------------------|----------------------|---------|--------|------------------------|-------------------------|---------------------------------------------------------|--------------------|
|                |                         | Males                | Females | Total  | Land and buildings (d) | Plant and machinery (d) |                                                         |                    |
|                |                         |                      |         |        | \$'000                 | \$'000                  | rated hp                                                | \$'000             |
| 1900 ....      | 632                     | 10,261               | 905     | 11,166 | 2,409                  | 2,506                   | 7,270                                                   | (g)                |
| 1905 ....      | 777                     | 11,829               | 1,652   | 13,481 | 3,579                  | 3,740                   | 11,151                                                  | (g)                |
| 1910 ....      | 822                     | 12,404               | 2,490   | 14,894 | 3,646                  | 3,879                   | 11,378                                                  | 5,472              |
| 1915 ....      | 983                     | 13,453               | 2,429   | 15,882 | 5,271                  | 5,467                   | 21,997                                                  | 6,468              |
| 1920 ....      | 998                     | 14,311               | 2,631   | 16,942 | 7,128                  | 6,822                   | 26,481                                                  | 9,708              |
| 1925-26 (h) .. | 1,170                   | 17,393               | 3,274   | 20,667 | 9,710                  | 10,962                  | 37,631                                                  | 19,222             |
| 1929-30 ....   | 1,466                   | 15,921               | 3,722   | 19,643 | 11,246                 | 12,182                  | 37,754                                                  | 14,976             |
| 1934-35 ....   | 1,658                   | 14,248               | 3,521   | 17,769 | 11,347                 | 11,527                  | 42,520                                                  | 12,570             |
| 1939-40 ....   | 2,129                   | 18,331               | 4,636   | 22,967 | 13,727                 | 15,917                  | 66,925                                                  | 18,055             |
| 1944-45 ....   | 1,931                   | 22,404               | 6,742   | 29,146 | 15,308                 | 16,508                  | 80,667                                                  | 25,920             |
| 1949-50 ....   | 3,023                   | 33,711               | 7,022   | 40,733 | 22,110                 | 22,914                  | 120,380                                                 | 52,088             |
| 1954-55 ....   | 3,727                   | 42,294               | 7,020   | 49,314 | 60,460                 | 109,916                 | 204,848                                                 | 121,912            |
| 1959-60 ....   | 4,279                   | 42,957               | 6,694   | 49,651 | 87,146                 | 128,450                 | 261,660                                                 | 172,747            |
| 1963-64 ....   | 4,609                   | 48,163               | 7,542   | 55,705 | 118,813                | 155,514                 | 327,425                                                 | 230,511            |
| 1964-65 ....   | 4,734                   | 50,065               | 8,032   | 58,097 | 131,739                | 163,526                 | 345,586                                                 | 260,637            |
| 1965-66 ....   | 4,906                   | 51,464               | 8,818   | 60,282 | 151,047                | 197,210                 | 371,888                                                 | 288,803            |
| 1966-67 ....   | 5,167                   | 53,981               | 9,776   | 63,757 | 170,308                | 250,858                 | 397,513                                                 | 335,788            |
| 1967-68 ....   | 5,404                   | 56,835               | 10,500  | 67,335 | 198,640                | 296,659                 | 485,644                                                 | 388,257            |

(a) Includes particulars for electricity and gas establishments. The data are not comparable with figures for later years; see letterpress on page 403. (b) Average number employed over the whole year; includes working proprietors and, up to and including 1925-26, fallers and haulers employed by sawmills. (c) Establishments engaged in the processes of manufacturing, assembling, treating or repairing and in which four or more persons were employed during any period of the year or power other than manual was used. (d) Includes estimated value of rented premises and plant. (e) Excludes engines used in electricity generating stations and motors driven by electricity of own generation. (f) The value added in the course of manufacture representing the sum available for payment of wages, rent, depreciation, other sundry expenses, interest and profit. (g) Figures not available. (h) Period of 18 months ended 30 June 1926.

Several relatively large concerns began to operate during the post-war years. Sharp rises in the total horsepower of engines used to drive machinery are indicative of this growth in the number of highly-mechanised works. Increases in net production and the enhanced values of land and building and of plant and machinery are also significant, but when considering these figures allowances should be made for price changes which occurred during the period.

In recent years the scope of Western Australian secondary industry has been enlarged by the introduction of large and medium sized factories engaged in such activities as oil refining, steel rolling, titanium dioxide extraction, paper production, alumina refining, cotton ginning, rubber tyre manufacture, blast furnace operations, iron ore pelletising, explosives manufacture, ammonium nitrate production and nickel refining.

## MANUFACTURING CENSUSES, 1968-69 AND 1969-70

Manufacturing statistics (except commodity statistics) for 1968-69 and subsequent years are not directly comparable with figures for years prior to 1968-69 because of changes in the census units, the scope of the census and the items of data, as set out below.

**Standardisation of Census Units**

A census unit (the establishment), in general now covers all of the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing but the data supplied for it now cover, with few exceptions, both manufacturing and all other activities (*e.g.* wholesaling) carried out at the location. Prior to 1968-69 the data reported for the annual factory census did not include details of activities other than manufacturing. In addition, even though manufacturing activity at a location was not the predominant activity, the manufacturing data was included in the census.

Data relating to separately-located administrative offices and ancillary units serving the establishment and forming part of the business enterprise owning the establishment are now included in manufacturing statistics. Formerly, manufacturing statistics did not include separately-located establishments such as administrative head offices, storage premises, manufacturers' sales branches or sales offices not holding stocks.

**Standardisation of Industrial Classification**

In 1968-69 the Australian Standard Industrial Classification (ASIC) was introduced to define industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses (one of which is the manufacturing census) to be specified without gaps or overlapping between them.

The main changes in the scope of the manufacturing census, apart from providing for a separate census for electricity and gas, are:

- (i) Establishments engaged mainly in the following activities, previously included in the manufacturing census, are now excluded: motor vehicle repairs but not engine reconditioning; repair and servicing of agricultural machinery; dry-cleaning and clothes dyeing services; watch, clock and jewellery repairing; boot and shoe repairing; tyre retreading and repairing; custom dress-making and tailoring (including clothing repair and alterations); repairing of blinds and awnings, making up of curtains; and repair of domestic appliances. Establishments engaged mainly in these activities are included in the Census of Retail Trade and Selected Services or the Census of Wholesale Trade.
- (ii) Establishments engaged mainly in the following activities, previously excluded in most States from manufacturing censuses, are now included: slaughtering; milk treatment; and publishing.

An indication of the effect of the above changes arising from the adoption of the new industrial classification, can be gained from the following comparison. In the 1967-68 manufacturing census there were approximately 5,300 manufacturing establishments (excluding electricity and gas establishments) in Western Australia. Of these, approximately 2,600 would have been included in the 1967-68 census if ASIC had been used. This decrease of 2,700 in the number of manufacturing establishments is due to the exclusion from the manufacturing census of the establishments referred to in the preceding paragraph.

**Standardisation of Items of Data**

Items of data were standardised for all census sectors with the consequence that in the manufacturing census the 'value of turnover' is now collected instead of value of output at the factory, and instead of the value of materials, fuel, etc. used, purchases and other

selected expenses, not previously collected, are included in manufacturing statistics. The underlying concept of 'value added', however, is similar to the former concept 'value of production', even though its method of derivation is different. Value added, the basic measure of the establishment's contribution to total production, is now calculated as turnover less purchases and transfers in (from other establishments of the enterprise), plus increase (or less decrease) in stocks. In the past the corresponding item, value of production, was obtained by deducting the value of materials, fuel, etc. used from the value of output at the factory. A detailed comparison of the method of derivation is shown in the following table.

## METHODS OF DERIVATION OF ADDED VALUE

| <i>Value of production, 1967-68</i>                                                                                                                                                                                                                        | <i>Value added, 1968-69 and 1969-70</i>                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Selling value at works, exclusive of all delivery costs or charges, of goods manufactured, treated or worked up during the year, including by-products, <i>plus</i><br>Value of other work done, . . . such as repairing and making up for customers, etc. | Sales, and transfers out (to other establishments of the enterprise), of goods manufactured by the establishment, <i>plus</i><br>Sales and transfers out of goods not manufactured by the establishment, <i>plus</i><br>Bounties and subsidies on production (a), <i>plus</i><br>All other operating income, <i>plus</i><br>Capital work done for own use, or for rental or lease (a)                       |
| <i>Equals:</i> Value of output                                                                                                                                                                                                                             | <i>Equals:</i> Value of turnover                                                                                                                                                                                                                                                                                                                                                                            |
| <i>Less—</i><br>Value of materials used<br>Power, fuel and light used<br>Water used<br>Lubricating oils used<br>Repairs, etc.<br>Containers used                                                                                                           | <i>Plus:</i> Value of closing stocks<br><i>Less:</i> Value of opening stocks<br><i>Less—</i><br>Purchases and transfers in of materials, electricity fuels, containers, etc.<br>Purchases and transfers in of goods for resale<br>Charges for commission and sub-contract work<br>Repair and maintenance expenses<br>Outward freight and cartage, motor vehicle running expenses, sales commission payments |
| <i>Equals:</i> Value of production                                                                                                                                                                                                                         | <i>Equals:</i> Value added                                                                                                                                                                                                                                                                                                                                                                                  |

(a) Omitted from 1968-69 and 1969-70 statistics, which are preliminary and subject to revision.

Even though the concept of value added is similar to value of production, direct comparison of 1967-68 and 1968-69 and later figures will not be possible because of the change in census units already mentioned which has resulted in the value added for the whole establishment being reported, not solely the value added for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the manufacturing census due to the adoption of ASIC.

For a more detailed description of the Integrated Economic Censuses reference should be made to pages 552-63 of the previous issue of the Year Book.

## GENERAL SUMMARY

The next table shows a summary of the operations of manufacturing establishments by industry sub-divisions for Australia during 1968-69. Totals for each State are given in the succeeding table which thus permits a comparison of Western Australian manufacturing activity with that of other States and Australia as a whole.

**MANUFACTURING STATISTICS—AUSTRALIA, 1968-69**  
**PRINCIPAL ITEMS ACCORDING TO INDUSTRY SUB-DIVISION**

| Industry sub-division                                                         | ASIC code (a) | Number of establishments operating during 1968-69 | Persons employed (b) |                |                  | Wages and salaries | Sales, transfers out and other operating revenue | Purchases, transfers in and selected expenses | Value added    |
|-------------------------------------------------------------------------------|---------------|---------------------------------------------------|----------------------|----------------|------------------|--------------------|--------------------------------------------------|-----------------------------------------------|----------------|
|                                                                               |               |                                                   | Males                | Females        | Total            |                    |                                                  |                                               |                |
| Food, beverages and tobacco                                                   | 21-2          | 5,613                                             | 142,893              | 51,160         | 194,053          | \$m 567.1          | \$m 4,202.2                                      | \$m 3,036.9                                   | \$m 1,208.3    |
| Textiles; clothing and footwear                                               | 23, 24        | 4,488                                             | 59,821               | 121,996        | 181,817          | 421.9              | 1,685.0                                          | 996.4                                         | 706.3          |
| Wood, wood products and furniture .....                                       | 25            | 6,653                                             | 75,187               | 11,481         | 86,668           | 230.1              | 954.5                                            | 557.0                                         | 405.6          |
| Paper and paper products, printing .....                                      | 26            | 3,834                                             | 78,991               | 30,379         | 109,370          | 350.7              | 1,346.7                                          | 697.3                                         | 660.4          |
| Chemical, petroleum and coal products .....                                   | 27            | 1,263                                             | 50,238               | 18,221         | 68,459           | 246.8              | 1,639.0                                          | 998.6                                         | 636.6          |
| Non-metallic mineral products                                                 | 28            | 2,063                                             | 51,468               | 5,485          | 56,953           | 190.6              | 806.6                                            | 430.6                                         | 384.7          |
| Basic metal products .....                                                    | 29            | 413                                               | 78,589               | 5,152          | 83,741           | 317.0              | 2,070.9                                          | 1,444.3                                       | 664.4          |
| Fabricated metal products; transport equipment; other machinery and equipment | 31-3          | 12,170                                            | 390,292              | 84,074         | 474,366          | 1,486.6            | 5,853.9                                          | 3,372.8                                       | 2,585.2        |
| Miscellaneous manufacturing                                                   | 34            | 2,337                                             | 42,024               | 22,716         | 64,740           | 186.1              | 790.8                                            | 469.3                                         | 337.6          |
| <b>Total manufacturing .....</b>                                              |               | <b>38,834</b>                                     | <b>969,503</b>       | <b>350,664</b> | <b>1,320,167</b> | <b>3,996.9</b>     | <b>19,349.7</b>                                  | <b>12,003.2</b>                               | <b>7,589.0</b> |

(a) Australian Standard Industrial Classification.

(b) Includes working proprietors.

**MANUFACTURING STATISTICS—AUSTRALIA, 1968-69**  
**PRINCIPAL ITEMS ACCORDING TO STATES AND TERRITORIES**

| States and Territories             | Number of establishments operating during year | Persons employed (a) |                |                  | Wages and salaries | Sales, transfers out and other operating revenue | Stocks at 30 June— |                | Purchases, transfers in and selected expenses | Value added    |
|------------------------------------|------------------------------------------------|----------------------|----------------|------------------|--------------------|--------------------------------------------------|--------------------|----------------|-----------------------------------------------|----------------|
|                                    |                                                | Males                | Females        | Total            |                    |                                                  | 1968               | 1969           |                                               |                |
| New South Wales                    | 14,805                                         | 388,171              | 144,277        | 532,448          | \$m 1,657.7        | \$m 7,622.6                                      | \$m 1,273.8        | \$m 1,363.9    | \$m 4,587.0                                   | \$m 3,125.6    |
| Victoria .....                     | 12,487                                         | 312,921              | 139,891        | 452,812          | 1,381.3            | 6,658.1                                          | 1,183.9            | 1,262.5        | 4,162.0                                       | 2,574.7        |
| Queensland .....                   | 4,314                                          | 92,834               | 23,614         | 116,448          | 317.0              | 1,927.8                                          | 241.3              | 259.5          | 1,282.3                                       | 663.5          |
| South Australia .....              | 3,224                                          | 95,069               | 23,250         | 118,319          | 344.6              | 1,613.7                                          | 278.3              | 308.2          | 1,003.8                                       | 639.8          |
| Western Australia .....            | 2,774                                          | 51,770               | 12,026         | 63,796           | 186.9              | 967.8                                            | 126.4              | 140.6          | 625.2                                         | 356.8          |
| Tasmania .....                     | 1,039                                          | 25,605               | 6,860          | 32,465           | 96.1               | 506.1                                            | 95.6               | 106.7          | 312.8                                         | 204.4          |
| Northern Territory .....           | 75                                             | 988                  | 167            | 1,155            | 4.1                | 22.8                                             | 2.0                | 2.4            | 13.7                                          | 9.4            |
| Australian Capital Territory ..... | 116                                            | 2,145                | 579            | 2,724            | 9.3                | 30.8                                             | 3.4                | 3.6            | 16.5                                          | 14.7           |
| <b>AUSTRALIA</b>                   | <b>38,834</b>                                  | <b>969,503</b>       | <b>350,664</b> | <b>1,320,167</b> | <b>3,996.9</b>     | <b>19,349.7</b>                                  | <b>3,204.6</b>     | <b>3,447.4</b> | <b>12,003.2</b>                               | <b>7,589.0</b> |

(a) Includes working proprietors.

### Location of Secondary Industry

The main concentration of the State's manufacturing establishments, including those situated in the developing industrial complex at Kwinana, is located in the Perth Statistical Division, which contains the greatest population, both in number and density. The adjoining South-West Statistical Division ranks next to the Perth Division in total population and number of manufacturing establishments.

The Perth and South-West Divisions together contain approximately three-quarters of the total population of the State. Other factors influencing the concentration of manufacturing industry in the area are the easier availability of raw materials and the provision of adequate power and fuel supplies and transport facilities. Electric power is distributed over most of the area through a grid system established by the State Electricity Commission, and a map showing the distribution of supplies by the Commission as at 30 June 1966 appeared in the *Western Australian Year Book*, No. 6—1967. The only coal deposits in the State at present being worked are in the South-West Division near Collie, some 120

miles to the south of Perth. These Divisions also contain well-developed road and railway systems, the State's principal port at Fremantle and other ports at Bunbury and Busselton.

Reference to manufacturing activity in the several Statistical Divisions of the State is also made in the section *Geographical Distribution of Industry* which appears on pages 333-4. The boundaries of each Statistical Division are shown on the map of the State following the Index. Details of the individual local government areas of which each Statistical Division is composed are given in a list preceding the Index.

### Number of Manufacturing Establishments

In the next table comparisons of the number of manufacturing establishments in Western Australia over a two-year period are made. The figures represent the number of manufacturing establishments which operated for any period during each particular year but do not include numbers of separately-located administrative offices and ancillary units.

#### MANUFACTURING ESTABLISHMENTS ACCORDING TO INDUSTRY SUB-DIVISION

| Industry sub-division                                                                       | ASIC<br>code<br>(a) | Number of<br>establishments |         |
|---------------------------------------------------------------------------------------------|---------------------|-----------------------------|---------|
|                                                                                             |                     | 1968-69                     | 1969-70 |
| Food, beverages and tobacco .....                                                           | 21-2                | 528                         | 471     |
| Textiles; clothing and footwear .....                                                       | 23, 24              | 107                         | 109     |
| Wood, wood products and furniture .....                                                     | 25                  | 591                         | 613     |
| Paper and paper products, printing .....                                                    | 26                  | 197                         | 202     |
| Chemical, petroleum and coal products .....                                                 | 27                  | 75                          | 76      |
| Non-metallic mineral products .....                                                         | 28                  | 215                         | 218     |
| Basic metal products .....                                                                  | 29                  | 22                          | 19      |
| Fabricated metal products; transport<br>equipment; other machinery and equip-<br>ment ..... | 31-3                | 876                         | 905     |
| Miscellaneous manufacturing .....                                                           | 34                  | 163                         | 179     |
| Total manufacturing .....                                                                   |                     | 2,774                       | 2,792   |

(a) Australian Standard Industrial Classification.

### Persons Employed

Details of the number of persons employed in Western Australia in manufacturing appearing in the following table relate to working proprietors at the end of June and employees on the pay-roll at the last pay-period in June. The numbers include those working at separately-located administrative offices and ancillary units in the State.

#### PERSONS EMPLOYED ACCORDING TO INDUSTRY SUB-DIVISION

| Industry sub-division                                                                    | ASIC<br>code<br>(b) | Persons employed (a) |         |        |           |         |        |
|------------------------------------------------------------------------------------------|---------------------|----------------------|---------|--------|-----------|---------|--------|
|                                                                                          |                     | June 1969            |         |        | June 1970 |         |        |
|                                                                                          |                     | Males                | Females | Total  | Males     | Females | Total  |
| Food, beverages and tobacco .....                                                        | 21-2                | 9,188                | 4,027   | 13,215 | 8,894     | 3,918   | 12,812 |
| Textiles; clothing and footwear .....                                                    | 23, 24              | 850                  | 1,870   | 2,720  | 916       | 1,933   | 2,849  |
| Wood, wood products and furniture .....                                                  | 25                  | 7,171                | 980     | 8,151  | 7,390     | 1,089   | 8,479  |
| Paper and paper products, printing .....                                                 | 26                  | 3,850                | 1,313   | 5,163  | 4,186     | 1,520   | 5,706  |
| Chemical, petroleum and coal products .....                                              | 27                  | 2,878                | 403     | 3,281  | 2,935     | 412     | 3,347  |
| Non-metallic mineral products .....                                                      | 28                  | 5,086                | 462     | 5,548  | 4,745     | 509     | 5,254  |
| Basic metal products .....                                                               | 29                  | 3,339                | 180     | 3,519  | 3,567     | 220     | 3,787  |
| Fabricated metal products; transport equip-<br>ment; other machinery and equipment ..... | 31-3                | 18,356               | 2,252   | 20,608 | 18,457    | 2,205   | 20,662 |
| Miscellaneous manufacturing .....                                                        | 34                  | 1,052                | 539     | 1,591  | 1,170     | 559     | 1,729  |
| Total manufacturing .....                                                                |                     | 51,770               | 12,026  | 63,796 | 52,260    | 12,365  | 64,625 |

(a) Includes working proprietors.

(b) Australian Standard Industrial Classification.

### Salaries and Wages

The following table shows, for 1968-69 and 1969-70, the amounts of salaries and wages paid to all employees of manufacturing establishments in Western Australia including those working at separately-located administrative offices and ancillary units in the State. The figures do not include amounts drawn by working proprietors.

SALARIES AND WAGES PAID ACCORDING  
TO INDUSTRY SUB-DIVISION  
(Excludes amounts drawn by working proprietors)  
(\$'000)

| Industry sub-division                                                              | ASIC<br>code (a) | 1968-69 | 1969-70 |
|------------------------------------------------------------------------------------|------------------|---------|---------|
| Food, beverages and tobacco ....                                                   | 21-2             | 35,201  | 40,051  |
| Textiles; clothing and footwear ....                                               | 23, 24           | 5,358   | 5,837   |
| Wood, wood products and furniture ....                                             | 25               | 21,169  | 23,677  |
| Paper and paper products, printing ....                                            | 26               | 15,977  | 18,740  |
| Chemical, petroleum and coal products ....                                         | 27               | 12,264  | 13,813  |
| Non-metallic mineral products ....                                                 | 28               | 18,397  | 19,202  |
| Basic metal products ....                                                          | 29               | 13,545  | 15,533  |
| Fabricated metal products; transport equip-<br>ment; other machinery and equipment | 31-3             | 61,168  | 67,331  |
| Miscellaneous manufacturing ....                                                   | 34               | 3,837   | 4,252   |
| Total manufacturing ....                                                           |                  | 186,916 | 208,436 |

(a) Australian Standard Industrial Classification.

### Sales, Transfers Out and other Operating Revenue

The value of manufacturing establishments' sales, transfers out and other operating revenue for Western Australia in 1968-69 and 1969-70 is given in the following table. The figures include sales of goods whether produced by the establishment or not, plus transfers out of goods to other establishments of the same enterprise, plus all other operating revenue from outside the enterprise, such as commission, repair and service revenue. Rents, leasing revenue, interest (other than hire purchase), royalties, receipts from the sale of fixed tangible assets, bounties and subsidies and capital work done for own use, or for rental or lease are excluded.

SALES, TRANSFERS OUT AND OTHER  
OPERATING REVENUE (a)  
ACCORDING TO INDUSTRY SUB-DIVISION  
(\$'000)

| Industry sub-division                                                              | ASIC<br>code (b) | 1968-69 | 1969-70   |
|------------------------------------------------------------------------------------|------------------|---------|-----------|
| Food, beverages and tobacco ....                                                   | 21-2             | 262,359 | 250,361   |
| Textiles; clothing and footwear ....                                               | 23, 24           | 18,681  | 18,729    |
| Wood, wood products and furniture ....                                             | 25               | 82,964  | 92,482    |
| Paper and paper products, printing ....                                            | 26               | 53,611  | 62,574    |
| Chemical, petroleum and coal products ....                                         | 27               | 80,215  | 77,745    |
| Non-metallic mineral products ....                                                 | 28               | 89,394  | 89,478    |
| Basic metal products ....                                                          | 29               | 116,628 | 124,382   |
| Fabricated metal products; transport equip-<br>ment; other machinery and equipment | 31-3             | 248,085 | 288,369   |
| Miscellaneous manufacturing ....                                                   | 34               | 15,793  | 17,568    |
| Total manufacturing ....                                                           |                  | 967,730 | 1,021,688 |

(a) See letterpress immediately preceding table.  
Industrial Classification.

(b) Australian Standard



### Purchases, Transfers In and Selected Expenses

The following table gives details of the value of purchases, transfers in and selected expenses for Western Australia in 1968-69 and 1969-70. The figures include purchases of materials, fuel, power, containers, etc., plus transfers in of goods from other establishments of the enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments.

#### PURCHASES, TRANSFERS IN AND SELECTED EXPENSES ACCORDING TO INDUSTRY SUB-DIVISION (\$'000)

| Industry sub-division                                                              | ASIC<br>code (a) | 1968-69 | 1969-70 |
|------------------------------------------------------------------------------------|------------------|---------|---------|
| Food, beverages and tobacco ....                                                   | 21-2             | 194,395 | 174,172 |
| Textiles; clothing and footwear ....                                               | 23, 24           | 10,153  | 10,160  |
| Wood, wood products and furniture ....                                             | 25               | 44,704  | 48,060  |
| Paper and paper products, printing ....                                            | 26               | 24,537  | 29,330  |
| Chemical, petroleum and coal products ....                                         | 27               | 55,708  | 54,153  |
| Non-metallic mineral products ....                                                 | 28               | 45,087  | 46,069  |
| Basic metal products ....                                                          | 29               | 88,269  | 83,484  |
| Fabricated metal products; transport equipment; other machinery and equipment .... | 31-3             | 153,582 | 174,588 |
| Miscellaneous manufacturing ....                                                   | 34               | 8,718   | 9,931   |
| Total manufacturing ....                                                           |                  | 625,153 | 629,947 |

(a) Australian Standard Industrial Classification.

### Stocks

Statistics on the value of stocks in Western Australia at 30 June for each of the years 1968, 1969 and 1970 are given in the following table. The figures include all stocks of materials, fuels, etc., work-in-progress and finished goods, whether of own manufacture or purchased for resale, owned by manufacturing establishments whether held at the establishment or at separate locations.

#### STOCKS ACCORDING TO INDUSTRY SUB-DIVISION (\$'000)

| Industry sub-division                                                              | ASIC<br>code (a) | Stocks at 30 June— |         |         |
|------------------------------------------------------------------------------------|------------------|--------------------|---------|---------|
|                                                                                    |                  | 1968               | 1969    | 1970    |
| Food, beverages and tobacco ....                                                   | 21-2             | 19,815             | 22,847  | 19,781  |
| Textiles; clothing and footwear ....                                               | 23, 24           | 3,012              | 3,166   | 3,534   |
| Wood, wood products and furniture ....                                             | 25               | 11,829             | 13,598  | 14,424  |
| Paper and paper products, printing ....                                            | 26               | 6,341              | 6,679   | 8,063   |
| Chemical, petroleum and coal products ....                                         | 27               | 18,916             | 18,092  | 18,855  |
| Non-metallic mineral products ....                                                 | 28               | 9,155              | 10,312  | 10,735  |
| Basic metal products ....                                                          | 29               | 17,132             | 21,836  | 27,161  |
| Fabricated metal products; transport equipment; other machinery and equipment .... | 31-3             | 38,007             | 41,602  | 47,658  |
| Miscellaneous manufacturing ....                                                   | 34               | 2,223              | 2,430   | 2,657   |
| Total manufacturing ....                                                           |                  | 126,430            | 140,562 | 152,868 |

(a) Australian Standard Industrial Classification.

### Value Added

The statistics on value added appearing in the following table have been calculated by adding to the value of sales, transfers out and other operating revenue, the increase (or deducting the decrease) in the value of stocks, and deducting the value of purchases, transfers in and selected expenses. A more detailed description of the method of deriving value added is given on page 404.

VALUE ADDED (a) ACCORDING TO  
INDUSTRY SUB-DIVISION  
(\$'000)

| Industry sub-division                                                              | ASIC<br>code (b) | 1968-69 | 1969-70 |
|------------------------------------------------------------------------------------|------------------|---------|---------|
| Food, beverages and tobacco ....                                                   | 21-2             | 70,996  | 76,744  |
| Textiles; clothing and footwear ....                                               | 23, 24           | 8,682   | 9,044   |
| Wood, wood products and furniture ....                                             | 25               | 40,029  | 45,034  |
| Paper and paper products, printing ....                                            | 26               | 29,412  | 34,291  |
| Chemical, petroleum and coal products ....                                         | 27               | 23,683  | 23,224  |
| Non-metallic mineral products ....                                                 | 28               | 45,464  | 46,135  |
| Basic metal products ....                                                          | 29               | 33,063  | 47,080  |
| Fabricated metal products; transport equip-<br>ment; other machinery and equipment | 31-3             | 98,098  | 120,038 |
| Miscellaneous manufacturing ....                                                   | 34               | 7,282   | 8,008   |
| Total manufacturing ....                                                           |                  | 356,709 | 409,598 |

(a) Figures exclude bounties and subsidies and capital work done for own use, or for rental or lease. (b) Australian Standard Industrial Classification.

## INDIVIDUAL INDUSTRIES

This section deals with manufacturing activity in selected industries in Western Australia over recent years. Details of production of selected commodities are given in the table on page 411.

### Lime, Plaster and Plaster Sheets

Although a decrease has occurred over recent years in the number of establishments engaged in the industry, production of fibrous plaster sheets, including small amounts manufactured by factories classified to other industries, has risen from over 1.4 million square yards in 1961-62 to almost 1.9 million square yards in 1970-71, an increase of 28 per cent for the period.

Most of the factories in this industry are situated in the Perth Statistical Division but some smaller plasterboard manufacturers operate in major country centres such as Bunbury, Geraldton, Kalgoorlie and Esperance.

### Cement and Concrete Products

There are two producers of cement in the State and one producer of asbestos cement products including sheets, pipes and mouldings. A large number of establishments producing other cement products such as concrete bricks, blocks, tiles, pipes, culverts and curbing are also classified to the industry. Ready-mixed concrete is produced in large quantities in country areas as well as in the Perth Statistical Division.

### Clay Products and Refractories

In 1970-71 Western Australian production of clay bricks was 240 million which, *per capita*, was higher than any other State.

Other items of production in the industry include terracotta tiles, earthenware pipes, sanitary ware, refractory bricks and tableware.

### Chemical Fertilisers

Chemical fertiliser factories are established in country centres as well as the Perth Statistical Division, plants being operated at Picton Junction, Albany, Geraldton and Esperance to meet the requirements of surrounding farm regions.

The industry produces all of the sulphuric acid required for superphosphate manufacture and smaller amounts of hydrochloric, phosphoric and nitric acids. Substantial quantities of mixed chemical fertilisers are also produced.

### **Basic and Fabricated Metal Products, Machinery and Equipment**

Approximately one-third of the factories in Western Australia are engaged in the production of metals and metal products, and the repair of such products. Goods produced by these factories range from basic metal products such as pig-iron and iron ore pellets, rolled steel products and wire to electrical consumer goods such as refrigerators. Tractors, agricultural machinery and railway rolling stock are also produced. These factories are located principally in the Perth Statistical Division, the Kwinana area becoming increasingly important.

### **Flour Milling**

There has been an overall decline in activity in the flour milling industry over recent years due mainly to a decrease in export demand. In 1961-62 production of flour, including quantities used to make self-raising flour, amounted to almost 141 thousand short tons, whereas in 1970-71 only 106 thousand short tons were produced. Despite partial recoveries from time to time, a general decline in production has occurred since 1952-53 when the post-war peak production of 224 thousand short tons was achieved. Production data for bran and pollard show similar trends over recent years.

### **Bacon Curing**

As well as producing bacon and ham, factories classified to this industry also manufacture substantial quantities of smallgoods and, as by-products, smaller quantities of meat and bone meal, lard and tallow. Bacon and ham production, including small amounts produced by factories classified to other industries, has risen from 7.8 million lb in 1961-62 to 13.6 million lb in 1970-71, an increase in quantity of 74 per cent.

All of the factories classified to this industry are situated in the Perth Statistical Division.

### **Milk Products—Butter, Cheese and Ice Cream**

With the exception of one medium-sized establishment, the factories in this industry are situated in the dairying districts of the South-West and Southern Agricultural Statistical Divisions.

Peak production of butter occurred in 1965-66 when a total of 18.1 million lb was produced. Since then, there has been a decline in the production of butter, the figure of 12.0 million lb for 1970-71 being the lowest for any year in the post-war period.

The quantity of cheese produced has fluctuated over the past ten years with a peak of 4.5 million lb being reached in 1968-69. In 1970-71, 4.2 million lb of cheese were produced.

An increase in ice cream production has occurred in each of the last five years, with new producers commencing operations, and in 1970-71 production totalled 3.6 million gallons.

### **Soft Drinks, Cordials and Syrups**

The major part of the production of aerated waters and cordials is carried out in the Perth Statistical Division, country factories accounting for less than 10 per cent of the total production of aerated waters.

Production of aerated waters, including small amounts produced by factories classified to other industries, has risen from 5.6 million gallons in 1961-62 to a peak of 14.2 million gallons in 1970-71.

Although fluctuations from year to year have been evident, cordial and syrup production have also increased and in 1970-71 reached a peak of 970 thousand gallons.

### **Sawmilling**

Although the majority of the log-sawing mills are located in the South-West Statistical Division there are many, including some of the larger mills, operating in the Perth Statistical Division. There is also some activity in the Southern Agricultural and Central Agricultural Divisions but, in general, the mills in these areas are small in size.

Production of sawn timber (including plywood veneers and railway sleepers) has fluctuated over the ten years to 1970-71. In that year production amounted to 190·3 million superficial feet and comprised 179·9 million superficial feet from hardwoods and 10·4 million superficial feet from softwoods.

## ARTICLES PRODUCED

The following table lists some of the principal products of secondary industry in the State and shows the quantities produced in each of the five years from 1966-67 to 1970-71. Production of many items is confidential as the Acts under which the statistics are collected require that information supplied on any individual return must be treated as confidential. For this reason it has not been possible to publish some items and consequently the list is incomplete and should not be regarded as an assessment of factory development as a whole.

## PRODUCTION OF SELECTED COMMODITIES (a)

| Commodity                                               | Unit           | 1966-67   | 1967-68   | 1968-69    | 1969-70    | 1970-71    |
|---------------------------------------------------------|----------------|-----------|-----------|------------|------------|------------|
| Aerated waters (b) ....                                 | '000 gal       | 10,324    | 9,831     | 10,856     | 12,847     | 14,244     |
| Bacon and ham ....                                      | '000 lb        | 10,259    | 11,404    | 12,133     | 12,855     | 13,622     |
| Bath heaters—solid fuel ....                            | number         | 4,312     | 4,556     | 4,342      | 3,810      | 3,587      |
| Batteries—automotive (c)                                |                |           |           |            |            |            |
| 6 volt ....                                             | number         | 9,020     | 9,745     | 9,582      | 7,538      | 8,306      |
| 12 volt ....                                            | number         | 27,649    | 29,582    | 18,785     | 14,812     | 17,052     |
| Boots, shoes and sandals (d) ....                       | pair           | 875,341   | 906,726   | 780,248    | 702,932    | 646,729    |
| Bran ....                                               | ton (2,000 lb) | 19,366    | 20,976    | 19,952     | 19,200     | 20,098     |
| Bread (2 lb loaf) (e) ....                              | '000           | 58,777    | 61,335    | (f)        | (f)        | (f)        |
| Bricks—clay (all sizes) ....                            | '000           | 163,166   | 207,575   | 274,318    | 284,256    | 240,323    |
| Butter ....                                             | '000 lb        | 14,394    | 13,248    | (g) 13,937 | (g) 13,014 | (g) 11,959 |
| Cakes, pastry, pies and puddings ....                   | '000           | 5,176     | 5,863     | (f)        | (f)        | (f)        |
| Cheese ....                                             | '000 lb        | 3,807     | 4,373     | (g) 4,458  | (g) 3,787  | (g) 4,226  |
| Coats—sports—men's and youths' ....                     | number         | 775       | 821       | 664        | 553        | 478        |
| Coke (including coke breeze) ....                       | ton            | 16,461    | 12,144    | (f)        | (f)        | (f)        |
| Cordials and syrups ....                                | gallon         | 510,823   | 509,980   | 584,633    | 771,917    | 969,880    |
| Electricity generated (government) ....                 | '000 kWh       | 1,544,397 | 1,672,750 | 1,902,158  | 2,192,301  | 2,445,972  |
| Fibrous plaster sheets ....                             | '000 sq yd     | 1,743     | 1,954     | 2,030      | 2,147      | 1,857      |
| Flour—                                                  |                |           |           |            |            |            |
| Plain (h) ....                                          | ton (2,000 lb) | 101,109   | 110,692   | 108,140    | 103,727    | 106,275    |
| Self-raising ....                                       | cwt            | 62,548    | 66,111    | (f)        | (f)        | (f)        |
| Gas (town) (i) ....                                     | '000 therms    | 7,498     | 8,536     | 9,556      | 10,576     | 11,771     |
| Hot water systems—domestic (j)—                         |                |           |           |            |            |            |
| Electric ....                                           | number         | 6,081     | 8,396     | 10,237     | 11,800     | 11,239     |
| Other ....                                              | number         | 9,370     | 10,636    | 10,651     | 10,314     | 10,145     |
| Ice cream ....                                          | '000 gal       | 2,688     | 2,819     | 3,118      | 3,531      | 3,612      |
| Jelly crystals ....                                     | lb             | 954,926   | 934,435   | (f)        | (f)        | (f)        |
| Leather (all types) ....                                | '000           | 961       | 849       | (f)        | (f)        | (f)        |
| Macaroni, spaghetti, vermicelli ....                    | cwt            | 14,550    | 12,916    | (f)        | (f)        | (f)        |
| Mattresses—soft-filled (k) ....                         | number         | 62,735    | *61,599   | 49,233     | 51,526     | 54,951     |
| Paints and other selected surface coatings (l) ....     | gallon         | 1,130,773 | 1,250,606 | 1,392,651  | 1,481,431  | 1,581,644  |
| Pickles and chutney ....                                | pint           | 406,460   | 390,288   | (f)        | (f)        | (f)        |
| Plaster of paris ....                                   | ton            | 21,573    | 24,960    | 29,316     | 32,951     | 28,887     |
| Pollard ....                                            | ton (2,000 lb) | 14,187    | 16,996    | 16,716     | 15,931     | 15,330     |
| Powdered milk ....                                      | '000 lb        | 5,942     | 6,010     | 7,394      | 7,549      | 8,511      |
| Pyjama suits—woven fabric—men's, youths' and boys' .... | dozen          | 10,054    | 9,028     | 9,782      | 8,964      | 7,456      |
| Ready-mixed concrete ....                               | cu yd          | 479,831   | 727,868   | (f)        | (f)        | 1,271,724  |
| Sauce (all types) ....                                  | pint           | 297,144   | 170,171   | (f)        | (f)        | (f)        |
| Shirts (all types)—men's, youths' and boys' ....        | dozen          | 64,070    | 63,153    | 65,209     | 66,288     | 63,052     |
| Shorts and knickers—men's, youths' and boys' (m) ....   | number         | 493,520   | 458,943   | 415,858    | 378,484    | 393,950    |
| Sleepers, railway—sawn ....                             | '000 sup. ft   | 53,392    | 48,691    | 26,733     | 32,366     | 40,401     |
| Slippers ....                                           | pair           | 176,207   | 125,580   | 102,259    | 97,823     | 126,009    |
| Soap and soap substitutes (including detergents) ....   | cwt            | 71,512    | 75,202    | 81,277     | 91,071     | 104,854    |
| Steel, constructional—fabricated ....                   | ton            | 58,368    | 73,703    | (f)        | (f)        | (f)        |
| Stock and poultry foods—meat and bone meal ....         | cwt            | 259,713   | 370,548   | 404,625    | 541,093    | 524,878    |
| Suits, men's and youths'—2 and 3 piece ....             | number         | 9,961     | 9,327     | 8,705      | 7,492      | 6,270      |
| Tallow (raw and refined) (n) ....                       | cwt            | 274,236   | 339,591   | (f)        | (f)        | (f)        |
| Timber (from local logs)—sawn (o) ....                  | '000 sup. ft   | 204,505   | 211,726   | 188,294    | 190,845    | 190,265    |
| Tyres, retreaded and recapped ....                      | number         | 221,359   | 219,501   | (f)        | (f)        | (f)        |
| Vinegar (including bulk) ....                           | gallon         | 137,296   | 148,687   | (f)        | (f)        | (f)        |
| Wire—barbed ....                                        | ton            | 1,983     | 1,713     | 1,597      | 1,797      | 1,256      |
| Wool—scoured ....                                       | '000 lb        | 26,781    | 27,916    | 31,713     | 32,916     | 23,643     |

(a) Some major items of production are not available for publication. Figures include quantities produced and used in own works. (b) Canned and bottled only (excludes bulk). (c) Includes rebuilt batteries. (d) Excludes sandshoes, rubber thongs and other footwear wholly of rubber. (e) Includes loaves other than 2 lb size and bread rolls, etc. in terms of 2 lb loaf equivalent. (f) Not available at time of publication. (g) Source: Commonwealth Dairy Produce Equalisation Committee Limited. (h) Includes atta flour and quantities used for making self-raising flour. (i) Total made—includes losses in distribution, etc. (j) Excludes solar absorber units. (k) Includes rubber, plastic foam and sponge. (l) New series; includes water paints (excluding water paints in powder form), lacquers, tinting colours, stains and thinners. (m) Excludes suit shorts and swim shorts. (n) Includes dripping. (o) Includes railway sleepers (see separate item above) and plywood veneers. \*Revised.

## ELECTRICITY AND GAS

The electricity and gas industries, which were included in the annual factory census prior to 1968-69, are now the subject of a separate census. In addition, the electricity and gas census has been extended to cover distribution as well as production. A table showing census data for both 1968-69 and 1969-70 appears on page 413, while details of production of electricity and gas over the five years to 1970-71 are included in the table on page 411.

### Electricity Generation and Transmission

Prior to the establishment of The State Electricity Commission of Western Australia in 1946, electricity was generated and distributed by a large number of independent power stations. A government-owned steam power station at East Perth supplied the metropolitan area, and small units of the same type, but privately-owned, operated in the major mining centres of Collie and Kalgoorlie. With other minor exceptions the country areas were dependent on internal combustion equipment, owned privately or by local government authorities and supplying either alternating or direct current at various voltages. Since 1946 a number of power stations have been absorbed into the Commission's network and, although there are still some independent operators generating electricity for sale or for their own industrial requirements, the Commission now supplies most of the electricity used in the State and all electricity sold in the metropolitan area. The Commission functions under the *State Electricity Commission Act, 1945-1971* and consists of nine members, including the Chairman, appointed by the Governor. Four of the Commissioners are representatives of consumers, one for the metropolitan area, two for the rest of the State and one representing commercial consumers. Of the remaining five, one is the Under Treasurer of the State or his deputy, one represents employees of the Commission and three are required to be qualified engineers.

In Western Australia electricity is generated principally by steam power stations although in areas remote from the interconnected grid system operated by the Commission, internal combustion equipment is mostly used to provide electricity. The Commission operates power stations at East Perth (55 MW), South Fremantle (100 MW) and Kwinana (120 MW) in the metropolitan area, and these stations are interconnected in a grid system with country power stations at Bunbury (120 MW) and Muja (240 MW).

Present planning by the Commission provides for increasing the capacity of the Kwinana power station by two 120 MW units by April 1972, a further 120 MW unit by February 1973 and two 200 MW units by 1976.

The main interconnections are two 132,000 volt transmission lines from the Bunbury power station and two 132,000 volt lines from the Muja power station to terminal substations in the metropolitan area, and a 132,000 volt line from Muja to the Bunbury power station. A 132,000 volt transmission system linking substations is being provided to meet the increasing demand for power in the metropolitan area.

In December 1959 an amendment to the State Electricity Commission Act was passed to enable consumers to contribute towards the extension of mains beyond the distance that can be supplied economically by the Commission. At 30 June 1971 some 10,000 consumers had been connected in country and metropolitan areas under this Contributory Extension Scheme.

Minor systems which are privately-owned or controlled by local government authorities are being absorbed as the transmission lines extend into the country areas and when this work is completed all except the more sparsely-populated areas of the State will be provided with electric power of standard frequency and voltage.

### Town Gas Production

Town gas production in Western Australia is limited to four gasworks. Three of these, situated at Perth, Bunbury and Albany, are operated by the State Electricity Commission and the fourth, at Fremantle, is operated privately. Details of the amount of town gas produced in the five years ended 1970-71 appear in the table on page 411.

Gas manufactured at the East Perth gas works is from three fully automatic catalytic reforming plants. Each plant has a capacity of 3.3 million cubic feet of gas per day.

In November 1971 the Commission began supplying natural gas to consumers in the metropolitan area and it is anticipated that by June 1972 all metropolitan consumers previously using town gas will be supplied with natural gas.

The natural gas fields, in the region of Dongara and Gingin to the north of Perth, have been proved to have sufficient reserves to supply an industrial and domestic market for at least fifteen years at a daily rate of between 70 and 80 million cubic feet.

### Electricity and Gas Censuses, 1968-69 and 1969-70

For electricity and gas, the basic census unit is an exception to the general concept of the standardised unit. Because of the nature of the activities of electricity and gas undertakings, the single operating location basis is not suitable. The establishment unit used consists of all locations, including administrative offices and ancillary units, concerned mainly with the production and/or distribution of electricity or gas, operated by the undertaking in the one State. The use of this concept is one of the reasons for the number of electricity and gas establishments in 1968-69 being considerably less than in previous years. The other main reason is that, until 1967-68, a number of electricity generating stations operated by enterprises principally for their own use were included. From 1968-69, however, these generating stations are included in the electricity census only if sales and transfers of electricity exceed \$100,000 in value.

#### ELECTRICITY AND GAS ESTABLISHMENTS (a) : SUMMARY OF OPERATIONS

| Year    | Number of establishments operating during year | Persons employed |         |       | Wages and salaries | Sales, transfers out and other operating revenue | Stocks at—          |               | Purchases, transfers in and selected expenses | Value added |
|---------|------------------------------------------------|------------------|---------|-------|--------------------|--------------------------------------------------|---------------------|---------------|-----------------------------------------------|-------------|
|         |                                                | Males            | Females | Total |                    |                                                  | Beginning of period | End of period |                                               |             |
| 1968-69 | 58                                             | 3,447            | 264     | 3,711 | \$m 12.5           | \$m 48.2                                         | \$m 5.0             | \$m 6.0       | \$m 15.0                                      | \$m 34.2    |
| 1969-70 | 59                                             | 3,598            | 291     | 3,889 | 14.7               | 58.2                                             | 6.2                 | 6.9           | 18.1                                          | 40.8        |

(a) Covers production and distribution.

### DEPARTMENT OF DEVELOPMENT AND DECENTRALISATION

At the end of the first World War the State Government, with the object of fostering secondary industry, established a Council of Industrial Development. This was succeeded by the Department of Industrial Development and in March 1971 the name was changed to the Department of Industrial Development and Decentralisation.

In November 1971 the State's Co-ordinating and Planning Authority, the Department of Industrial Development and Decentralisation and the North-West Department were integrated in a new Department of Development and Decentralisation.

The Department now consists of two divisions, Development and Industries.

The *Division of Development* has the function of planning State development including planning for major industrial development and the provision of suitable sites and services for the transport, water, sewerage, drainage, power, port, housing, education, police, medical and other requirements of expanding industries. It also co-ordinates the provision, by appropriate Government departments and instrumentalities, of capital works required for the above purposes.

The *Division of Industries* carries out broadly the functions of the former Department of Industrial Development and Decentralisation in assisting the expansion of existing secondary industries, encouraging exports, and the general promotion of Western Australian

trade and industry. The Division is at the disposal of intending investors requiring advice on such matters as finance and accounting, market research, production problems and the availability of labour.

In certain circumstances, financial assistance, by way of direct loan or guarantee of a loan may be granted under the *Industry (Advances) Act, 1947-1961* to industries which are unable to obtain sufficient capital from normal sources to commence or expand operations.

The Department establishes and maintains a close liaison with industry and with Government departments responsible for the provision of services, information and finance. In all its activities particular emphasis is placed on the attraction of industry into decentralised areas.

## CHAPTER IX—TRADE, TRANSPORT AND COMMUNICATION

### Part 1—External Trade<sup>(1)</sup>

#### Constitutional Provisions and Legislation

By the Commonwealth of Australia Constitution Act, section 51 (1), the power to make laws with respect to trade and commerce with other countries was conferred on the Commonwealth Parliament. Under section 86 of the Constitution, the collection and control of customs and excise passed to the Executive Government of the Commonwealth on 1 January 1901.

Commonwealth legislation affecting overseas trade includes the Customs Act, the Customs Tariff and the Customs Tariff (Dumping and Subsidies) Act. The Customs Act is the administrative Act under which the Department of Customs and Excise operates. The Customs Tariff provides the statutory authority for imposing the actual rates of duty operative from time to time, while the Customs Tariff (Dumping and Subsidies) Act provides protection for Australian industry against various forms of unfair trading.

The Tariff Board Act constitutes a Tariff Board of eight members to advise the Government on matters relating to the protection and encouragement of Australian industry and on the general effect of the working of the Customs and Excise Tariffs. The Tariff Board conducts public hearings in connection with any revision of the Tariff, proposals concerning bounties, or complaints that a manufacturer is taking undue advantage of the protection afforded by the Tariff.

### ENCOURAGEMENT OF OVERSEAS TRADE

#### Trade Agreements

The General Agreement on Tariffs and Trade (G.A.T.T.), of which Australia is an original member, came into force on 1 January 1948. It is a multilateral trade treaty designed to facilitate trading relations between participating countries by reducing tariff and other barriers to the free exchange of goods.

Features of the Agreement are the schedules of tariff concessions which its members have agreed to apply consequent to tariff negotiations with each other, the application of most-favoured-nation treatment among its members, the avoidance of trade discrimination, and a code of agreed commercial policy rules for international trading. Six main tariff negotiations have been conducted, as a result of which Australia has obtained tariff concessions from individual countries on a number of her principal or potential exports to them.

Australia also has numerous bilateral trade agreements with overseas countries which include the United Kingdom, Canada, New Zealand, Japan, the Republic of China (Taiwan), and the Union of Soviet Socialist Republics.

For further details of these bilateral trade agreements and the General Agreement on Tariffs and Trade, the reader is referred to the *Official Year Book of the Commonwealth of Australia*.

#### Trade Services

**Trade Commissioner Service.** The stimulation of interest abroad in Australia's exports is an important government activity in which the Australian Trade Commissioner Service plays a prominent part. The Service is administered by the Commonwealth Department

<sup>(1)</sup> A brief account of the historical development of the external trade of Western Australia from 1829 is given in the *Western Australian Year Book*, No. 6—1967 and in all issues of the *Official Year Book of Western Australia*, No. 1—1957 (*New Series*) to No. 5—1965.



of Trade and Industry and is responsible for overseas commercial intelligence. Particular facilities offered to Australian exporters and export organisations include market surveys, advice on selling and advertising methods, arranging introductions with buyers and agents, providing reports on the standing of overseas firms, assisting business visitors and organising trade missions, trade displays and other publicity and promotion media.

In some countries, Trade Commissioners participate in inter-governmental negotiations on economic and commercial matters. A Trade Commissioner may also be called upon to act as the Australian Government representative in those countries where there is no Australian diplomatic or consular mission.

In 1957 Australia's official commercial representation was extended by the introduction of a system of Trade Correspondents. These correspondents, who are appointed in countries where there is no Trade Commission, are engaged on a part-time basis and operate under the general direction of the Trade Commissioner in whose area they are located.

**Trade Missions.** Since 1954 the Australian Government has sent a number of trade missions abroad as part of the campaign to increase exports. In this they have proved successful, for the trade missions, which may be of the survey or selling type, have been directly responsible for substantial and permanent increases in export earnings.

A survey mission is designed to carry out a survey of a particular area, obtain market information, and assess the market potential for Australian products or specific commodities. For a selling mission, arrangements are made for specific industries or groups of firms representing a number of industries to participate in a planned selling campaign in overseas markets with known sales potential. The mission visits the area, publicises its products and negotiates sales.

### **Export Payments Insurance Corporation**

The *Export Payments Insurance Corporation Act* 1956 established the Corporation with the objective of protecting Australian exporters against risks of loss arising from non-payment of their overseas accounts. The main risks of loss against which the Corporation insures are the 'commercial' risks of the insolvency or protracted default of the buyer, and 'political' risks, such as war or cancellation of a valid import licence. More recently, in 1965, the scope of the Corporation was widened to include the ability to insure Australian investments in overseas countries against, broadly, three types of 'political' risks: expropriation; inability to transfer currencies; and damage as the result of war or insurrection.

### **Export Incentives**

The Commonwealth Government provides taxation rebates as financial incentives to export. A special income tax allowance for export market development expenditure is designed to encourage firms to incur promotion expenditure in advance of export sales and to assist exporters and potential exporters to expand sales in existing markets and to enter new overseas markets. Grants may also be made under the provisions of the *Export Incentive Grants Act* 1971.

## **CLASSIFICATION AND VALUATION OF TRADE**

### **Sources of Statistics**

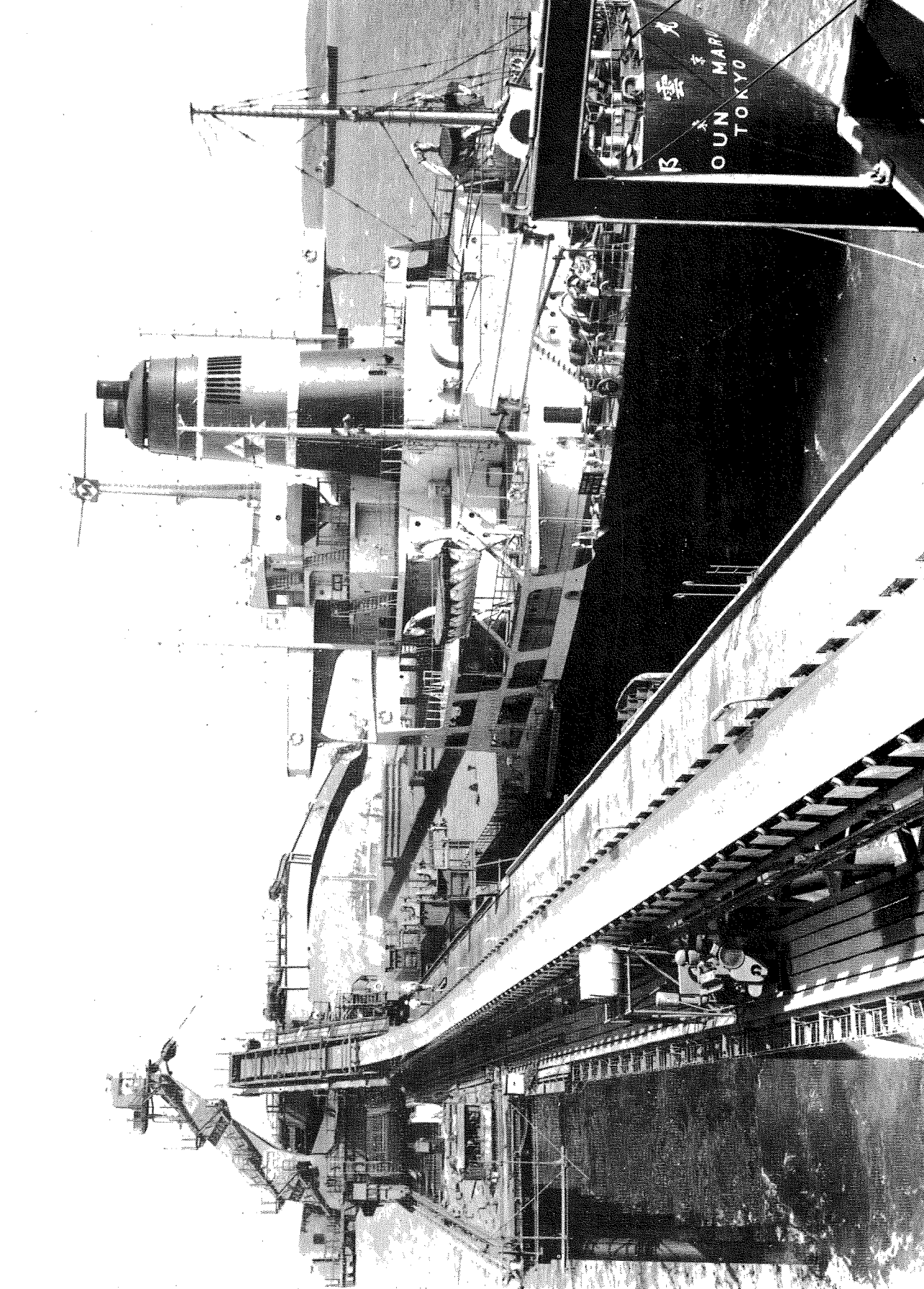
Overseas trade statistics are compiled from documents obtained under the Customs Act and supplied to the Commonwealth Bureau of Census and Statistics by the Department of Customs and Excise. Particulars of Western Australia's overseas trade, as presented in this Part, have been prepared from tabulations furnished by the Commonwealth Bureau of Census and Statistics, Canberra.



Block by courtesy of the Fremantle Port Authority

#### UNLOADING STEEL PIPE FOR THE NATURAL GAS PIPELINE

Steel pipe for the Dongara to Pinjarra natural gas pipeline is shown being unloaded from the South Korean ship 'Tosong' in the Port of Fremantle Inner Harbour. Approximately 20,000 tons of pipe, specially protective coated at Kwinana and Geraldton, was used in the pipeline system, 60 per cent of which was supplied by an Australian manufacturer. In order to maintain construction schedules, the initial portion of pipe was imported from Japan.



#### LOADING IRON ORE AT DAMPIER

Ore mined at Mount Tom Price, in the Hamersley Range area southwest of Port Hedland, is transported by rail 182 miles to the port of Dampier in King Bay, which is west of Roebourne. The ore is exported to Japan, the first shipment from Dampier being made on 22 August 1966. During 1969-70, a total of 14.5 million tons of iron ore and pellets was shipped from this port.

*Photograph by courtesy of the Department of Development and Decentralisation*



Statistics of Western Australia's trade with other Australian States are compiled by the Western Australian Office of the Bureau of Census and Statistics from information contained in documents collected under authority of the *Census and Statistics Act 1905-1966* from importers, exporters, and other persons concerned with the distribution of goods.

### Classification of Commodities

Overseas trade statistics for years up to and including 1964-65 were compiled according to a Statistical Classification of Imports and Exports which, in 1964-65, contained approximately 3,700 items of import and 1,300 items of export.

On 1 July 1965 a new Australian Customs Tariff was introduced. The nomenclature used in the Tariff is that of the Convention on Nomenclature for the Classification of Goods in Customs Tariffs, an international agreement signed at Brussels on 15 December 1950. The system of naming established by the Convention has come to be known as the 'Brussels Nomenclature'.

From 1 July 1965, imports into Australia have been classified according to an *Australian Import Commodity Classification* of some 5,000 items based on the *United Nations Standard International Trade Classification, Revised*, which closely follows the Brussels tariff nomenclature.

Although the basis of the classification of exports remained unchanged for 1965-66, the export section of the Statistical Classification of Imports and Exports was published separately, with some minor revisions, as the *Australian Export Commodity Classification*. A new Australian Export Commodity Classification of some 2,000 items, based on the Standard International Trade Classification, was introduced on 1 July 1966.

The Standard International Trade Classification consists of 10 broad commodity categories designated 'Sections' and comprising 56 commodity 'Divisions' which are further divided into 177 commodity 'Groups'. The structure of the classification serves to provide a summary of data relating to 1,312 basic items of international trade.

For the purpose of recording details of Western Australia's trade with other Australian States, a revised Interstate Trade Classification based on the new Australian Commodity Classifications, has been prepared in the Western Australian Office of the Bureau. In compiling this document, the basic items of the Australian Classifications have been compressed or expanded, according to their significance in Western Australia's trade. The Interstate Trade Classification comprises some 860 items of import and 370 items of export within the structure of commodity Sections, Divisions and Groups referred to previously. The revised Interstate Trade Classification was first used in compiling details of Western Australia's trade with other Australian States in respect of the year 1965-66.

The commodity descriptions appearing in some of the tables in this Part are, in some cases, abbreviations of the full text, which is available in the *Australian Import Commodity Classification* and the *Australian Export Commodity Classification*.

### Valuation of Items of Trade

All values in overseas trade statistics are determined on a 'free on board (f.o.b.) port of shipment' basis. This means that all charges, in particular the cost of freight and insurance, incurred after the goods have been exported from the port of shipment are excluded. Only transport and service charges incurred, or usually incurred, prior to export are included in the determination of trade values.

The procedure adopted to value overseas exports and imports is as follows.

*Exports.* The recorded value of goods exported includes the cost of containers and outside packages and is determined as follows.

- (a) Goods sold to overseas buyers before export are valued at the Australian f.o.b. port of shipment equivalent of the actual price at which the goods were sold.
- (b) Goods shipped on consignment are valued at the Australian f.o.b. port of shipment equivalent of the price paid for similar goods of Australian origin in the principal markets of the country to which they are dispatched for sale.

**Imports.** The recorded value of goods imported is the amount on which duty is payable or would be payable if the duty were *ad valorem*. Value for duty is the f.o.b. port of shipment equivalent of either:

- (a) the actual price paid or to be paid by the Australian importer plus any special deduction (transactions value); or
- (b) 'the current domestic value' of the goods in the country of origin; whichever is the higher.

The basis of valuation for exports to other Australian States is f.o.b., or its equivalent, at the point of final shipment.

Statistics of imports from other Australian States are recorded in terms of landed cost.

### SUMMARY OF TRADE

Statistics of Western Australia's external trade are presented in the following series of tables. Particulars relate, in all cases, to the year ended 30 June. The figures shown for exports do not include ships' stores, details of which are given in the table on page 430.

#### VALUE OF INTERSTATE AND OVERSEAS TRADE OF WESTERN AUSTRALIA (\$'000)

| Direction of trade        | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|---------------------------|---------|---------|---------|---------|---------|
| <b>INTERSTATE—</b>        |         |         |         |         |         |
| Imports ....              | 403,054 | 474,852 | 527,052 | 562,312 | 640,189 |
| Exports ....              | 119,619 | 116,030 | 124,505 | 149,892 | 149,861 |
| Excess of—                |         |         |         |         |         |
| Imports over exports .... | 283,435 | 358,822 | 402,547 | 412,421 | 490,328 |
| <b>OVERSEAS—</b>          |         |         |         |         |         |
| Imports ....              | 175,690 | 159,390 | 206,980 | 203,533 | 242,299 |
| Exports ....              | 314,404 | 421,325 | 475,260 | 546,366 | 675,027 |
| Excess of—                |         |         |         |         |         |
| Exports over imports .... | 138,714 | 261,935 | 268,280 | 342,833 | 432,728 |
| <b>TOTAL—</b>             |         |         |         |         |         |
| Imports ....              | 578,744 | 634,242 | 734,031 | 765,846 | 882,487 |
| Exports ....              | 434,023 | 537,355 | 599,765 | 696,258 | 824,888 |
| Excess of—                |         |         |         |         |         |
| Imports over exports .... | 144,721 | 96,887  | 134,266 | 69,588  | 57,600  |

### DIRECTION OF TRADE

The term *Country of Origin*, as used in recording the statistics of overseas trade, means the country of production; *Country of Destination* means the country to which goods were consigned at the time of export. In compiling statistics of Western Australia's interstate imports and exports, goods are classified according to the State or Territory from which or to which they were consigned.

In the next table details of the value of imports into and exports from Western Australia during the period 1967-68 to 1969-70 are classified according to origin or destination. The value of imports from other Australian States accounted for 72·60 per cent of the total value of imports during the three-year period. Exports to overseas countries represented 80·00 per cent of the total value of exports. Overseas imports during the period were valued at \$653 million, the principal countries of origin being the United Kingdom (20·74 per cent of the total), the United States of America (19·79 per cent), and Japan (13·36 per cent). The value of overseas exports amounted to \$1,697 million and the principal countries of destination were Japan (41·14 per cent), the United States of America (10·88 per cent), and China (mainland) (7·70 per cent).

Quarterly statistics of Western Australia's trade with other Australian States and with overseas countries are published regularly in the *Quarterly Statistical Abstract*. Annual statistics, in greater detail, appear in the mimeographed publications *External Trade of Western Australia* and *Interstate Trade of Western Australia* and the printed publication *Statistics of Western Australia—Trade*. All these publications are compiled and issued by the Western Australian Office of the Commonwealth Bureau of Census and Statistics.

## IMPORTS AND EXPORTS

VALUE OF IMPORTS INTO AND EXPORTS FROM WESTERN AUSTRALIA  
CLASSIFIED ACCORDING TO ORIGIN OR DESTINATION  
(\$'000)

| Origin or destination                | Imports        |                |                | Exports        |                |                |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                      | 1967-68        | 1968-69        | 1969-70        | 1967-68        | 1968-69        | 1969-70        |
| <b>INTERSTATE—</b>                   |                |                |                |                |                |                |
| New South Wales (a) ....             | 228,256        | 237,753        | 269,987        | 48,447         | 54,692         | 53,669         |
| Victoria ....                        | 215,044        | 235,842        | 270,332        | 40,405         | 49,079         | 50,424         |
| Queensland ....                      | 17,175         | 17,111         | 19,288         | 4,362          | 6,224          | 8,993          |
| South Australia ....                 | 59,284         | 63,268         | 70,346         | 23,450         | 29,958         | 26,630         |
| Tasmania ....                        | 6,742          | 7,514          | 8,547          | 2,526          | 2,590          | 3,302          |
| Northern Territory ....              | 550            | 824            | 1,689          | 5,314          | 7,348          | 6,842          |
| <b>Total, Interstate</b> ....        | <b>527,052</b> | <b>562,312</b> | <b>640,189</b> | <b>124,505</b> | <b>149,892</b> | <b>149,861</b> |
| <b>OVERSEAS—</b>                     |                |                |                |                |                |                |
| Bahrain ....                         | 45             | 85             | 562            | 443            | 391            |                |
| Belgium-Luxembourg ....              | 864            | 865            | 959            | 5,560          | 6,814          | 8,327          |
| Canada ....                          | 7,497          | 7,700          | 8,015          | 3,604          | 5,769          | 30,141         |
| Ceylon ....                          | 1,179          | 1,204          | 1,095          | 1,215          | 1,212          | 382            |
| China (mainland) ....                | 563            | 688            | 949            | 61,583         | 29,856         | 39,229         |
| China, Republic of (Taiwan) ....     | 260            | 241            | 362            | 2,524          | 4,035          | 3,847          |
| Christmas Island (Indian Ocean) .... | 2,429          | 2,915          | 2,696          | 1,997          | 1,766          | 1,463          |
| Czechoslovakia ....                  | 275            | 416            | 337            | 4,054          | 3,368          | 1,500          |
| Denmark ....                         | 619            | 633            | 800            | 172            | 102            | 68             |
| Finland ....                         | 618            | 326            | 673            | 49             | 29             | 20             |
| France ....                          | 3,220          | 2,254          | 1,713          | 14,183         | 20,197         | 19,001         |
| Germany (East) ....                  | 76             | 52             | 92             | 490            | 502            | 210            |
| Germany, Federal Republic of         | 9,075          | 10,208         | 15,616         | 20,162         | 25,964         | 26,303         |
| Gilbert and Ellice Islands ....      | 497            | 605            | 619            | ....           | (b)            |                |
| Greece ....                          | 63             | 41             | 85             | 504            | 623            | 2,824          |
| Hong Kong ....                       | 1,421          | 1,369          | 1,777          | 5,023          | 3,276          | 3,455          |
| Hungary ....                         | 67             | 55             | 36             | 1,016          | 529            | 451            |
| India ....                           | 2,011          | 1,537          | 1,801          | 25,500         | 7,986          | 4,951          |
| Indonesia ....                       | 348            | 321            | 358            | 475            | 410            | 1,118          |
| Iran ....                            | 6,454          | 6,047          | 2,881          | 767            | 1,490          | 2,181          |
| Iraq ....                            | 715            | 222            | 1,221          | 86             | 48             | 3              |
| Ireland ....                         | 119            | 176            | 279            | 404            | 476            | 395            |
| Italy ....                           | 4,969          | 4,814          | 5,125          | 10,044         | 15,539         | 17,073         |
| Japan ....                           | 24,915         | 27,827         | 34,455         | 162,012        | 226,649        | 309,266        |
| Kenya ....                           | 87             | 84             | 71             | 398            | 670            | 490            |
| Korea (North) ....                   | ....           | ....           | (b)            | 590            | 2,116          | 3,381          |
| Korea, Republic of ....              | 17             | 36             | 45             | 117            | 350            | 111            |
| Kuwait ....                          | 10,510         | 12,397         | 13,797         | 1,583          | 1,418          | 1,144          |
| Malaysia ....                        | 2,746          | 2,591          | 2,878          | 5,512          | 7,614          | 9,482          |
| Mauritius ....                       | 13             | 11             | 36             | 774            | 599            | 956            |
| Mexico ....                          | 1,509          | 301            | 794            | 1,484          | 1,605          | 830            |
| Mozambique ....                      | 3              | ....           | ....           | 330            | 262            | 8,361          |
| Nauru ....                           | 4,479          | 5,208          | 4,375          | ....           | ....           | ....           |
| Netherlands ....                     | 3,793          | 2,111          | 4,081          | 7,276          | 9,322          | 7,700          |
| New Zealand ....                     | 2,216          | 2,941          | 2,892          | 4,299          | 3,614          | 3,588          |
| Norway ....                          | 731            | 939            | 828            | 2,687          | 73             | 77             |
| Pakistan ....                        | 2,169          | 2,421          | 1,414          | 204            | 1,890          | 866            |
| Papua and New Guinea ....            | 229            | 209            | 205            | 61             | 582            | 4,731          |
| Philippines ....                     | 232            | 227            | 102            | 652            | 812            | 375            |
| Poland ....                          | 54             | 1,069          | 608            | 4,420          | 5,372          | 3,057          |
| Portugal ....                        | 308            | 210            | 253            | 88             | 166            | 188            |
| Qatar ....                           | 5,102          | 6,575          | 8,726          | 453            | 441            | 419            |
| Saudi Arabia ....                    | ....           | ....           | ....           | 827            | 1,190          | 730            |
| Singapore ....                       | 2,699          | 4,156          | 3,585          | 13,598         | 14,600         | 20,611         |
| South Africa ....                    | 1,076          | 1,425          | 1,571          | 2,373          | 1,483          | 1,623          |
| South Yemen, Republic of             | 2,582          | 2,441          | 2,421          | 283            | 708            | 1              |
| Spain ....                           | 417            | 656            | 1,026          | 1,020          | 1,242          | 2,438          |
| Sweden ....                          | 2,151          | 2,284          | 2,362          | 397            | 498            | 442            |
| Switzerland ....                     | 1,205          | 1,121          | 1,530          | 102            | 168            | 87             |
| Tanzania ....                        | 158            | 220            | 231            | 103            | 139            | 175            |
| Thailand ....                        | 76             | 47             | 102            | 493            | 614            | 513            |
| Trucial States, Muscat and Oman      | 4,994          | 2,429          | 3,041          | 1,352          | 1,420          | 1,332          |
| Turkey ....                          | 8              | 14             | 29             | 948            | 1,534          | 1,718          |
| Union of Soviet Socialist Republics  | 20             | 28             | 37             | 10,051         | 19,596         | 13,180         |
| United Arab Republic ....            | ....           | (b)            | ....           | 394            | 868            | 953            |
| United Kingdom ....                  | 40,141         | 40,860         | 54,396         | 34,621         | 37,605         | 38,338         |
| United States of America             | 44,980         | 37,946         | 46,251         | 49,504         | 66,275         | 68,766         |
| Yugoslavia ....                      | 46             | 54             | 49             | 639            | 1,271          | 2,343          |
| Other ....                           | 3,929          | 2,009          | 2,534          | 5,641          | 3,166          | 3,421          |
| <b>Total, Overseas</b> ....          | <b>206,980</b> | <b>203,533</b> | <b>242,299</b> | <b>475,260</b> | <b>546,366</b> | <b>675,027</b> |
| <b>GRAND TOTAL</b> ....              | <b>734,031</b> | <b>765,846</b> | <b>882,487</b> | <b>599,765</b> | <b>696,258</b> | <b>824,888</b> |

(a) Statistics relating to trade with the Australian Capital Territory are included with those of New South Wales, then \$500.

(b) Less

The following table shows the proportional distribution of Western Australia's trade with overseas countries and with Australian States and Territories during each of the years 1967-68 to 1969-70.

VALUE OF IMPORTS INTO AND EXPORTS FROM WESTERN AUSTRALIA  
PROPORTIONS ACCORDING TO ORIGIN OR DESTINATION  
(Per cent of total)

| Origin or destination               | Imports       |               |               | Exports       |               |               |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                     | 1967-68       | 1968-69       | 1969-70       | 1967-68       | 1968-69       | 1969-70       |
| <b>INTERSTATE—</b>                  |               |               |               |               |               |               |
| New South Wales (a)                 | 43.31         | 42.28         | 42.17         | 38.91         | 36.49         | 35.81         |
| Victoria                            | 40.80         | 41.94         | 42.23         | 32.45         | 32.74         | 33.65         |
| Queensland                          | 3.26          | 3.04          | 3.01          | 3.50          | 4.15          | 6.00          |
| South Australia                     | 11.25         | 11.25         | 10.99         | 18.84         | 19.99         | 17.77         |
| Tasmania                            | 1.28          | 1.34          | 1.34          | 2.03          | 1.73          | 2.20          |
| Northern Territory                  | 0.10          | 0.15          | 0.26          | 4.27          | 4.90          | 4.57          |
| <b>Total, Interstate</b>            | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |
| <b>OVERSEAS—</b>                    |               |               |               |               |               |               |
| Bahrain                             | 0.02          | ...           | 0.04          | 0.12          | 0.08          | 0.06          |
| Belgium-Luxembourg                  | 0.42          | 0.42          | 0.40          | 1.17          | 1.25          | 1.23          |
| Canada                              | 3.62          | 3.78          | 3.31          | 0.76          | 1.05          | 4.47          |
| Ceylon                              | 0.57          | 0.59          | 0.45          | 0.26          | 0.22          | 0.06          |
| China (mainland)                    | 0.27          | 0.34          | 0.39          | 12.96         | 5.46          | 5.81          |
| China, Republic of (Taiwan)         | 0.13          | 0.12          | 0.15          | 0.53          | 0.74          | 0.57          |
| Christmas Island (Indian Ocean)     | 1.17          | 1.43          | 1.11          | 0.42          | 0.32          | 0.22          |
| Czechoslovakia                      | 0.13          | 0.20          | 0.14          | 0.85          | 0.62          | 0.22          |
| Denmark                             | 0.30          | 0.31          | 0.33          | 0.04          | 0.02          | 0.01          |
| Finland                             | 0.30          | 0.16          | 0.28          | 0.01          | 0.01          | (b)           |
| France                              | 1.56          | 1.11          | 0.71          | 2.98          | 3.70          | 2.81          |
| Germany (East)                      | 0.04          | 0.03          | 0.04          | 0.10          | 0.09          | 0.03          |
| Germany, Federal Republic of        | 4.38          | 5.02          | 6.45          | 4.24          | 4.75          | 3.90          |
| Gilbert and Ellice Islands          | 0.24          | 0.30          | 0.26          | ...           | ...           | (b)           |
| Greece                              | 0.03          | 0.02          | 0.04          | 0.11          | 0.11          | 0.42          |
| Hong Kong                           | 0.69          | 0.67          | 0.73          | 1.06          | 0.60          | 0.51          |
| Hungary                             | 0.03          | 0.03          | 0.01          | 0.21          | 0.10          | 0.07          |
| India                               | 0.97          | 0.75          | 0.74          | 5.37          | 1.46          | 0.73          |
| Indonesia                           | 0.17          | 0.16          | 0.15          | 0.10          | 0.08          | 0.17          |
| Iran                                | 3.12          | 2.97          | 1.19          | 0.16          | 0.27          | 0.32          |
| Iraq                                | 0.35          | 0.11          | 0.50          | 0.02          | 0.01          | (b)           |
| Ireland                             | 0.06          | 0.09          | 0.12          | 0.08          | 0.09          | 0.06          |
| Italy                               | 2.40          | 2.37          | 2.12          | 2.11          | 2.84          | 2.53          |
| Japan                               | 12.04         | 13.67         | 14.22         | 34.09         | 41.48         | 45.82         |
| Kenya                               | 0.04          | 0.04          | 0.03          | 0.08          | 0.12          | 0.07          |
| Korea (North)                       | ...           | ...           | (b)           | 0.12          | 0.39          | 0.50          |
| Korea, Republic of                  | 0.01          | 0.02          | 0.02          | 0.02          | 0.06          | 0.02          |
| Kuwait                              | 5.08          | 6.09          | 5.69          | 0.33          | 0.26          | 0.17          |
| Malaysia                            | 1.33          | 1.27          | 1.19          | 1.16          | 1.39          | 1.40          |
| Mauritius                           | 0.01          | 0.01          | 0.01          | 0.16          | 0.11          | 0.14          |
| Mexico                              | 0.73          | 0.15          | 0.33          | 0.31          | 0.29          | 0.12          |
| Mozambique                          | (b)           | ...           | ...           | 0.07          | 0.05          | 1.24          |
| Nauru                               | 2.16          | 2.56          | 1.81          | ...           | ...           | ...           |
| Netherlands                         | 1.83          | 1.04          | 1.68          | 1.53          | 1.71          | 1.14          |
| New Zealand                         | 1.07          | 1.44          | 1.19          | 0.90          | 0.66          | 0.53          |
| Norway                              | 0.35          | 0.46          | 0.34          | 0.57          | 0.01          | 0.01          |
| Pakistan                            | 1.05          | 1.19          | 0.58          | 0.04          | 0.35          | 0.13          |
| Papua and New Guinea                | 0.11          | 0.10          | 0.08          | 0.01          | 0.11          | 0.70          |
| Philippines                         | 0.11          | 0.11          | 0.04          | 0.14          | 0.15          | 0.06          |
| Poland                              | 0.03          | 0.53          | 0.25          | 0.93          | 0.98          | 0.45          |
| Portugal                            | 0.15          | 0.10          | 0.10          | 0.02          | 0.03          | 0.03          |
| Qatar                               | 2.47          | 3.23          | 3.60          | 0.10          | 0.08          | 0.06          |
| Saudi Arabia                        | ...           | ...           | ...           | 0.17          | 0.22          | 0.11          |
| Singapore                           | 1.30          | 2.04          | 1.48          | 2.86          | 2.67          | 3.05          |
| South Africa                        | 0.52          | 0.70          | 0.65          | 0.50          | 0.27          | 0.24          |
| South Yemen, Republic of            | 1.25          | 1.20          | 1.00          | 0.06          | 0.13          | (b)           |
| Spain                               | 0.20          | 0.32          | 0.42          | 8.21          | 0.23          | 0.36          |
| Sweden                              | 1.04          | 1.12          | 0.97          | 0.08          | 0.09          | 0.07          |
| Switzerland                         | 0.58          | 0.55          | 0.63          | 0.02          | 0.03          | 0.01          |
| Tanzania                            | 0.08          | 0.11          | 0.10          | 0.02          | 0.03          | 0.03          |
| Thailand                            | 0.04          | 0.02          | 0.04          | 0.10          | 0.11          | 0.08          |
| Trucial States, Muscat and Oman     | 2.41          | 1.19          | 1.26          | 0.28          | 0.26          | 0.20          |
| Turkey                              | (b)           | 0.01          | 0.01          | 0.20          | 0.28          | 0.25          |
| Union of Soviet Socialist Republics | 0.01          | 0.01          | 0.02          | 2.11          | 3.59          | 1.95          |
| United Arab Republic                | ...           | (b)           | ...           | 0.08          | 0.16          | 0.14          |
| United Kingdom                      | 19.39         | 20.08         | 22.45         | 7.28          | 6.88          | 5.68          |
| United States of America            | 21.73         | 18.64         | 19.09         | 10.42         | 12.13         | 10.19         |
| Yugoslavia                          | 0.02          | 0.03          | 0.02          | 0.13          | 0.23          | 0.35          |
| Other                               | 1.90          | 0.99          | 1.05          | 1.28          | 0.67          | 0.51          |
| <b>Total, Overseas</b>              | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |

(a) Statistics relating to trade with the Australian Capital Territory are included with those of New South Wales.  
than 0.005 per cent.

(b) Less



## IMPORTS

The following table shows the value of the principal items of interstate and overseas imports into Western Australia during 1968-69 and 1969-70.

VALUE OF PRINCIPAL IMPORTS INTO WESTERN AUSTRALIA—SELECTED COMMODITIES  
(\$'000)

| Division | Description                                                                  | 1968-69    |          |         | 1969-70    |          |         |
|----------|------------------------------------------------------------------------------|------------|----------|---------|------------|----------|---------|
|          |                                                                              | Interstate | Overseas | Total   | Interstate | Overseas | Total   |
| 00       | Animals, live .....                                                          | 2,775      | 5        | 2,780   | 3,579      | 38       | 3,617   |
| 11       | Beverages, alcoholic .....                                                   | 4,636      | 870      | 5,506   | 5,334      | 849      | 6,183   |
| 51       | Chemical elements and compounds .....                                        | 3,817      | 8,116    | 11,933  | 5,238      | 4,975    | 10,213  |
| 27, 56   | Fertilisers .....                                                            | 87         | 10,902   | 10,989  | 611        | 9,368    | 9,979   |
| 04       | Food—                                                                        |            |          |         |            |          |         |
| 06, 07   | Cereals and cereal preparations .....                                        | 5,946      | 410      | 6,356   | 6,442      | 486      | 6,928   |
|          | Confectionery .....                                                          | 4,918      | 146      | 5,064   | 5,403      | 165      | 5,568   |
| 03       | Fish and fish preparations .....                                             | 613        | 2,384    | 2,996   | 686        | 2,677    | 3,363   |
| 05       | Fruit, fresh or preserved .....                                              | 5,203      | 113      | 5,316   | 5,714      | 162      | 5,876   |
| 01       | Meat and meat preparations .....                                             | 1,902      | 26       | 1,928   | 2,358      | 186      | 2,544   |
| 02       | Milk and cream .....                                                         | 2,844      | 2        | 2,846   | 2,241      | 7        | 2,247   |
| 05       | Vegetables, fresh or preserved .....                                         | 3,829      | 531      | 4,361   | 4,441      | 544      | 4,984   |
|          | Other food .....                                                             | 24,152     | 3,931    | 28,083  | 27,070     | 3,486    | 30,557  |
| 85       | Footwear, gaiters and similar articles and parts therefor .....              | 9,136      | 509      | 9,645   | 10,118     | 629      | 10,747  |
| 82       | Furniture .....                                                              | 3,406      | 396      | 3,802   | 4,057      | 424      | 4,481   |
| 66       | Glass and glassware .....                                                    | 2,937      | 1,103    | 4,040   | 3,341      | 1,457    | 4,798   |
| 72       | Machinery—                                                                   |            |          |         |            |          |         |
|          | Electrical machinery, apparatus and appliances—                              |            |          |         |            |          |         |
|          | Batteries .....                                                              | 1,913      | 165      | 2,078   | 2,483      | 224      | 2,707   |
|          | Domestic electrical—                                                         |            |          |         |            |          |         |
|          | Cooking and heating .....                                                    | 4,031      | 55       | 4,086   | 4,799      | 81       | 4,881   |
|          | Refrigerators and parts .....                                                | 5,274      | 351      | 5,625   | 5,821      | 265      | 6,086   |
|          | Washing machines and parts .....                                             | 3,169      | 68       | 3,236   | 3,732      | 115      | 3,847   |
|          | Power machinery and switchgear .....                                         | 8,192      | 3,906    | 12,098  | 9,237      | 6,257    | 15,493  |
|          | Telecommunication apparatus .....                                            | 16,173     | 2,787    | 18,960  | 18,192     | 5,576    | 23,768  |
|          | Wire and cable, insulated .....                                              | 7,081      | 449      | 7,530   | 9,918      | 185      | 10,103  |
| 71       | Other than electric—                                                         |            |          |         |            |          |         |
|          | Agricultural—                                                                |            |          |         |            |          |         |
|          | Tractors .....                                                               | 818        | 4,775    | 5,593   | 1,428      | 3,827    | 5,256   |
|          | Other .....                                                                  | 9,197      | 714      | 9,911   | 7,677      | 547      | 8,223   |
|          | Excavating, levelling, tamping and boring, for earth, minerals or ores ..... | 7,403      | 10,126   | 17,528  | 8,934      | 13,307   | 22,241  |
|          | Internal combustion engines .....                                            | 2,760      | 6,089    | 8,849   | 3,228      | 5,898    | 9,126   |
|          | Lifting, handling, loading or unloading .....                                | 3,573      | 2,057    | 5,630   | 3,803      | 1,762    | 5,564   |
|          | Office .....                                                                 | 1,954      | 898      | 2,852   | 2,978      | 1,729    | 4,707   |
|          | Pumps for liquids .....                                                      | 2,588      | 1,032    | 3,621   | 2,928      | 1,282    | 4,211   |
| 54       | Medicinal and pharmaceutical products .....                                  | 14,276     | 325      | 14,602  | 13,897     | 551      | 14,448  |
| 69       | Metal manufactures, n.e.i.—                                                  |            |          |         |            |          |         |
|          | Household cooking and heating appliances, non-electrical .....               | 1,958      | 177      | 2,135   | 2,385      | 283      | 2,668   |
|          | Tools .....                                                                  | 4,996      | 1,883    | 6,880   | 5,908      | 2,608    | 8,516   |
|          | Metals—                                                                      |            |          |         |            |          |         |
| 67       | Iron and steel—                                                              |            |          |         |            |          |         |
|          | Pig, ingot and other primary forms .....                                     | 11,429     | 84       | 11,513  | 7,607      | 150      | 7,757   |
|          | Other .....                                                                  | 35,388     | 5,073    | 40,461  | 38,732     | 5,378    | 44,111  |
| 66       | Mineral manufactures, non-metallic, n.e.i. ....                              | 3,277      | 2,303    | 5,580   | 5,131      | 2,353    | 7,483   |
| 64       | Paper, paperboard and manufactures thereof .....                             | 11,605     | 3,617    | 15,222  | 12,456     | 5,451    | 17,907  |
| 33       | Petroleum and petroleum products .....                                       | 3,581      | 34,947   | 38,528  | 2,874      | 36,114   | 38,988  |
| 53       | Pigments, paints and varnishes .....                                         | 3,722      | 278      | 4,000   | 4,518      | 256      | 4,774   |
| 89       | Plastic articles, n.e.i. ....                                                | 5,564      | 280      | 5,844   | 7,099      | 350      | 7,448   |
| 58       | Plastic materials, regenerated cellulose and artificial resins .....         | 5,531      | 1,337    | 6,867   | 8,316      | 1,635    | 9,951   |
| 89       | Printed matter .....                                                         | 4,057      | 2,676    | 6,733   | 4,813      | 2,357    | 7,170   |
| 86       | Scientific, medical, optical and photographic equipment .....                | 7,254      | 2,257    | 9,511   | 9,317      | 2,965    | 12,282  |
| 55       | Soaps and cleansing preparations .....                                       | 5,263      | 163      | 5,426   | 5,586      | 146      | 5,733   |
| 65       | Textiles and textile manufactures—                                           |            |          |         |            |          |         |
|          | Bags and sacks .....                                                         | 63         | 2,738    | 2,802   | 52         | 2,402    | 2,454   |
|          | Clothing and clothing accessories .....                                      | 39,441     | 515      | 39,956  | 45,194     | 738      | 45,933  |
|          | Fabrics .....                                                                | 8,274      | 3,893    | 12,167  | 9,536      | 4,069    | 13,606  |
|          | Floor coverings .....                                                        | 4,090      | 1,840    | 5,929   | 6,280      | 2,156    | 8,436   |
| 24       | Timber .....                                                                 | 36         | 2,539    | 2,574   | 143        | 2,954    | 3,097   |
| 12       | Tobacco and tobacco manufactures .....                                       | 13,892     | 224      | 14,116  | 16,275     | 287      | 16,562  |
| 55       | Toilet preparations (except soaps) .....                                     | 6,632      | 53       | 6,685   | 7,339      | 29       | 7,368   |
| 73       | Transport equipment—                                                         |            |          |         |            |          |         |
|          | Road motor vehicles and components .....                                     | 72,642     | 15,282   | 87,924  | 89,507     | 15,479   | 104,986 |
|          | Other .....                                                                  | 12,178     | 10,995   | 23,173  | 13,288     | 32,840   | 46,128  |
| 62       | Tyres and tubes .....                                                        | 10,266     | 2,964    | 13,230  | 8,884      | 4,114    | 12,998  |
|          | All other commodities .....                                                  | 126,573    | 44,173   | 170,747 | 142,260    | 50,127   | 192,388 |
|          | TOTAL .....                                                                  | 562,312    | 203,533  | 765,846 | 640,189    | 242,299  | 882,487 |

The principal imports from each of the Australian States and the Northern Territory are given in the following table.

VALUE OF PRINCIPAL IMPORTS FROM AUSTRALIAN STATES—SELECTED COMMODITIES (\$'000)

| Division | Description                                                                         | 1968-69 | 1969-70       |         |        |        |       |       | Total   |
|----------|-------------------------------------------------------------------------------------|---------|---------------|---------|--------|--------|-------|-------|---------|
|          |                                                                                     | Total   | N.S.W.<br>(a) | Vic.    | Qld    | S.A.   | Tas.  | N.T.  |         |
| 11       | Beverages, alcoholic .....                                                          | 4,636   | 1,053         | 1,499   | 8      | 2,739  | 19    | 17    | 5,334   |
| 51       | Chemical elements and compounds .....                                               | 3,817   | 2,337         | 1,138   | 243    | 1,093  | 426   | (b)   | 5,238   |
| 84       | Clothing and clothing accessories and articles of knitted or crocheted fabric ..... | 39,441  | 15,586        | 27,599  | 1,088  | 856    | 64    | (b)   | 45,194  |
| 55       | Essential oils and perfume materials, toilet, polishing and cleansing preparations— |         |               |         |        |        |       |       |         |
|          | Soap and cleansing preparations .....                                               | 5,263   | 4,425         | 1,120   | 1      | 41     | ....  | ....  | 5,586   |
|          | Toilet preparations (except soaps) .....                                            | 6,632   | 5,204         | 1,670   | 1      | 464    | ....  | ....  | 7,339   |
| 04       | Food—                                                                               |         |               |         |        |        |       |       |         |
|          | Cereals and cereal preparations .....                                               | 5,946   | 3,064         | 2,705   | 155    | 443    | 73    | 1     | 6,442   |
| 06, 07   | Confectionery .....                                                                 | 4,918   | 2,031         | 1,635   | ....   | 228    | 1,508 | ....  | 5,403   |
| 05       | Fruit—                                                                              |         |               |         |        |        |       |       |         |
|          | Dried .....                                                                         | 875     | 21            | 590     | ....   | 277    | 9     | ....  | 897     |
|          | Fresh .....                                                                         | 468     | 548           | 2       | 201    | 213    | 1     | ....  | 965     |
|          | Other (including nuts) .....                                                        | 4,922   | 477           | 2,407   | 1,745  | 1,031  | 263   | ....  | 5,923   |
| 01       | Meat and meat preparations .....                                                    | 1,902   | 347           | 1,759   | 170    | 79     | ....  | 3     | 2,358   |
| 02       | Milk and cream .....                                                                | 2,844   | 163           | 3,061   | ....   | 17     | ....  | ....  | 3,241   |
|          | Other food .....                                                                    | 27,532  | 5,267         | 15,689  | 6,709  | 1,403  | 1,017 | 40    | 30,126  |
| 85       | Footwear, gaiters and similar articles and parts therefor .....                     | 9,136   | 2,585         | 6,286   | 387    | 850    | 9     | ....  | 10,118  |
| 82       | Furniture .....                                                                     | 3,406   | 1,232         | 1,548   | 2      | 1,249  | 27    | (b)   | 4,057   |
| 66       | Glass and glassware .....                                                           | 2,937   | 1,587         | 1,683   | 1      | 70     | ....  | (b)   | 3,341   |
| 59       | Insecticides, fungicides, etc. ....                                                 | 2,804   | 2,590         | 502     | 31     | 48     | ....  | ....  | 3,172   |
| 72       | Machinery—                                                                          |         |               |         |        |        |       |       |         |
|          | Electrical machinery, apparatus and appliances—                                     |         |               |         |        |        |       |       |         |
|          | Batteries .....                                                                     | 1,913   | 1,616         | 743     | ....   | 124    | ....  | (b)   | 2,483   |
|          | Domestic electrical—                                                                |         |               |         |        |        |       |       |         |
|          | Cooking and heating .....                                                           | 4,031   | 2,450         | 1,861   | 13     | 474    | 2     | (b)   | 4,799   |
|          | Refrigerators and parts .....                                                       | 5,274   | 2,422         | 1,694   | (b)    | 1,705  | ....  | ....  | 5,821   |
|          | Washing machines and parts .....                                                    | 3,169   | 2,146         | 277     | ....   | 1,309  | ....  | ....  | 3,732   |
|          | Electric power machinery and switchgear .....                                       | 8,192   | 4,322         | 3,268   | 369    | 1,278  | (b)   | ....  | 9,237   |
|          | Telecommunication apparatus—                                                        |         |               |         |        |        |       |       |         |
|          | Radio broadcast receivers .....                                                     | 2,294   | 1,515         | 693     | 2      | 346    | ....  | ....  | 2,556   |
|          | Television receivers .....                                                          | 2,978   | 2,248         | 1,523   | ....   | 638    | ....  | ....  | 4,410   |
|          | Other .....                                                                         | 10,901  | 6,422         | 3,476   | 36     | 1,292  | (b)   | ....  | 11,226  |
|          | Wire and cable, insulated .....                                                     | 7,081   | 3,979         | 5,407   | 7      | 525    | (b)   | ....  | 9,918   |
|          | Other .....                                                                         | 7,835   | 5,035         | 3,546   | 14     | 523    | 62    | 4     | 9,185   |
| 71       | Other than electric—                                                                |         |               |         |        |        |       |       |         |
|          | Agricultural—                                                                       |         |               |         |        |        |       |       |         |
|          | Tractors .....                                                                      | 818     | 197           | 1,206   | 7      | 19     | ....  | ....  | 1,428   |
|          | Other .....                                                                         | 9,197   | 1,337         | 4,721   | 124    | 1,496  | (b)   | ....  | 7,677   |
|          | Excavating, levelling, tamping and boring, for earth, minerals or ores .....        | 7,403   | 4,682         | 3,579   | 210    | 463    | (b)   | ....  | 8,934   |
|          | Other .....                                                                         | 41,591  | 19,729        | 17,607  | 1,604  | 5,131  | 24    | (b)   | 44,093  |
| 54       | Medicinal and pharmaceutical products                                               | 14,276  | 10,297        | 3,143   | 8      | 448    | ....  | (b)   | 13,897  |
|          | Metals—                                                                             |         |               |         |        |        |       |       |         |
| 67       | Iron and steel—                                                                     |         |               |         |        |        |       |       |         |
|          | Pig, ingot and other primary forms .....                                            | 11,429  | 4,203         | 10      | ....   | 3,362  | 31    | ....  | 7,607   |
|          | Other .....                                                                         | 35,388  | 31,809        | 2,070   | 24     | 4,827  | 1     | 2     | 38,732  |
| 68       | Non-ferrous .....                                                                   | 12,122  | 9,958         | 2,718   | 137    | 519    | 1,260 | ....  | 14,592  |
| 64       | Paper, paperboard and manufactures thereof .....                                    | 11,605  | 3,904         | 4,985   | 316    | 1,142  | 2,109 | ....  | 12,456  |
| 33       | Petroleum and petroleum products .....                                              | 3,581   | 564           | 2,261   | 1      | 47     | ....  | 2     | 2,874   |
| 53       | Pigments, paints, varnishes, etc. ....                                              | 3,722   | 2,635         | 1,397   | 79     | 407    | ....  | (b)   | 4,518   |
| 58       | Plastic materials, regenerated cellulose and artificial resins .....                | 5,531   | 3,431         | 4,344   | 234    | 307    | ....  | ....  | 8,316   |
| 86       | Scientific, medical, optical and photographic equipment .....                       | 7,254   | 4,397         | 4,706   | 50     | 162    | 2     | ....  | 9,317   |
| 00       | Sheep, live .....                                                                   | 1,104   | 361           | 63      | ....   | 465    | 23    | ....  | 912     |
| 65       | Textile yarn, fabrics, made-up articles and related products—                       |         |               |         |        |        |       |       |         |
|          | Fabrics .....                                                                       | 8,274   | 3,617         | 5,174   | 87     | 380    | 277   | ....  | 9,536   |
|          | Floor coverings and the like .....                                                  | 4,090   | 2,066         | 4,116   | 14     | 51     | 34    | ....  | 6,280   |
|          | Other .....                                                                         | 6,061   | 2,583         | 3,666   | 7      | 725    | 68    | (b)   | 7,050   |
| 12       | Tobacco and tobacco manufactures .....                                              | 13,892  | 2,236         | 14,000  | 33     | 5      | ....  | ....  | 16,275  |
| 69       | Tools .....                                                                         | 4,996   | 2,896         | 2,477   | 65     | 325    | 146   | (b)   | 5,908   |
| 73       | Transport equipment—                                                                |         |               |         |        |        |       |       |         |
|          | Road motor vehicles and components .....                                            | 72,642  | 17,604        | 49,311  | 1,452  | 21,017 | 106   | 16    | 89,507  |
|          | Other .....                                                                         | 12,178  | 8,987         | 2,038   | 797    | 1,413  | 4     | 49    | 13,288  |
| 62       | Tyres and tubes .....                                                               | 10,266  | 3,470         | 5,194   | 4      | 215    | ....  | (b)   | 8,884   |
|          | All other commodities .....                                                         | 83,745  | 48,353        | 38,165  | 2,852  | 8,106  | 982   | 1,555 | 100,007 |
|          | TOTAL .....                                                                         | 562,312 | 269,987       | 270,332 | 19,288 | 70,346 | 8,547 | 1,689 | 640,189 |

(a) Includes the value of imports from the Australian Capital Territory.

(b) Less than \$500.

VALUE OF OVERSEAS IMPORTS FROM PRINCIPAL COUNTRIES OF ORIGIN  
DIVISIONS OF THE IMPORT COMMODITY CLASSIFICATION: 1969-70  
(\$'000)

| Division | Description                                                                                                    | United Kingdom | United States of America | Japan  | Germany, Federal Republic of | Canada | Italy | Other      | Total   |
|----------|----------------------------------------------------------------------------------------------------------------|----------------|--------------------------|--------|------------------------------|--------|-------|------------|---------|
| 00       | Live animals .....                                                                                             | ....           | (a)                      | ....   | (a)                          | ....   | ....  | 38         | 38      |
| 01       | Meat and meat preparations .....                                                                               | 61             | (a)                      | (a)    | ....                         | 6      | 11    | 107        | 186     |
| 02       | Dairy products and eggs .....                                                                                  | 1              | 7                        | ....   | 15                           | ....   | 52    | 186        | 261     |
| 03       | Fish and fish preparations .....                                                                               | 520            | 53                       | 514    | 120                          | 125    | 3     | 1,342      | 2,677   |
| 04       | Cereals and cereal preparations .....                                                                          | 188            | 61                       | 22     | 5                            | 42     | 6     | 160        | 486     |
| 05       | Fruit and vegetables .....                                                                                     | 96             | 111                      | 10     | 10                           | 62     | 61    | 792        | 1,141   |
| 06       | Sugar, sugar preparations and honey .....                                                                      | 79             | 1                        | 4      | (a)                          | 1      | 3     | 42         | 130     |
| 07       | Coffee, cocoa, tea, spices and manufactures thereof .....                                                      | 36             | 18                       | 144    | 11                           | ....   | 4     | 1,501      | 1,714   |
| 08       | Feeding-stuff for animals (excluding unmilled cereals) .....                                                   | 2              | 394                      | (a)    | 2                            | ....   | 2     | 334        | 735     |
| 09       | Miscellaneous preparations chiefly for food .....                                                              | 240            | 28                       | 28     | 2                            | 4      | 2     | 76         | 382     |
| 11       | Beverages .....                                                                                                | 657            | 11                       | (a)    | 14                           | 10     | 41    | 119        | 853     |
| 12       | Tobacco and tobacco manufactures .....                                                                         | 96             | 33                       | ....   | ....                         | ....   | ....  | 158        | 287     |
| 21       | Hides, skins and fur skins, undressed .....                                                                    | ....           | ....                     | ....   | ....                         | ....   | ....  | 2          | 2       |
| 22       | Oil-seeds, oil nuts and oil kernels .....                                                                      | 9              | 6                        | 1      | ....                         | ....   | ....  | 116        | 132     |
| 23       | Crude rubber (including synthetic and reclaimed) .....                                                         | 5              | 23                       | ....   | ....                         | ....   | ....  | 129        | 157     |
| 24       | Wood, timber and cork .....                                                                                    | (a)            | 238                      | ....   | (a)                          | ....   | (b)   | 2,838      | 3,076   |
| 25       | Pulp and waste paper .....                                                                                     | ....           | ....                     | ....   | ....                         | 210    | ....  | 387        | 597     |
| 26       | Textile fibres and their waste .....                                                                           | 12             | (a)                      | 12     | ....                         | ....   | ....  | 444        | 468     |
| 27       | Crude fertilisers and crude minerals (excluding coal, petroleum and precious stones) .....                     | 20             | 1,414                    | 76     | 6                            | 3,089  | 36    | (c)9,489   | 14,129  |
| 28       | Metalliferous ores and metal scrap .....                                                                       | 1              | 25                       | 2      | ....                         | 118    | ....  | 6          | 152     |
| 29       | Crude animal and vegetable materials, n.e.i. ....                                                              | 41             | 32                       | 1      | 4                            | 20     | 1     | 258        | 358     |
| 32       | Coal, coke and briquettes .....                                                                                | ....           | 1                        | ....   | 9                            | ....   | ....  | 3          | 12      |
| 33       | Petroleum and petroleum products .....                                                                         | 67             | 182                      | 27     | 17                           | 2      | (a)   | 35,819     | 36,114  |
| 42       | Fixed vegetable oils and fats .....                                                                            | 59             | 1                        | 6      | 45                           | ....   | 50    | 346        | 506     |
| 43       | Animal and vegetable oils and fats, processed, and waxes of animal or vegetable origin .....                   | 6              | 1                        | ....   | 2                            | ....   | ....  | 3          | 11      |
| 51       | Chemical elements and compounds .....                                                                          | 623            | 1,794                    | 860    | 344                          | 156    | 10    | 1,187      | 4,975   |
| 53       | Dyeing, tanning and colouring materials .....                                                                  | 204            | 43                       | 9      | 137                          | 13     | 5     | 105        | 517     |
| 54       | Medicinal and pharmaceutical products....                                                                      | 139            | 4                        | 16     | 25                           | (a)    | 1     | 365        | 551     |
| 55       | Essential oils and perfume materials, toilet, polishing and cleansing preparations .....                       | 52             | 106                      | 5      | 23                           | (a)    | 6     | 281        | 474     |
| 56       | Fertilisers, manufactured .....                                                                                | (a)            | 329                      | 1,002  | 81                           | 250    | (a)   | 28         | 1,689   |
| 57       | Explosives and pyrotechnic products .....                                                                      | 7              | 345                      | ....   | ....                         | ....   | 7     | 3          | 362     |
| 58       | Plastic materials, regenerated cellulose and artificial resins .....                                           | 715            | 276                      | 239    | 135                          | 78     | 53    | 138        | 1,635   |
| 59       | Chemical materials and products, n.e.i. ....                                                                   | 1,978          | 1,146                    | 105    | 126                          | 1      | (a)   | 133        | 3,488   |
| 61       | Leather, leather manufactures, n.e.i. and dressed fur skins .....                                              | 17             | 4                        | 52     | 2                            | (a)    | 3     | 9          | 87      |
| 62       | Rubber manufactures, n.e.i. ....                                                                               | 1,510          | 1,449                    | 1,126  | 37                           | 1      | 49    | 848        | 5,019   |
| 63       | Wood and cork manufactures (excluding furniture) .....                                                         | 75             | 13                       | 129    | 10                           | 1      | 16    | 441        | 684     |
| 64       | Paper, paperboard and manufactures thereof .....                                                               | 496            | 129                      | 258    | 88                           | 2,468  | 9     | (e)2,004   | 5,451   |
| 65       | Textile yarn, fabrics, made-up articles and related products .....                                             | 2,008          | 422                      | 2,467  | 198                          | 79     | 61    | 4,052      | 9,288   |
| 66       | Non-metallic mineral manufactures, n.e.i. ....                                                                 | 1,013          | 207                      | 1,204  | 332                          | 29     | 239   | 785        | 3,810   |
| 67       | Iron and steel .....                                                                                           | 1,092          | 731                      | 2,698  | 198                          | 166    | 95    | 549        | 5,529   |
| 68       | Non-ferrous metals .....                                                                                       | 69             | 33                       | 7      | 17                           | 33     | (a)   | 73         | 232     |
| 69       | Manufactures of metal, n.e.i. ....                                                                             | 1,500          | 1,834                    | 758    | 570                          | 80     | 91    | 1,294      | 6,127   |
| 71       | Machinery, other than electric .....                                                                           | 13,942         | 16,858                   | 4,009  | 2,995                        | 469    | 1,361 | 2,830      | 42,463  |
| 72       | Electrical machinery, apparatus and appliances .....                                                           | 8,870          | 1,474                    | 2,618  | 1,409                        | 158    | 363   | 710        | 15,601  |
| 73       | Transport equipment .....                                                                                      | 8,464          | 13,750                   | 13,621 | 7,593                        | 83     | 1,758 | (f)3,050   | 48,319  |
| 81       | Sanitary, plumbing, heating and lighting fixtures and fittings .....                                           | 92             | 7                        | 27     | 20                           | ....   | 40    | 51         | 239     |
| 82       | Furniture .....                                                                                                | 134            | 28                       | 55     | 6                            | 2      | 44    | 155        | 424     |
| 83       | Travel goods, handbags and similar articles .....                                                              | 27             | 2                        | 99     | 7                            | ....   | 17    | 94         | 245     |
| 84       | Clothing and clothing accessories, and articles of knitted or crocheted fabric .....                           | 409            | 4                        | 61     | 12                           | 2      | 36    | 214        | 738     |
| 85       | Footwear, gaiters and similar articles and parts thereof .....                                                 | 85             | 7                        | 55     | 24                           | (a)    | 219   | 238        | 629     |
| 86       | Professional, scientific and controlling instruments; photographic and optical goods; watches and clocks ..... | 855            | 1,021                    | 429    | 369                          | 76     | 33    | 525        | 3,307   |
| 89       | Miscellaneous manufactured articles, n.e.i. ....                                                               | 2,838          | 424                      | 1,055  | 258                          | 40     | 182   | 1,205      | 6,002   |
|          | Other....                                                                                                      | 4,983          | 1,172                    | 645    | 338                          | 138    | 153   | 2,378      | 9,807   |
|          | Total .....                                                                                                    | 54,396         | 46,251                   | 34,455 | 15,616                       | 8,015  | 5,125 | 78,441 (g) | 242,299 |

(a) Less than \$500. (b) Includes Malaysia, \$2.44 million. (c) Includes phosphates from Nauru, \$4.37 million; and Christmas Island (Indian Ocean), \$2.69 million. (d) Includes Kuwait, \$13.8 million; Qatar, \$8.73 million; Singapore, \$3.39 million; Trucial States, \$3.04 million; Iran, \$2.83 million; and Republic of South Yemen, \$2.42 million. (e) Includes New Zealand, \$1.05 million. (f) Includes Netherlands, \$2.49 million. (g) Includes an amount of \$47.2 million, representing the value of imports detailed in footnotes (b), (c), (d), (e) and (f).

## EXPORTS

QUANTITY AND VALUE OF PRINCIPAL EXPORTS FROM WESTERN AUSTRALIA  
SELECTED COMMODITIES: 1969-70

| Division | Description                                                                                    | Unit         | Interstate |         | Overseas |         | Total    |         |
|----------|------------------------------------------------------------------------------------------------|--------------|------------|---------|----------|---------|----------|---------|
|          |                                                                                                |              | Quantity   | Value   | Quantity | Value   | Quantity | Value   |
|          |                                                                                                |              |            | \$'000  |          | \$'000  |          | \$'000  |
| 00       | Animals (live)—                                                                                |              |            |         |          |         |          |         |
|          | Cattle .....                                                                                   | number       | 12,009     | 718     | 179      | 42      | 12,188   | 760     |
|          | Sheep .....                                                                                    | number       | 303,844    | 785     | 299,367  | 2,090   | 603,211  | 2,876   |
| 51       | Chemical elements and compounds .....                                                          | n.a.         | n.a.       | 12,171  | n.a.     | 28,829  | n.a.     | 41,000  |
| 84       | Clothing and clothing accessories and articles of knitted or crocheted fabric .....            | n.a.         | n.a.       | 638     | n.a.     | 8       | n.a.     | 646     |
| 26       | Cotton fibre .....                                                                             | '000 lb      | 2,428      | 559     | 2,808    | 653     | 5,236    | 1,213   |
|          | Food—                                                                                          |              |            |         |          |         |          |         |
| 04       | Cereals and cereal preparations—                                                               |              |            |         |          |         |          |         |
|          | Barley, unmilled .....                                                                         | '000 bush    | ....       | ....    | 5,736    | 4,652   | 5,736    | 4,652   |
|          | Flour of wheat .....                                                                           | sh. ton (a)  | 1,014      | 110     | 33,348   | 2,147   | 34,362   | 2,257   |
|          | Oats, unmilled .....                                                                           | '000 bush    | 2          | 3       | 1,461    | 912     | 1,463    | 915     |
|          | Wheat, unmilled .....                                                                          | '000 bush    | (b)        | (b)     | 66,681   | 86,592  | 66,682   | 86,593  |
| 03       | Fish, fresh, chilled or frozen—                                                                |              |            |         |          |         |          |         |
|          | Prawns .....                                                                                   | '000 lb      | 353        | 329     | 2,124    | 2,546   | 2,477    | 2,874   |
|          | Rock lobster tails .....                                                                       | '000 lb      | 2          | 1       | 6,559    | 15,693  | 6,561    | 15,695  |
|          | Other .....                                                                                    | '000 lb      | 436        | 303     | 509      | 649     | 945      | 952     |
| 05       | Fruit, fresh—                                                                                  |              |            |         |          |         |          |         |
|          | Apples .....                                                                                   | '000 bush    | 1          | 2       | 1,321    | 4,953   | 1,322    | 4,955   |
|          | Other .....                                                                                    | n.a.         | n.a.       | 20      | n.a.     | 1,079   | n.a.     | 1,099   |
| 06       | Honey .....                                                                                    | '000 lb      | 24         | 3       | 4,748    | 597     | 4,772    | 601     |
| 01       | Meat, fresh, chilled or frozen—                                                                |              |            |         |          |         |          |         |
|          | Beef and veal .....                                                                            | '000 lb      | 181        | 96      | 51,947   | 21,412  | 52,128   | 21,508  |
|          | Lamb .....                                                                                     | '000 lb      | 382        | 99      | 6,229    | 1,230   | 6,611    | 1,329   |
|          | Mutton .....                                                                                   | '000 lb      | 133        | 19      | 58,647   | 9,923   | 58,780   | 9,942   |
|          | Pigmeat .....                                                                                  | '000 lb      | 2,426      | 900     | 743      | 275     | 3,169    | 1,175   |
|          | Other (c) .....                                                                                | '000 lb      | 941        | 264     | 9,959    | 2,177   | 10,901   | 2,441   |
| 05       | Vegetables, fresh—                                                                             |              |            |         |          |         |          |         |
|          | Potatoes .....                                                                                 | '000 cwt     | 120        | 55      | 272      | 776     | 391      | 831     |
|          | Other .....                                                                                    | n.a.         | n.a.       | 214     | n.a.     | 876     | n.a.     | 1,090   |
|          | Other food .....                                                                               | n.a.         | n.a.       | 2,539   | n.a.     | 2,311   | n.a.     | 4,850   |
| 85       | Footwear, gaiters and similar articles .....                                                   | n.a.         | n.a.       | 1,585   | n.a.     | (b)     | n.a.     | 1,585   |
| 82       | Furniture .....                                                                                | n.a.         | n.a.       | 1,570   | n.a.     | 78      | n.a.     | 1,649   |
| 99       | Gold mint bullion .....                                                                        | '000 fine oz | 240        | 8,306   | 147      | 5,568   | 387      | 13,874  |
| 67       | Iron and steel (d) .....                                                                       | '000 tons    | 447        | 20,786  | 253      | 13,519  | 700      | 34,306  |
|          | Machinery—                                                                                     |              |            |         |          |         |          |         |
| 72       | Electric power machinery and switchgear .....                                                  | n.a.         | n.a.       | 955     | n.a.     | 39      | n.a.     | 994     |
| 71       | Other than electric—                                                                           |              |            |         |          |         |          |         |
|          | Agricultural—                                                                                  |              |            |         |          |         |          |         |
|          | Tractors .....                                                                                 | n.a.         | n.a.       | 2,832   | n.a.     | 85      | n.a.     | 2,917   |
|          | Other .....                                                                                    | n.a.         | n.a.       | 626     | n.a.     | 170     | n.a.     | 796     |
|          | Sorting, screening, crushing, mixing, for earth, stone, ores or other mineral substances ..... | n.a.         | n.a.       | 579     | n.a.     | 275     | n.a.     | 854     |
|          | Other .....                                                                                    | n.a.         | n.a.       | 5,817   | n.a.     | 1,806   | n.a.     | 7,623   |
| 28       | Metal waste and scrap .....                                                                    | '000 cwt     | 139        | 3,801   | 814      | 1,884   | 953      | 5,685   |
| 27       | Minerals, crude—                                                                               |              |            |         |          |         |          |         |
|          | Salt .....                                                                                     | '000 cwt     | 1          | 2       | 22,924   | 4,002   | 22,925   | 4,004   |
| 28       | Ores, metalliferous—                                                                           |              |            |         |          |         |          |         |
|          | Copper .....                                                                                   | '000 cwt     | (b)        | 3       | 70       | 817     | 70       | 819     |
|          | Ilmenite .....                                                                                 | '000 tons    | 52         | 517     | 513      | 5,550   | 564      | 6,068   |
|          | Iron .....                                                                                     | '000 tons    | 2,319      | 6,521   | 28,724   | 227,059 | 31,044   | 233,580 |
|          | Manganese .....                                                                                | '000 tons    | ....       | ....    | 158      | 3,086   | 158      | 3,086   |
|          | Tin .....                                                                                      | '000 cwt     | 2          | 212     | 12       | 1,174   | 14       | 1,386   |
|          | Other .....                                                                                    | '000 cwt     | ....       | ....    | 781      | 38,694  | 781      | 38,694  |
| 64       | Paper, paperboard and manufactures thereof .....                                               | n.a.         | n.a.       | 754     | n.a.     | 266     | n.a.     | 1,019   |
| 33       | Petroleum and petroleum products .....                                                         | n.a.         | n.a.       | 46,032  | n.a.     | 3,735   | n.a.     | 49,767  |
| 62       | Rubber manufactures, n.e.i. .....                                                              | n.a.         | n.a.       | 1,888   | n.a.     | 111     | n.a.     | 1,998   |
| 68       | Silver bullion .....                                                                           | '000 fine oz | ....       | ....    | 2,387    | 3,945   | 2,387    | 3,945   |
| 21       | Skins and hides—                                                                               |              |            |         |          |         |          |         |
|          | Bovine .....                                                                                   | '000 lb      | 3,254      | 458     | 10,961   | 1,658   | 14,215   | 2,116   |
|          | Sheep and lamb .....                                                                           | '000 lb      | 279        | 42      | 21,644   | 5,088   | 21,922   | 5,130   |
|          | Other .....                                                                                    | n.a.         | n.a.       | 547     | n.a.     | 174     | n.a.     | 722     |
| 41       | Tallow .....                                                                                   | '000 cwt     | 29         | 203     | 388      | 2,781   | 417      | 2,983   |
| 24       | Timber—                                                                                        |              |            |         |          |         |          |         |
|          | Sleepers, railway .....                                                                        | '000 sup. ft | 5,878      | 808     | 7,912    | 1,231   | 13,790   | 2,039   |
|          | Other .....                                                                                    | '000 sup. ft | 19,072     | 2,349   | 7,954    | 1,278   | 27,026   | 3,627   |
| 73       | Transport equipment .....                                                                      | n.a.         | n.a.       | 1,495   | n.a.     | 13,685  | n.a.     | 15,180  |
| 63       | Veneers, plywood boards and reconstituted wood .....                                           | n.a.         | n.a.       | 2,057   | n.a.     | 144     | n.a.     | 2,201   |
| 26       | Wool—                                                                                          |              |            |         |          |         |          |         |
|          | Degreased (washed, scoured, etc.) .....                                                        | '000 lb      | 1,941      | 1,160   | 25,735   | 15,864  | 27,676   | 17,024  |
|          | Greasy (including slipe) .....                                                                 | '000 lb      | 17,297     | 8,633   | 247,752  | 109,319 | 265,049  | 117,952 |
|          | Other .....                                                                                    | '000 lb      | 208        | 155     | 2,787    | 2,664   | 2,995    | 2,819   |
|          | All other commodities .....                                                                    | n.a.         | n.a.       | 9,338   | n.a.     | 18,854  | n.a.     | 28,192  |
|          | TOTAL .....                                                                                    | n.a.         | n.a.       | 149,861 | n.a.     | 675,027 | n.a.     | 824,888 |

(a) Short ton = 2,000 lb. (b) Less than 500. (c) Includes edible offals, poultry and rabbits. (d) Principally iron, cast iron, basic shapes and sections.

The following table shows the value and proportion of the principal items exported overseas and interstate during 1969-70.

VALUE OF PRINCIPAL EXPORTS FROM WESTERN AUSTRALIA  
SELECTED COMMODITIES: 1969-70

| Division | Description                                                                                    | Value (\$'000) |          |         | Proportion of total (per cent) |          |        |
|----------|------------------------------------------------------------------------------------------------|----------------|----------|---------|--------------------------------|----------|--------|
|          |                                                                                                | Interstate     | Overseas | Total   | Interstate                     | Overseas | Total  |
| 00       | Animals (live)—                                                                                |                |          |         |                                |          |        |
|          | Cattle .....                                                                                   | 718            | 42       | 760     | 0.48                           | 0.01     | 0.09   |
|          | Sheep .....                                                                                    | 785            | 2,090    | 2,876   | 0.52                           | 0.31     | 0.35   |
| 51       | Chemical elements and compounds .....                                                          | 12,171         | 28,829   | 41,000  | 8.12                           | 4.27     | 4.97   |
| 84       | Clothing and clothing accessories and articles of knitted or crocheted fabric .....            | 638            | 8        | 646     | 0.43                           | (a)      | 0.08   |
| 26       | Cotton fibre .....                                                                             | 559            | 653      | 1,213   | 0.37                           | 0.10     | 0.15   |
|          | Food—                                                                                          |                |          |         |                                |          |        |
| 04       | Cereals and cereal preparations—                                                               |                |          |         |                                |          |        |
|          | Barley, unmilled .....                                                                         | ....           | 4,652    | 4,652   | ....                           | 0.69     | 0.56   |
|          | Flour of wheat .....                                                                           | 110            | 2,147    | 2,257   | 0.07                           | 0.32     | 0.27   |
|          | Oats, unmilled .....                                                                           | 3              | 912      | 915     | (a)                            | 0.14     | 0.11   |
|          | Wheat, unmilled .....                                                                          | (b)            | 86,592   | 86,593  | (a)                            | 12.83    | 10.50  |
| 03       | Fish, fresh, chilled or frozen—                                                                |                |          |         |                                |          |        |
|          | Prawns .....                                                                                   | 329            | 2,546    | 2,874   | 0.22                           | 0.38     | 0.35   |
|          | Rock lobster tails .....                                                                       | 1              | 15,693   | 15,695  | (a)                            | 2.32     | 1.90   |
|          | Other .....                                                                                    | 303            | 649      | 952     | 0.20                           | 0.10     | 0.12   |
| 05       | Fruit, fresh—                                                                                  |                |          |         |                                |          |        |
|          | Apples .....                                                                                   | 2              | 4,953    | 4,955   | (a)                            | 0.73     | 0.60   |
|          | Other .....                                                                                    | 20             | 1,079    | 1,099   | 0.01                           | 0.16     | 0.13   |
| 06       | Honey .....                                                                                    | 3              | 597      | 601     | (a)                            | 0.09     | 0.07   |
| 01       | Meat, fresh, chilled or frozen—                                                                |                |          |         |                                |          |        |
|          | Beef and veal .....                                                                            | 96             | 21,412   | 21,508  | 0.06                           | 3.17     | 2.61   |
|          | Lamb .....                                                                                     | 99             | 1,230    | 1,329   | 0.07                           | 0.18     | 0.16   |
|          | Mutton .....                                                                                   | 19             | 9,923    | 9,942   | 0.01                           | 1.47     | 1.21   |
|          | Pigmeat .....                                                                                  | 900            | 275      | 1,175   | 0.60                           | 0.04     | 0.14   |
|          | Other (c) .....                                                                                | 264            | 2,177    | 2,441   | 0.18                           | 0.32     | 0.30   |
| 05       | Vegetables, fresh—                                                                             |                |          |         |                                |          |        |
|          | Potatoes .....                                                                                 | 55             | 776      | 831     | 0.04                           | 0.11     | 0.10   |
|          | Other .....                                                                                    | 214            | 876      | 1,090   | 0.14                           | 0.13     | 0.13   |
|          | Other food .....                                                                               | 2,539          | 2,311    | 4,850   | 1.69                           | 0.34     | 0.59   |
| 85       | Footwear, gaiters and similar articles .....                                                   | 1,585          | (b)      | 1,585   | 1.06                           | (a)      | 0.19   |
| 82       | Furniture .....                                                                                | 1,570          | 78       | 1,649   | 1.05                           | 0.01     | 0.20   |
| 99       | Gold mint bullion .....                                                                        | 8,306          | 5,568    | 13,874  | 5.54                           | 0.82     | 1.68   |
| 67       | Iron and steel (d) .....                                                                       | 20,786         | 13,519   | 34,306  | 13.87                          | 2.00     | 4.16   |
|          | Machinery—                                                                                     |                |          |         |                                |          |        |
| 72       | Electric power machinery and switchgear .....                                                  | 955            | 39       | 994     | 0.64                           | 0.01     | 0.12   |
| 71       | Other than electric—                                                                           |                |          |         |                                |          |        |
|          | Agricultural—                                                                                  |                |          |         |                                |          |        |
|          | Tractors .....                                                                                 | 2,832          | 85       | 2,917   | 1.89                           | 0.01     | 0.35   |
|          | Other .....                                                                                    | 626            | 170      | 796     | 0.42                           | 0.03     | 0.10   |
|          | Sorting, screening, crushing, mixing, for earth, stone, ores or other mineral substances ..... | 579            | 275      | 854     | 0.39                           | 0.04     | 0.10   |
|          | Other .....                                                                                    | 5,817          | 1,806    | 7,623   | 3.88                           | 0.27     | 0.92   |
| 28       | Metal waste and scrap .....                                                                    | 3,801          | 1,884    | 5,685   | 2.54                           | 0.28     | 0.69   |
| 27       | Minerals, erude—                                                                               |                |          |         |                                |          |        |
|          | Salt .....                                                                                     | 2              | 4,002    | 4,004   | (a)                            | 0.59     | 0.49   |
| 28       | Ores, metalliferous—                                                                           |                |          |         |                                |          |        |
|          | Copper .....                                                                                   | 3              | 817      | 819     | (a)                            | 0.12     | 0.10   |
|          | Ilmenite .....                                                                                 | 517            | 5,550    | 6,068   | 0.35                           | 0.82     | 0.74   |
|          | Iron .....                                                                                     | 6,521          | 227,059  | 233,580 | 4.35                           | 33.64    | 28.32  |
|          | Manganese .....                                                                                | ....           | 3,086    | 3,086   | ....                           | 0.46     | 0.37   |
|          | Tin .....                                                                                      | 212            | 1,174    | 1,386   | 0.14                           | 0.17     | 0.17   |
|          | Other .....                                                                                    | ....           | 38,694   | 38,694  | ....                           | 5.73     | 4.69   |
| 64       | Paper, paperboard and manufactures, thereof .....                                              | 754            | 266      | 1,019   | 0.50                           | 0.04     | 0.12   |
| 33       | Petroleum and petroleum products .....                                                         | 46,032         | 3,735    | 49,767  | 30.72                          | 0.55     | 6.03   |
| 62       | Rubber manufactures, n.e.i. .....                                                              | 1,888          | 111      | 1,998   | 1.26                           | 0.02     | 0.24   |
| 68       | Silver bullion .....                                                                           | ....           | 3,945    | 3,945   | ....                           | 0.58     | 0.48   |
| 21       | Skins and hides—                                                                               |                |          |         |                                |          |        |
|          | Bovine .....                                                                                   | 458            | 1,658    | 2,116   | 0.31                           | 0.25     | 0.26   |
|          | Sheep and lamb .....                                                                           | 42             | 5,088    | 5,130   | 0.03                           | 0.75     | 0.62   |
|          | Other .....                                                                                    | 547            | 174      | 722     | 0.37                           | 0.03     | 0.09   |
| 41       | Tallow .....                                                                                   | 203            | 2,781    | 2,983   | 0.14                           | 0.41     | 0.36   |
| 24       | Timber—                                                                                        |                |          |         |                                |          |        |
|          | Sleepers, railway .....                                                                        | 808            | 1,231    | 2,039   | 0.54                           | 0.18     | 0.25   |
|          | Other .....                                                                                    | 2,349          | 1,278    | 3,627   | 1.57                           | 0.19     | 0.44   |
| 73       | Transport equipment .....                                                                      | 1,495          | 13,685   | 15,180  | 1.00                           | 2.03     | 1.84   |
| 63       | Veneers, plywood boards and reconstituted wood .....                                           | 2,057          | 144      | 2,201   | 1.37                           | 0.02     | 0.27   |
| 26       | Wool—                                                                                          |                |          |         |                                |          |        |
|          | Degreased (washed, scoured, etc.) .....                                                        | 1,160          | 15,864   | 17,024  | 0.77                           | 2.35     | 2.06   |
|          | Greasy (including slupe) .....                                                                 | 8,633          | 109,319  | 117,952 | 5.76                           | 16.19    | 14.30  |
|          | Other .....                                                                                    | 155            | 2,664    | 2,819   | 0.10                           | 0.39     | 0.34   |
|          | All other commodities .....                                                                    | 9,338          | 18,854   | 28,192  | 6.23                           | 2.79     | 3.42   |
|          | TOTAL .....                                                                                    | 149,861        | 675,027  | 824,888 | 100.00                         | 100.00   | 100.00 |

(a) Less than 0.005 per cent. (b) Less than \$500. (c) Includes edible offals, poultry and rabbits. (d) Principally pig-iron, cast iron, basic shapes and sections.

**VALUE OF PRINCIPAL EXPORTS TO AUSTRALIAN STATES—SELECTED COMMODITIES**  
(\$'000)

| Division | Description                                                                                    | 1968-69        | 1969-70       |               |              |               |              |              | Total          |
|----------|------------------------------------------------------------------------------------------------|----------------|---------------|---------------|--------------|---------------|--------------|--------------|----------------|
|          |                                                                                                | Total          | N.S.W.<br>(a) | Vic.          | Qld          | S.A.          | Tas.         | N.T.         |                |
| 00       | Animals (live)—                                                                                |                |               |               |              |               |              |              |                |
|          | Cattle .....                                                                                   | 890            | 14            | 1             | 124          | 259           | ....         | 321          | 718            |
|          | Sheep .....                                                                                    | 797            | 7             | 114           | ....         | 664           | ....         | ....         | 785            |
| 51       | Chemical elements and compounds .....                                                          | 8,540          | 1,624         | 8,783         | 411          | 284           | 1,053        | 16           | 12,171         |
| 84       | Clothing and clothing accessories and articles of knitted or crocheted fabric .....            | 813            | 205           | 145           | 56           | 194           | 4            | 33           | 638            |
| 29       | Crude animal and vegetable materials, n.e.i.—                                                  |                |               |               |              |               |              |              |                |
|          | Animal casings (sausage), etc. ....                                                            | 156            | 192           | 11            | 2            | 55            | ....         | ....         | 260            |
|          | Clover seed .....                                                                              | 518            | 36            | 43            | 3            | 107           | ....         | ....         | 190            |
|          | Food—                                                                                          |                |               |               |              |               |              |              |                |
| 02       | Butter .....                                                                                   | 250            | ....          | ....          | ....         | ....          | ....         | 236          | 236            |
| 06       | Confectionery, excluding chocolate .....                                                       | 392            | 113           | 131           | 41           | 44            | 13           | 2            | 345            |
| 03       | Fish and fish preparations—                                                                    |                |               |               |              |               |              |              |                |
|          | Fresh, chilled or frozen .....                                                                 | 761            | 238           | 323           | 12           | 39            | 19           | (b)          | 633            |
|          | Canned or bottled, n.e.i., and fish preparations .....                                         | 408            | 190           | 215           | 25           | 54            | ....         | (b)          | 483            |
| 01       | Meat and meat preparations—                                                                    |                |               |               |              |               |              |              |                |
|          | Fresh, chilled or frozen .....                                                                 | 839            | 331           | 500           | 80           | 9             | ....         | 458          | 1,378          |
|          | Other .....                                                                                    | 299            | 3             | 4             | ....         | 16            | ....         | 242          | 265            |
| 05       | Vegetables, fresh—                                                                             |                |               |               |              |               |              |              |                |
|          | Potatoes (except sweet potatoes) ....                                                          | 560            | 28            | 3             | 3            | 4             | ....         | 17           | 55             |
|          | Other .....                                                                                    | 343            | 5             | 18            | 9            | 176           | ....         | 5            | 214            |
|          | Other food .....                                                                               | 1,294          | 178           | 317           | 8            | 432           | 3            | 411          | 1,348          |
| 85       | Footwear, gaiters and similar articles .....                                                   | 1,559          | 693           | 368           | 260          | 211           | 47           | 6            | 1,585          |
| 82       | Furniture .....                                                                                | 1,455          | 414           | 543           | 287          | 240           | 22           | 65           | 1,570          |
| 99       | Gold bullion .....                                                                             | 12,701         | 8,306         | ....          | ....         | ....          | ....         | ....         | 8,306          |
| 21       | Hides, skins and fur skins, undressed—                                                         |                |               |               |              |               |              |              |                |
|          | Bovine .....                                                                                   | 344            | 126           | 192           | (b)          | 140           | ....         | ....         | 458            |
|          | Sheep and lamb .....                                                                           | 113            | 5             | 35            | ....         | 2             | ....         | ....         | 42             |
|          | Other .....                                                                                    | 170            | 280           | 50            | 113          | 105           | ....         | ....         | 547            |
|          | Machinery—                                                                                     |                |               |               |              |               |              |              |                |
| 72       | Electrical machinery and apparatus—                                                            |                |               |               |              |               |              |              |                |
|          | Electric power machinery (c) .....                                                             | 1,000          | 141           | 644           | 26           | 143           | (b)          | 1            | 955            |
|          | Other .....                                                                                    | 205            | 55            | 53            | 23           | 34            | 1            | 30           | 197            |
| 71       | Other than electric—                                                                           |                |               |               |              |               |              |              |                |
|          | Agricultural—                                                                                  |                |               |               |              |               |              |              |                |
|          | Tractors .....                                                                                 | 5,965          | 725           | 685           | 882          | 539           | ....         | ....         | 2,832          |
|          | Other .....                                                                                    | 1,066          | 212           | 111           | 186          | 117           | (b)          | (b)          | 626            |
|          | Sorting, screening, crushing, mixing, for earth, stone, ores or other mineral substances ..... | 498            | 124           | 159           | 216          | 53            | 3            | 24           | 579            |
|          | Other .....                                                                                    | 6,658          | 1,915         | 2,127         | 509          | 1,034         | 122          | 111          | 5,817          |
| 28       | Metalliferous ores and metal scrap—                                                            |                |               |               |              |               |              |              |                |
|          | Ores, metalliferous—                                                                           |                |               |               |              |               |              |              |                |
|          | Ilmenite .....                                                                                 | 527            | ....          | ....          | ....         | ....          | 517          | ....         | 517            |
|          | Iron .....                                                                                     | 7,660          | 6,521         | ....          | ....         | ....          | ....         | ....         | 6,521          |
|          | Manganese .....                                                                                | 49             | ....          | ....          | ....         | ....          | ....         | ....         | ....           |
|          | Tin .....                                                                                      | 208            | 212           | ....          | ....         | ....          | ....         | ....         | 212            |
|          | Other .....                                                                                    | 3              | 3             | ....          | ....         | ....          | ....         | ....         | 3              |
|          | Metal waste and scrap—                                                                         |                |               |               |              |               |              |              |                |
|          | Ferrous .....                                                                                  | 20             | 43            | ....          | ....         | ....          | ....         | 6            | 49             |
|          | Non-ferrous .....                                                                              | 2,088          | 2,374         | 740           | ....         | 638           | ....         | ....         | 3,752          |
| 69       | Metal manufactures, n.e.i.—                                                                    |                |               |               |              |               |              |              |                |
|          | Household equipment of base metals .....                                                       | 261            | 23            | 9             | 2            | 389           | (b)          | 7            | 429            |
|          | Other .....                                                                                    | 1,705          | 516           | 328           | 38           | 623           | 46           | 350          | 1,900          |
|          | Metals—                                                                                        |                |               |               |              |               |              |              |                |
| 67       | Iron and steel (d) .....                                                                       | 15,971         | 11,841        | 3,191         | 633          | 4,750         | 19           | 353          | 20,786         |
| 33       | Petroleum and petroleum products .....                                                         | 43,580         | 10,614        | 18,227        | 3,917        | 9,114         | 1,238        | 2,920        | 46,032         |
| 62       | Rubber manufactures, n.e.i. ....                                                               | 1,834          | 1,273         | 428           | 96           | 71            | 17           | 2            | 1,888          |
| 26       | Textile fibres and their waste—                                                                |                |               |               |              |               |              |              |                |
|          | Cotton fibre .....                                                                             | 1,250          | 553           | ....          | ....         | ....          | ....         | ....         | 559            |
|          | Wool—                                                                                          |                |               |               |              |               |              |              |                |
|          | Degreased (washed, scoured, etc.)....                                                          | 800            | 66            | 857           | 152          | 85            | ....         | ....         | 1,160          |
|          | Greasy (including slupe) .....                                                                 | 10,143         | 383           | 6,440         | 10           | 1,749         | 52           | ....         | 8,633          |
|          | Other .....                                                                                    | 128            | 1             | 144           | ....         | 9             | ....         | ....         | 155            |
| 24       | Timber—                                                                                        |                |               |               |              |               |              |              |                |
|          | Sleepers, railway .....                                                                        | 890            | ....          | ....          | ....         | 786           | ....         | 22           | 808            |
|          | Other .....                                                                                    | 2,152          | 196           | 268           | (b)          | 1,543         | (b)          | 342          | 2,349          |
| 73       | Transport equipment—                                                                           |                |               |               |              |               |              |              |                |
|          | Road motor vehicles (e) .....                                                                  | 626            | 181           | 196           | 130          | 126           | 3            | 12           | 649            |
|          | Other .....                                                                                    | 2,215          | 593           | 99            | 46           | 77            | 16           | 16           | 846            |
| 63       | Wood and cork manufactures (f)—                                                                |                |               |               |              |               |              |              |                |
|          | Veneers, plywood boards, etc. ....                                                             | 2,115          | 450           | 984           | 3            | 566           | 32           | 22           | 2,057          |
|          | Cork manufactures .....                                                                        | 431            | 157           | 127           | 123          | 24            | ....         | (b)          | 431            |
|          | Other .....                                                                                    | 79             | (b)           | 31            | 7            | (b)           | ....         | 4            | 41             |
|          | All other commodities .....                                                                    | 6,559          | 1,511         | 2,780         | 562          | 1,117         | 73           | 806          | 6,849          |
|          | <b>TOTAL</b> .....                                                                             | <b>149,892</b> | <b>53,669</b> | <b>50,424</b> | <b>8,993</b> | <b>26,630</b> | <b>3,302</b> | <b>6,842</b> | <b>149,861</b> |

(a) Includes the value of exports to the Australian Capital Territory. (b) Less than \$500. (c) Including switchgear.  
 (d) Principally pig-iron, cast iron, basic shapes and sections. (e) Including components. (f) Excluding furniture.

The value of overseas exports from Western Australia to the principal countries of destination in 1969-70 is classified in the following table according to the Divisions of the *Australian Export Commodity Classification* (see page 417).

VALUE OF OVERSEAS EXPORTS TO PRINCIPAL COUNTRIES OF DESTINATION  
DIVISIONS OF THE EXPORT COMMODITY CLASSIFICATION: 1969-70  
(\$'000)

| Division | Description                                                                                                    | Japan   | United States of America | United Kingdom | Canada | Germany, Federal Republic of | Singapore | Other       | Total   |
|----------|----------------------------------------------------------------------------------------------------------------|---------|--------------------------|----------------|--------|------------------------------|-----------|-------------|---------|
| 00       | Live animals .....                                                                                             | .....   | .....                    | 1              | .....  | .....                        | 1,217     | 1,194       | 2,412   |
| 01       | Meat and meat preparations .....                                                                               | 3,803   | 18,875                   | 3,318          | 2,361  | 120                          | 1,576     | 5,063       | 35,115  |
| 02       | Dairy products and eggs .....                                                                                  | 90      | .....                    | 68             | .....  | .....                        | 116       | 207         | 481     |
| 03       | Fish and fish preparations .....                                                                               | 2,278   | 15,845                   | 144            | 73     | 5                            | 66        | 500         | 18,911  |
| 04       | Cereals and cereal preparations .....                                                                          | 28,585  | .....                    | 5,531          | .....  | 746                          | 3,770     | (a)55,934   | 94,566  |
| 05       | Fruit and vegetables .....                                                                                     | .....   | 52                       | 2,166          | 327    | 524                          | 3,092     | 1,877       | 8,039   |
| 06       | Sugar, sugar preparations and honey .....                                                                      | 18      | .....                    | 252            | .....  | 46                           | 40        | 257         | 613     |
| 07       | Coffee, cocoa, tea, spices and manufactures thereof .....                                                      | .....   | .....                    | .....          | .....  | .....                        | .....     | 6           | 6       |
| 08       | Feeding-stuff for animals (excluding unmilled cereals) .....                                                   | 458     | .....                    | 1              | .....  | .....                        | 232       | 363         | 1,054   |
| 09       | Miscellaneous preparations chiefly for food .....                                                              | .....   | .....                    | .....          | .....  | .....                        | 1         | 14          | 15      |
| 11       | Beverages .....                                                                                                | 2       | 11                       | 10             | 134    | (b)                          | 19        | 119         | 296     |
| 12       | Tobacco and tobacco manufactures .....                                                                         | (b)     | .....                    | (b)            | .....  | .....                        | 18        | 23          | 41      |
| 21       | Hides, skins and fur skins, undressed .....                                                                    | 305     | 83                       | 482            | .....  | 593                          | 70        | (c)5,387    | 6,920   |
| 22       | Oil-seeds, oil nuts and oil kernels .....                                                                      | 224     | .....                    | .....          | .....  | .....                        | (b)       | (b)         | 225     |
| 24       | Wood, timber and cork .....                                                                                    | 21      | 12                       | 1,546          | .....  | 62                           | .....     | 888         | 2,530   |
| 25       | Pulp and waste paper .....                                                                                     | .....   | .....                    | .....          | .....  | .....                        | 3         | 35          | 38      |
| 26       | Textile fibres and their waste .....                                                                           | 35,558  | 6,471                    | 11,460         | 433    | 17,073                       | .....     | (d)57,535   | 128,530 |
| 27       | Crude fertilisers and crude minerals (excluding coal, petroleum and precious stones) .....                     | 4,395   | 15                       | 7              | .....  | 2                            | 14        | 531         | 4,964   |
| 28       | Metalliferous ores and metal scrap .....                                                                       | 210,989 | 5,678                    | 7,335          | 26,551 | 6,360                        | .....     | (e)21,352   | 278,264 |
| 29       | Crude animal and vegetable materials, n.e.i. ....                                                              | 139     | 132                      | 314            | 58     | 62                           | 112       | 577         | 1,393   |
| 32       | Coal, coke and briquettes .....                                                                                | 223     | .....                    | .....          | .....  | (b)                          | .....     | .....       | 223     |
| 33       | Petroleum and petroleum products .....                                                                         | (b)     | (b)                      | 1              | .....  | .....                        | 264       | 3,470       | 3,735   |
| 41       | Animal oils and fats .....                                                                                     | 906     | 127                      | 361            | .....  | 62                           | 206       | 1,741       | 3,403   |
| 43       | Animal and vegetable oils and fats, processed, and waxes of animal or vegetable origin .....                   | 2       | .....                    | 50             | .....  | .....                        | .....     | 3           | 55      |
| 51       | Chemical elements and compounds .....                                                                          | 8,616   | 19,624                   | 33             | .....  | (b)                          | 10        | 546         | 28,829  |
| 52       | Mineral tar and crude chemicals from coal, petroleum and natural gas .....                                     | .....   | .....                    | .....          | .....  | .....                        | .....     | 2           | 2       |
| 53       | Dyeing, tanning and colouring materials .....                                                                  | .....   | 476                      | 7              | .....  | 1                            | 130       | 2,068       | 2,681   |
| 54       | Medicinal and pharmaceutical products .....                                                                    | .....   | .....                    | (b)            | .....  | .....                        | .....     | 6           | 7       |
| 55       | Essential oils and perfume materials, toilet, polishing and cleansing preparations .....                       | 5       | 36                       | 25             | .....  | 14                           | 19        | 159         | 258     |
| 56       | Fertilisers, manufactured .....                                                                                | 16      | .....                    | .....          | .....  | .....                        | .....     | (b)         | 17      |
| 57       | Explosives and pyrotechnic products .....                                                                      | .....   | .....                    | .....          | .....  | .....                        | .....     | 2           | 2       |
| 58       | Plastic materials, regenerated cellulose and artificial resins .....                                           | .....   | .....                    | .....          | .....  | .....                        | 4         | 7           | 11      |
| 59       | Chemical materials and products, n.e.i. ....                                                                   | .....   | 2                        | 103            | .....  | .....                        | 16        | 28          | 149     |
| 61       | Leather, leather manufactures, n.e.i. and dressed fur skins .....                                              | 2       | 81                       | 52             | .....  | 5                            | 159       | 70          | 369     |
| 62       | Rubber manufactures, n.e.i. ....                                                                               | .....   | 44                       | .....          | .....  | (b)                          | .....     | 67          | 111     |
| 63       | Wood and cork manufactures (excluding furniture) .....                                                         | .....   | (b)                      | 10             | .....  | (b)                          | 144       | 23          | 177     |
| 64       | Paper, paperboard and manufactures thereof .....                                                               | .....   | (b)                      | (b)            | .....  | .....                        | 93        | 173         | 266     |
| 65       | Textile yarn, fabrics, made-up articles and related products .....                                             | 8       | 2                        | 29             | .....  | (b)                          | 2         | 22          | 63      |
| 66       | Non-metallic mineral manufactures, n.e.i. ....                                                                 | 106     | 20                       | 5              | .....  | 27                           | 32        | 261         | 451     |
| 67       | Iron and steel .....                                                                                           | 12,175  | .....                    | 11             | .....  | 176                          | 65        | 1,093       | 13,519  |
| 68       | Non-ferrous metals .....                                                                                       | .....   | .....                    | 3,630          | .....  | 319                          | 1,031     | 119         | 5,098   |
| 69       | Manufactures of metal, n.e.i. ....                                                                             | 2       | 32                       | 116            | 5      | 8                            | 49        | 117         | 329     |
| 71       | Machinery, other than electric .....                                                                           | 16      | 142                      | 246            | 122    | (b)                          | 186       | 1,624       | 2,336   |
| 72       | Electrical machinery, apparatus and appliances .....                                                           | 36      | 19                       | 12             | 25     | 1                            | 63        | 226         | 382     |
| 73       | Transport equipment .....                                                                                      | (b)     | 52                       | 482            | .....  | 4                            | 1,547     | (f)11,600   | 13,685  |
| 81       | Sanitary, plumbing, heating and lighting fixtures and fittings .....                                           | .....   | .....                    | .....          | .....  | .....                        | 6         | 78          | 84      |
| 82       | Furniture .....                                                                                                | (b)     | 1                        | .....          | .....  | .....                        | 8         | 69          | 78      |
| 84       | Clothing and clothing accessories, and articles of knitted or crocheted fabric .....                           | .....   | .....                    | 1              | (b)    | .....                        | 1         | 5           | 8       |
| 86       | Professional, scientific and controlling instruments; photographic and optical goods; watches and clocks ..... | 3       | 24                       | 11             | .....  | 2                            | 66        | 136         | 241     |
| 89       | Miscellaneous manufactured articles, n.e.i. ....                                                               | 8       | 134                      | 60             | (b)    | 13                           | 1         | 75          | 291     |
|          | Other .....                                                                                                    | 274     | 778                      | 461            | 54     | 77                           | 6,163     | 5,946       | 13,753  |
|          | TOTAL .....                                                                                                    | 309,266 | 68,766                   | 38,338         | 30,141 | 26,303                       | 20,611    | 181,601 (g) | 675,027 |

(a) Includes China (mainland), \$39.2 million; Malaysia, \$5.52 million; and Korea (North), \$3.17 million. (b) Less than \$500. (c) Includes France, \$2.84 million. (d) Includes U.S.S.R., \$13.2 million; France, \$10.2 million; Italy, \$8.45 million; India, \$4.11 million; Belgium-Luxembourg, \$3.97 million; and Poland, \$3.01 million. (e) Includes Italy, \$5.40 million; France, \$5.08 million; and Belgium-Luxembourg, \$4.26 million. (f) Includes Mozambique, \$8.12 million. (g) Includes an amount of \$116.5 million, representing the value of exports detailed in footnotes (a), (c), (d), (e) and (f).

The following table gives a classification of Western Australia's principal export commodities according to their main countries of destination in 1969-70.

VALUE OF OVERSEAS EXPORTS OF PRINCIPAL COMMODITIES  
MAIN COUNTRIES OF DESTINATION (a): 1969-70

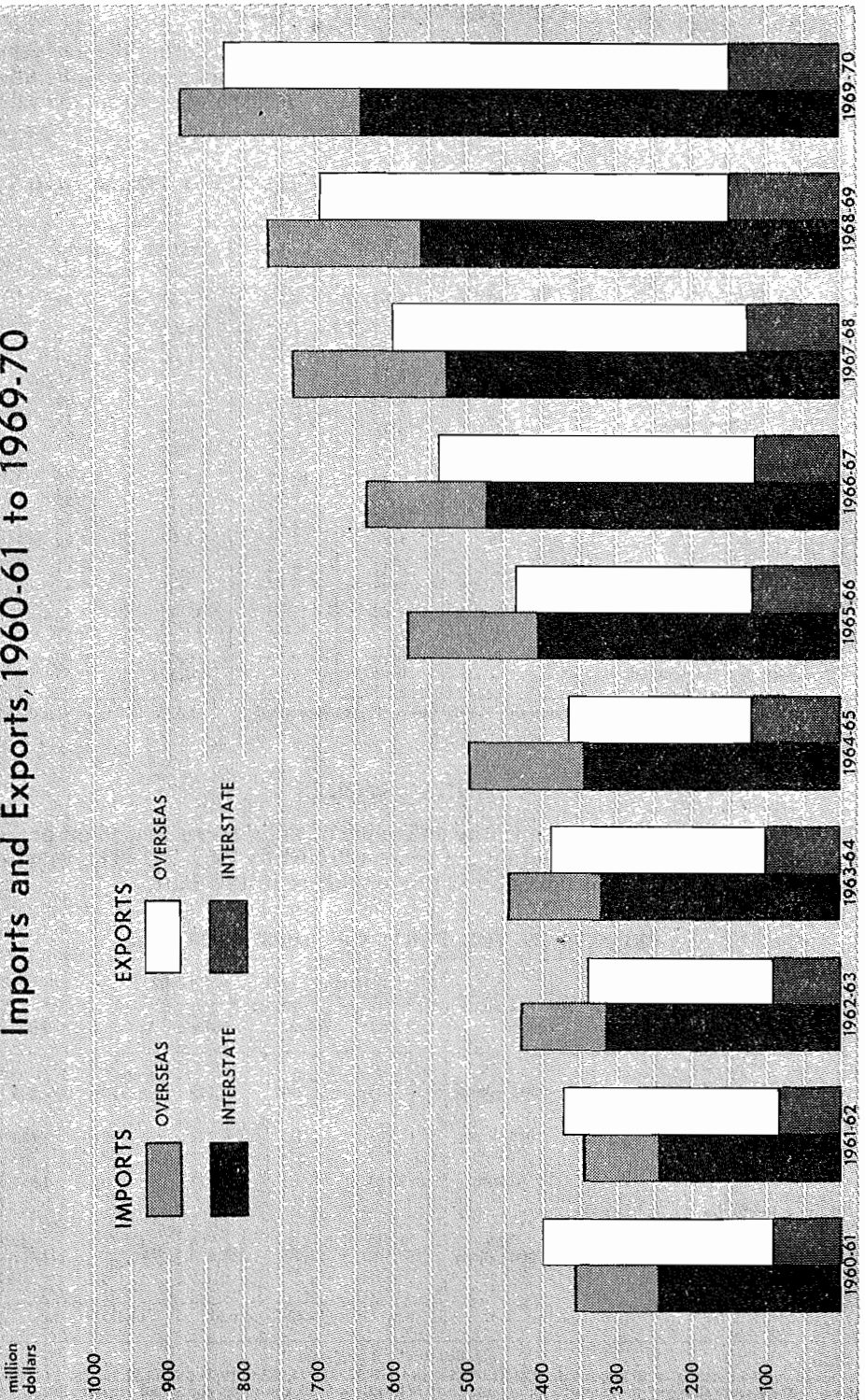
| Division | Description and destination       | Value (\$'000) | Division | Description and destination              | Value (\$'000) |
|----------|-----------------------------------|----------------|----------|------------------------------------------|----------------|
| 04       | Food—                             |                | 28       | Ores, metalliferous— <i>continued</i>    |                |
|          | Cereals and cereal preparations—  |                |          | Ilmenite— <i>continued</i>               |                |
|          | Barley, unmilled—                 |                |          | United States of America ....            | 822            |
|          | China, Republic of (Taiwan) ....  | 1,636          |          | Germany, Federal Republic of ....        | 309            |
|          | Italy ....                        | 1,485          |          | Netherlands ....                         | 225            |
|          | United Kingdom ....               | 577            |          | Iron—                                    |                |
|          | Germany, Federal Republic of .... | 507            |          | Japan ....                               | 193,927        |
|          | Japan ....                        | 424            |          | Germany, Federal Republic of ....        | 5,997          |
|          | Flour of wheat—                   |                |          | Italy ....                               | 5,331          |
|          | Indonesia ....                    | 776            |          | United States of America ....            | 4,559          |
|          | Trucial States ....               | 484            |          | United Kingdom ....                      | 4,494          |
|          | Mauritius ....                    | 348            |          | France ....                              | 3,962          |
|          | Qatar ....                        | 196            |          | Belgium-Luxembourg ....                  | 3,962          |
|          | Saudi Arabia ....                 | 167            |          | Netherlands ....                         | 1,997          |
|          | Muscat and Oman ....              | 143            |          | Greece ....                              | 1,694          |
|          | Oats, unmilled—                   |                |          | Manganese—                               |                |
|          | Italy ....                        | 402            |          | Japan ....                               | 2,899          |
|          | Germany, Federal Republic of .... | 239            |          | France ....                              | 128            |
|          | Japan ....                        | 150            |          | Tin—                                     |                |
|          | Wheat, unmilled—                  |                |          | Spain ....                               | 943            |
|          | China (mainland) ....             | 39,221         |          | Malaysia ....                            | 228            |
|          | Japan ....                        | 27,881         | 33       | Petroleum and petroleum products—        |                |
|          | Malaysia ....                     | 5,501          |          | New Zealand ....                         | 2,092          |
|          | United Kingdom ....               | 4,947          |          | Malaysia ....                            | 648            |
|          | Singapore ....                    | 3,656          |          | Christmas Island (Indian Ocean) ....     | 491            |
|          | Korea (North) ....                | 3,174          |          | Singapore ....                           | 264            |
|          | Hong Kong ....                    | 1,075          |          | Thailand ....                            | 150            |
|          | China, Republic of (Taiwan) ....  | 1,016          | 21       | Skins and hides—                         |                |
| 03       | Fish, fresh, chilled or frozen—   |                |          | Bovine—                                  |                |
|          | Rock lobster tails—               |                |          | South Africa ....                        | 717            |
|          | United States of America ....     | 15,598         |          | Hong Kong ....                           | 322            |
| 05       | Fruit, fresh—                     |                |          | Japan ....                               | 255            |
|          | Apples—                           |                |          | Sheep and lamb—                          |                |
|          | United Kingdom ....               | 2,135          |          | France ....                              | 2,839          |
|          | Singapore ....                    | 981            |          | Italy ....                               | 901            |
|          | Germany, Federal Republic of .... | 524            |          | Germany, Federal Republic of ....        | 531            |
|          | Ireland ....                      | 318            |          | United Kingdom ....                      | 462            |
|          | Netherlands ....                  | 235            | 24       | Timber—                                  |                |
|          | Sweden ....                       | 190            |          | United Kingdom ....                      | 1,546          |
|          | Grapes—                           |                |          | Kenya ....                               | 217            |
|          | Singapore ....                    | 301            |          | New Zealand ....                         | 196            |
| 01       | Meat, fresh, chilled or frozen—   |                |          | South Africa ....                        | 148            |
|          | Beef and veal—                    |                | 26       | Wool—                                    |                |
|          | United States of America ....     | 17,947         |          | Degreased (washed, scoured, etc.)—       |                |
|          | United Kingdom ....               | 886            |          | Union of Soviet Socialist Republics .... | 6,557          |
|          | Singapore ....                    | 795            |          | United Kingdom ....                      | 2,417          |
|          | Japan ....                        | 429            |          | United States of America ....            | 2,064          |
|          | Canada ....                       | 348            |          | Germany, Federal Republic of ....        | 1,439          |
|          | Malta ....                        | 147            |          | Italy ....                               | 1,312          |
|          | Iran ....                         | 142            |          | Iran ....                                | 513            |
|          | Trucial States ....               | 134            |          | Hong Kong ....                           | 274            |
|          | Mutton and lamb—                  |                |          | India ....                               | 270            |
|          | Japan ....                        | 2,886          |          | France ....                              | 211            |
|          | Canada ....                       | 1,995          |          | Korea (North) ....                       | 172            |
|          | United Kingdom ....               | 1,360          |          | Belgium-Luxembourg ....                  | 157            |
|          | Iran ....                         | 1,083          |          | Greasy (including slime)—                |                |
|          | United States of America ....     | 901            |          | Japan ....                               | 35,191         |
|          | Trucial States ....               | 539            |          | Germany, Federal Republic of ....        | 15,314         |
|          | Singapore ....                    | 527            |          | France ....                              | 9,907          |
|          | Greece ....                       | 304            |          | United Kingdom ....                      | 8,874          |
|          | Kuwait ....                       | 302            |          | Italy ....                               | 6,947          |
|          | Mauritius ....                    | 280            |          | Union of Soviet Socialist Republics .... | 6,621          |
|          | Malaysia ....                     | 233            |          | United States of America ....            | 4,355          |
|          | Qatar ....                        | 194            |          | India ....                               | 3,806          |
|          | Saudi Arabia ....                 | 128            |          | Belgium-Luxembourg ....                  | 3,638          |
|          | Other (b)—                        |                |          | Poland ....                              | 3,005          |
|          | United Kingdom ....               | 1,071          |          | Yugoslavia ....                          | 2,199          |
|          | Japan ....                        | 475            |          | Turkey ....                              | 1,711          |
|          | Singapore ....                    | 243            |          | Netherlands ....                         | 1,485          |
| 05       | Potatoes—                         |                |          | Czechoslovakia ....                      | 1,287          |
|          | Singapore ....                    | 446            |          | Spain ....                               | 1,237          |
|          | Ceylon ....                       | 199            |          | United Arab Republic ....                | 951            |
| 28       | Ores, metalliferous—              |                |          | Mexico ....                              | 826            |
|          | Ilmenite—                         |                |          | China, Republic of (Taiwan) ....         | 618            |
|          | United Kingdom ....               | 2,201          |          | Hungary ....                             | 353            |
|          | Japan ....                        | 1,028          |          | Portugal ....                            | 148            |
|          | France ....                       | 933            |          | Germany (East) ....                      | 144            |

(a) See page 424 for total values of overseas exports of the several commodities shown, offals, poultry, rabbits, and goat and kangaroo meat.

(b) Comprises pigmeat, edible



## Imports and Exports, 1960-61 to 1969-70



## AVERAGE EXPORT VALUES

The following table shows the annual average export values, during the five years ended 30 June 1970, of a number of Western Australia's principal export commodities. The figures are based on *total* exports (interstate and overseas) and represent the value f.o.b., or its equivalent, at the point of final shipment.

ANNUAL AVERAGE EXPORT VALUES OF SPECIFIED COMMODITIES  
(\$)

| Description                             | Unit        | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|-----------------------------------------|-------------|---------|---------|---------|---------|---------|
| Apples, fresh .....                     | bushel      | 3.57    | 3.30    | 3.37    | 3.39    | 3.75    |
| Cereals and cereal preparations—        |             |         |         |         |         |         |
| Barley .....                            | "           | 1.17    | 1.12    | 1.05    | 0.97    | 0.81    |
| Oats .....                              | "           | 0.87    | 0.82    | 0.82    | 0.71    | 0.63    |
| Wheat .....                             | "           | 1.39    | 1.49    | 1.40    | 1.40    | 1.30    |
| Wheaten flour .....                     | cental (a)  | 3.12    | 3.27    | 3.19    | 3.14    | 3.28    |
| Meat, fresh, chilled or frozen—         |             |         |         |         |         |         |
| Beef .....                              | lb          | 0.30    | 0.32    | 0.35    | 0.38    | 0.41    |
| Lamb .....                              | "           | 0.22    | 0.21    | 0.24    | 0.17    | 0.20    |
| Mutton .....                            | "           | 0.18    | 0.17    | 0.16    | 0.15    | 0.17    |
| Pork .....                              | "           | 0.41    | 0.38    | 0.39    | 0.40    | 0.37    |
| Ores, metalliferous—                    |             |         |         |         |         |         |
| Ilmenite .....                          | ton         | 9.89    | 10.17   | 10.20   | 10.50   | 10.75   |
| Iron (b) .....                          | "           | 7.93    | 8.41    | 8.33    | 8.55    | 7.90    |
| Manganese .....                         | "           | 23.13   | 21.95   | 21.15   | 20.58   | 19.56   |
| Potatoes .....                          | cwt         | 3.31    | 2.01    | 2.41    | 2.66    | 2.12    |
| Rock lobster tails .....                | lb          | 1.96    | 1.73    | 2.08    | 2.56    | 2.39    |
| Skins and hides—                        |             |         |         |         |         |         |
| Bovine .....                            | "           | 0.17    | 0.18    | 0.13    | 0.15    | 0.15    |
| Sheep and lamb, with wool .....         | "           | 0.32    | 0.30    | 0.21    | 0.23    | 0.23    |
| Timber—                                 |             |         |         |         |         |         |
| Railway sleepers .....                  | 100 sup. ft | 12.62   | 12.53   | 13.73   | 13.42   | 14.79   |
| Other (c) .....                         | "           | 12.67   | 12.85   | 13.80   | 13.66   | 13.42   |
| Wool—                                   |             |         |         |         |         |         |
| Greasy (including slip) .....           | lb          | 0.53    | 0.53    | 0.46    | 0.49    | 0.45    |
| Degreased (washed, scoured, etc.) ..... | "           | 0.61    | 0.60    | 0.50    | 0.58    | 0.62    |

(a) Cental = 100 lb.

(b) The averages shown relate to overseas exports only.

(c) Excluding plywood and veneers.

## SHIPS' STORES

The following table shows the quantity and value of ships' stores loaded on board vessels at Western Australian ports during the years 1967-68 to 1969-70. The value of ships' stores is excluded from all tables appearing elsewhere in this Part.

## EXPORTS IN THE FORM OF SHIPS' STORES (a)

| Description                    | Unit         | 1967-68  |            | 1968-69  |            | 1969-70  |            |
|--------------------------------|--------------|----------|------------|----------|------------|----------|------------|
|                                |              | Quantity | Value      | Quantity | Value      | Quantity | Value      |
| Beverages, alcoholic .....     | '000 gallons | 193      | \$'000 245 | 179      | \$'000 190 | 200      | \$'000 215 |
| Foodstuffs—                    |              |          |            |          |            |          |            |
| Fresh, chilled or frozen—      |              |          |            |          |            |          |            |
| Eggs in shell .....            | '000 dozen   | 201      | 128        | 174      | 109        | 182      | 116        |
| Fish .....                     | '000 lb      | 333      | 212        | 297      | 214        | 262      | 180        |
| Fruit .....                    | "            | 118      | 111        | 111      | 111        | 111      | 97         |
| Meat .....                     | '000 lb      | 2,123    | 835        | 2,393    | 850        | 1,937    | 716        |
| Vegetables .....               | "            | 295      | 295        | 276      | 276        | 237      | 237        |
| All other foodstuffs .....     | "            | 369      | 369        | 315      | 315        | 315      | 315        |
| Fuel for ships and aircraft—   |              |          |            |          |            |          |            |
| Coal .....                     | ton          | 1,515    | 30         | 4        | (b)        | 39       | 2          |
| Other (bunker oil, etc.) ..... | '000 gallons | 136,506  | 11,079     | 129,200  | 10,882     | 143,687  | 11,098     |
| Lubricants .....               | "            | 282      | 282        | 293      | 293        | 787      | 787        |
| All other ships' stores .....  | "            | 1,231    | 1,231      | 1,085    | 1,085      | 1,329    | 1,329      |
| Total (a) .....                | n.a.         | n.a.     | 14,824     | n.a.     | 14,327     | n.a.     | 15,092     |

n.a. denotes 'not applicable'.

(a) Includes interstate ships' stores valued at \$1,079,145 in 1967-68, \$1,174,963 in 1968-69 and \$1,231,980 in 1969-70. Where the value of overseas ships' stores recorded in any one entry is less than \$150, the stores concerned are not allocated according to commodity, but are included in the item *All other ships' stores*. (b) Less than \$500.

## OVERSEAS IMPORTS AND EXPORTS

The following table shows the total value of Australia's overseas imports and exports, together with the proportion handled at Western Australian ports, during each of the years 1960-61 to 1969-70.

## OVERSEAS TRADE OF AUSTRALIA—TOTAL VALUE AND PROPORTION HANDLED AT WESTERN AUSTRALIAN PORTS

| Year    | Value of Australian trade (\$'000) |           |           | Proportion handled at Western Australian ports (per cent) |         |       |
|---------|------------------------------------|-----------|-----------|-----------------------------------------------------------|---------|-------|
|         | Imports                            | Exports   | Total     | Imports                                                   | Exports | Total |
| 1960-61 | 2,175,154                          | 1,937,686 | 4,112,840 | 5.08                                                      | 15.96   | 10.21 |
| 1961-62 | 1,769,492                          | 2,154,568 | 3,924,060 | 5.66                                                      | 13.37   | 9.90  |
| 1962-63 | 2,162,669                          | 2,151,811 | 4,314,480 | 5.21                                                      | 11.50   | 8.35  |
| 1963-64 | 2,372,658                          | 2,782,460 | 5,155,118 | 5.13                                                      | 10.30   | 7.92  |
| 1964-65 | 2,904,703                          | 2,651,449 | 5,556,152 | 5.29                                                      | 9.17    | 7.14  |
| 1965-66 | 2,939,492                          | 2,720,953 | 5,660,445 | 5.98                                                      | 11.55   | 8.66  |
| 1966-67 | 3,045,341                          | 3,023,925 | 6,069,266 | 5.23                                                      | 13.93   | 9.57  |
| 1967-68 | 3,264,473                          | 3,044,675 | 6,309,148 | 6.34                                                      | 15.61   | 10.81 |
| 1968-69 | 3,468,505                          | 3,366,073 | 6,834,578 | 5.87                                                      | 16.23   | 10.97 |
| 1969-70 | 3,881,227                          | 4,131,618 | 8,012,845 | 6.24                                                      | 16.34   | 11.45 |

## CUSTOMS AND EXCISE

## The Customs Tariff

The first Commonwealth Customs Tariff was introduced on 8 October 1901, from which date uniform duties came into effect throughout Australia. The Australian Customs Tariff has been developed in conformity with the policy of protecting economic and efficient Australian industries and of granting preferential treatment to imports from certain countries. Duties are imposed on some goods, generally of a luxury nature, for revenue purposes. Customs collections are a major source of revenue, but in its protective character the tariff has an important influence on the Australian economy.

The particulars appearing in the tables in this section have been extracted from the bulletin *Overseas Trade* published annually by the Commonwealth Statistician, Canberra. The bulletin contains details showing, for each State and Territory, a dissection of customs revenue according to Customs Tariff Division, and excise revenue according to Excise Tariff Item and rate of duty.

CUSTOMS AND EXCISE—GROSS COLLECTIONS IN WESTERN AUSTRALIA (a)  
(\$'000)

| Tariff                           | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|----------------------------------|---------|---------|---------|---------|---------|
| Customs duty (a)                 | 15,251  | 13,569  | 19,468  | 21,202  | 24,649  |
| Excise duty—                     |         |         |         |         |         |
| Petroleum products               | 17,848  | 20,224  | 22,105  | 24,656  | 26,743  |
| Spirits, potable and non-potable | 832     | 1,019   | 1,090   | 1,187   | 1,272   |
| Tobacco, cigars and cigarettes   | 12,913  | 13,069  | 13,885  | 15,171  | 17,181  |
| Other (b)                        | 21,943  | 23,864  | 25,823  | 28,275  | 31,441  |
| Total, excise (a) (b)            | 53,536  | 58,176  | 62,903  | 69,289  | 76,637  |
| GRAND TOTAL (b)                  | 68,787  | 71,745  | 82,371  | 90,490  | 101,286 |

(a) For net collections see page 273.

(b) Includes excise on beer, details of which are not available for publication.

The following table shows the rates of excise duty applying to certain commodities during the period 1 July 1968 to 30 June 1970, the quantities of goods excised in Western Australia at those rates, and the gross amounts of revenue collected. For a more detailed analysis, including particulars for each State and Territory, the reader is referred to the annual bulletin *Overseas Trade* to which reference is made earlier in this section.

**EXCISE DUTY—GROSS COLLECTIONS IN WESTERN AUSTRALIA  
CLASSIFIED ACCORDING TO COMMODITY**

| Commodity                          | Unit               | Rate of duty | 1968-69     |                   | 1969-70     |                   |
|------------------------------------|--------------------|--------------|-------------|-------------------|-------------|-------------------|
|                                    |                    |              | Quantity    | Gross collections | Quantity    | Gross collections |
| Beer .....                         | gal                | \$ 1·1375    | (a)         | \$'000 (a)        | (a)         | \$'000 (a)        |
| Spirits (potable)—                 |                    |              |             |                   |             |                   |
| Brandy .....                       | pf gal             | 8·00         | 74,578      | 597               | 82,561      | 661               |
| Gin .....                          | "                  | 11·30        | 12,869      | 145               | 12,177      | 137               |
| Whisky .....                       | "                  | 11·10        | 15,485      | 172               | 16,278      | 181               |
| Rum .....                          | "                  | 11·30        | 10,565      | 119               | 9,930       | 112               |
| Liqueurs .....                     | "                  | 11·40        | 115         | 1                 | ....        | ....              |
| Vodka .....                        | "                  | 11·20        | 3,629       | 40                | 3,741       | 42                |
| Flavoured spirituous liquors ..... | "                  | 11·20        | 7,144       | 80                | 8,926       | 100               |
| Other .....                        | "                  | 11·20        | 815         | 9                 | 1,649       | 18                |
| Spirits (non-potable)—             |                    |              |             |                   |             |                   |
| For fortifying wine .....          | "                  | 12·20        | 8           | (b)               | 69          | 1                 |
| Tobacco—Manufactured .....         | lb                 | 0·40         | 58,359      | 23                | 50,363      | 20                |
| For fortifying wine .....          | "                  | 0·69         | 12,543      | 9                 | 9,478       | 7                 |
| Tobacco—Manufactured .....         | "                  | 2·173        | 96          | (b)               | 96          | (b)               |
| Cigarettes—Machine-made .....      | "                  | 2·24         | 547,128     | 1,226             | 511,216     | 1,145             |
| Petroleum products—                | "                  | 4·20         | 3,318,349   | 13,937            | 3,816,342   | 16,029            |
| Gasoline—                          |                    |              |             |                   |             |                   |
| Aviation .....                     | gal                | 0·0957       | 219,466     | 21                | ....        | ....              |
| Other .....                        | "                  | 0·123        | 171,702,694 | 21,119            | 189,680,042 | 23,331            |
| Aviation turbine kerosene .....    | "                  | 0·079        | 11,920,420  | 942               | 11,560,000  | 913               |
| Diesel fuel .....                  | "                  | 0·125        | 20,591,475  | 2,574             | 19,995,908  | 2,499             |
| Cigarette papers and tubes .....   | 60 papers or tubes | 0·0145       | 5,438,900   | 79                | 5,285,497   | 77                |
| Coal .....                         | ton                | (c) 0·0333   | 513,277     | 17                | ....        | ....              |
| " .....                            | "                  | (d) 0·044    | 584,035     | 26                | 1,089,456   | 48                |
| " .....                            | "                  | (d) 0·011    | 328         | (b)               | ....        | ....              |
| " .....                            | "                  | (e) 0·022    | ....        | ....              | 1,817       | (b)               |
| Canned fruit .....                 | dozen              | 0·05 to 1·05 | 99,512      | 27                | 42,632      | 2                 |
| Other .....                        | containers         | n.a.         | n.a.        | (f) 28,126        | n.a.        | (f) 31,314        |
| Total gross collections .....      | n.a.               | n.a.         | n.a.        | 69,289            | n.a.        | 76,637            |

n.a. denotes 'not applicable'.

(a) Not available for publication. (b) Less than \$500. (c) Operative to 31 October 1968. (d) Operative from 1 November 1968. (e) Operative from 1 July 1969. (f) Includes excise duty paid on beer; see note (a).

## *Chapter IX—continued*

### **Part 2—Internal Trade**

#### CENSUSES OF WHOLESALE, RETAIL AND SELECTED SERVICE ESTABLISHMENTS

##### CENSUS OF RETAIL ESTABLISHMENTS

Details of the structure and pattern of retail trade throughout Australia have been obtained in periodic Censuses of Retail Establishments. For each of the years 1947-48, 1948-49, 1952-53, 1956-57 and 1961-62 a census was conducted which covered the retail trading activities of all establishments selling to the general public from fixed premises such as shops, rooms, kiosks and yards. In addition, these censuses included some details of the activities of service establishments (e.g. motor repair workshops, hairdressers, boot repairers, cafes and restaurants) and supplementary collections were conducted relating to the activities of licensed clubs, motion picture theatres, laundries and dry cleaners. Data from these censuses were published by the Commonwealth Statistician, Canberra, in a series of special bulletins for each State and Territory and for Australia as a whole.

The Census of Retail Establishments provides a framework for the quarterly sample surveys designed to measure variations in the value of retail sales throughout the inter-censal period—see page 439.

##### INTEGRATED ECONOMIC CENSUSES

In 1968-69 the first Integrated Economic Censuses were conducted covering mining, manufacturing, electricity and gas, wholesale, retail and selected service industries. The Integrated Censuses were planned to permit the aggregation and comparison of data from each of these major sectors of economic activity. This was not possible previously due to the independent development of mining, manufacturing and retail censuses with consequent gaps and overlaps in scope, inconsistent definitions and differences in the type and range of data collected. In addition, the Integrated Economic Censuses introduced the first full-scale coverage of wholesale establishments. A detailed account of the changes introduced by the Integrated Censuses is given in the *Appendix* of the *Western Australian Year Book*, No. 10—1971.

Data from two of the Integrated Economic Censuses, namely the *Census of Retail and Selected Service Establishments, 1968-69* and the *Census of Wholesale Establishments, 1968-69* are presented in this Part. Classification of establishments to the industries included in these censuses was based on principles set out in the Bureau publication *Australian Standard Industrial Classification (Preliminary Edition), 1969, Vol. 1*, referred to hereafter as ASIC. In general, an establishment was defined as a single physical location of an enterprise and was classified to an industry according to the predominant activity engaged in at that location. This was a departure from the practice of past Retail Censuses whereby a location was regarded as a retail establishment provided it made retail sales exceeding \$1,000 for the census year (i.e. regardless of predominant activity). In addition, data relating to establishments in the Integrated Economic Censuses covered all the activities of the establishment whereas, in previous Retail Censuses, only the retail activities of each establishment were recorded. Thus, for example, employment in retail establishments in the 1968-69 census included employees engaged in non-retail activities carried out in retail establishments (e.g. wholesaling or manufacturing).

A further refinement introduced in the Integrated Censuses was the concept of administrative offices and ancillary units. This concept recognised the existence of separately-located units within business enterprises which were engaged mainly in providing a service (e.g. administration, transport, storage, etc.) to establishments within the enterprise. It was

considered that the data for these units should be recorded with the industry of the establishments receiving the service rather than with the industry represented by the service rendered. Data for industries included in the Integrated Economic Censuses thus included components relating to administrative offices and ancillary units serving the establishments in the industry.

Definitions of the items appearing in the tables on pages 435 and 437 are as follows.

**NUMBER OF ESTABLISHMENTS.** The number of establishments which operated during 1968-69. These relate to establishments as such and do not include the numbers of separately-located administrative offices and ancillary units.

**PERSONS EMPLOYED.** Working proprietors at the end of June 1969 and employees on the pay-roll of the last pay-period in June 1969, including those working at separately-located administrative offices and ancillary units in the State. For retail and selected service establishments, unpaid members of the proprietor's family and other unpaid helpers working at least fifteen hours during the last week of June 1969 are also included.

**WAGES AND SALARIES.** The wages and salaries of all employees of the establishment, including those working at separately-located administrative offices and ancillary units in the State. Amounts drawn by working proprietors are not included.

**SALES ON OWN ACCOUNT, TRANSFERS OUT AND OTHER OPERATING REVENUE.** Sales of goods (retail and wholesale) owned by the enterprise, commissions received on sales or purchases of goods owned by other enterprises, and all other operating revenue from outside the enterprise such as repair and service revenue, rent and leasing revenue from retail or wholesale activities (as defined in ASIC), and takings from meals and accommodation, theatre admissions, hairdressing, laundry and dry cleaning. Transfers out from one establishment of an enterprise to another are included at commercial values for wholesale establishments but are excluded for retail and selected service establishments and recorded instead as purchases of the receiving establishments. Rent and leasing revenue from other than wholesale or retail activities, interest and receipts from sales of fixed tangible assets are excluded.

**PURCHASES, TRANSFERS IN AND SELECTED EXPENSES.** Purchases of goods for resale and materials for manufacturing, plus transfers in from other establishments of the enterprise other than retail establishments, charges for commission and sub-contract work, purchases of wrapping and packaging materials, electricity and fuel, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments.

**VALUE ADDED.** Sales, transfers out and other operating revenue plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

**SALES OR PURCHASES ON COMMISSION (WHOLESALE ESTABLISHMENTS ONLY).** Value of sales or purchases of goods owned by other enterprises and arranged by wholesale establishments or their agents, whether from stocks held on consignment or by direct delivery to customers from stocks held by other enterprises.

#### CENSUS OF RETAIL AND SELECTED SERVICE ESTABLISHMENTS, 1968-69

Retail establishments included in this census were defined by the ASIC as establishments engaged mainly in the resale of new or used goods to final consumers for household or personal consumption, or in various other activities such as custom tailoring and dress-making, clothing repair and alteration, making-up, installation and repair of blinds, awnings and curtains, shoe repairs, repair of household appliances, watch, clock and jewellery repairs, panel beating, motor vehicle repairs and tyre retreading. The selected service establishments included in the census were motion picture theatres, cafes and restaurants, licensed hotels, motels and wine saloons, licensed clubs, laundries and dry cleaners, and hairdressers and beauty salons.

The following table gives preliminary results for the major variables collected in the Census of Retail and Selected Service Establishments, 1968-69. Direct comparisons with figures from previous retail censuses and from retail surveys are not possible due to changes in units, scope and items of data. Details for Australia appear in the second table.

RETAIL ESTABLISHMENTS AND SELECTED SERVICE ESTABLISHMENTS  
SUMMARY OF OPERATIONS: WESTERN AUSTRALIA, 1968-69 (a)

| Industry group                                   | Number of establishments operating during 1968-69 | Persons employed (b) |         |        | Wages and salaries (c) | Sales and other operating revenue | Purchases, transfers in and selected expenses | Value added |
|--------------------------------------------------|---------------------------------------------------|----------------------|---------|--------|------------------------|-----------------------------------|-----------------------------------------------|-------------|
|                                                  |                                                   | Males                | Females | Total  |                        |                                   |                                               |             |
|                                                  |                                                   |                      |         |        | \$m                    | \$m                               | \$m                                           | \$m         |
| Retail establishments—                           |                                                   |                      |         |        |                        |                                   |                                               |             |
| Department, variety and general stores           | 113                                               | 2,191                | 6,232   | 8,423  | 15.5                   | 114.4                             | 85.3                                          | 28.2        |
| Food stores                                      | 3,825                                             | 5,974                | 9,171   | 15,145 | 17.4                   | 264.3                             | 218.7                                         | 47.5        |
| Bread and milk vendors                           | 337                                               | 554                  | 229     | 783    | 0.2                    | 11.4                              | 9.5                                           | 1.9         |
| Clothing, fabrics and furniture stores           | 1,372                                             | 2,406                | 4,327   | 6,733  | 9.7                    | 93.5                              | 69.2                                          | 25.7        |
| Household appliance and hardware stores          | 573                                               | 1,758                | 1,015   | 2,773  | 5.6                    | 55.1                              | 41.6                                          | 14.6        |
| Motor vehicle dealers, petrol and tyre retailers | 2,324                                             | 11,661               | 2,816   | 14,477 | 29.2                   | 390.4                             | 315.2                                         | 77.0        |
| Other retailers                                  | 1,391                                             | 2,179                | 3,141   | 5,320  | 6.5                    | 61.3                              | 42.7                                          | 19.8        |
| Total, Retail establishments                     | 9,935                                             | 26,723               | 26,931  | 53,654 | 84.0                   | 990.4                             | 782.2                                         | 215.0       |
| Selected service establishments—                 |                                                   |                      |         |        |                        |                                   |                                               |             |
| Motion picture theatres                          | 139                                               | 527                  | 422     | 949    | 1.3                    | 6.1                               | 2.3                                           | 3.8         |
| Restaurants and licensed hotels                  | 930                                               | 3,236                | 6,898   | 10,134 | 15.9                   | 96.6                              | 58.4                                          | 38.6        |
| Licensed clubs                                   | 254                                               | 852                  | 500     | 1,352  | 2.7                    | 13.2                              | 7.6                                           | 5.7         |
| Laundries and dry cleaners                       | 154                                               | 398                  | 1,035   | 1,433  | 2.2                    | 5.7                               | 1.5                                           | 4.2         |
| Hairdressing and beauty salons                   | 638                                               | 484                  | 1,752   | 2,236  | 2.0                    | 5.8                               | 1.2                                           | 4.6         |
| Total, Selected service establishments           | 2,115                                             | 5,497                | 10,607  | 16,104 | 24.2                   | 127.5                             | 71.0                                          | 57.1        |
| GRAND TOTAL                                      | 12,050                                            | 32,220               | 37,538  | 69,758 | 108.2                  | 1,117.9                           | 853.2                                         | 272.0       |

(a) See letterpress immediately preceding table. (b) At end of June 1969; includes working proprietors and unpaid helpers working at least 15 hours during the week. (c) Excludes amounts drawn by working proprietors.

RETAIL ESTABLISHMENTS AND SELECTED SERVICE ESTABLISHMENTS  
SUMMARY OF OPERATIONS: AUSTRALIA, 1968-69 (a)

| Industry group                                   | Number of establishments operating during 1968-69 | Persons employed (b) |         |         | Wages and salaries (c) | Sales and other operating revenue | Purchases, transfers in and selected expenses | Value added |
|--------------------------------------------------|---------------------------------------------------|----------------------|---------|---------|------------------------|-----------------------------------|-----------------------------------------------|-------------|
|                                                  |                                                   | Males                | Females | Total   |                        |                                   |                                               |             |
|                                                  |                                                   |                      |         |         | \$m                    | \$m                               | \$m                                           | \$m         |
| Retail establishments—                           |                                                   |                      |         |         |                        |                                   |                                               |             |
| Department, variety and general stores           | 1,048                                             | 31,697               | 65,861  | 97,558  | 201.9                  | 1,364.7                           | 1,020.9                                       | 358.2       |
| Food stores                                      | 55,273                                            | 103,500              | 120,761 | 224,261 | 258.2                  | 3,356.5                           | 2,707.8                                       | 665.6       |
| Bread and milk vendors                           | 5,822                                             | 10,664               | 3,946   | 14,610  | 10.6                   | 202.1                             | 159.6                                         | 42.5        |
| Clothing, fabrics and furniture stores           | 20,317                                            | 33,925               | 52,607  | 86,532  | 138.6                  | 1,251.3                           | 908.2                                         | 358.4       |
| Household appliance and hardware stores          | 8,113                                             | 25,154               | 14,724  | 39,878  | 80.8                   | 658.3                             | 468.3                                         | 196.7       |
| Motor vehicle dealers, petrol and tyre retailers | 26,927                                            | 140,278              | 30,468  | 170,746 | 360.6                  | 4,335.2                           | 3,448.4                                       | 922.5       |
| Other retailers                                  | 19,358                                            | 38,957               | 45,505  | 84,462  | 112.6                  | 984.7                             | 678.4                                         | 320.1       |
| Total, Retail establishments                     | 136,858                                           | 384,175              | 333,872 | 718,047 | 1,163.3                | 12,152.9                          | 9,391.5                                       | 2,864.3     |
| Selected service establishments—                 |                                                   |                      |         |         |                        |                                   |                                               |             |
| Motion picture theatres                          | 1,039                                             | 4,899                | 4,069   | 8,968   | 13.1                   | 53.9                              | 21.3                                          | 32.6        |
| Restaurants and licensed hotels                  | 11,734                                            | 52,578               | 71,829  | 124,407 | 202.0                  | 1,221.6                           | 744.3                                         | 481.1       |
| Licensed clubs                                   | 2,783                                             | 26,451               | 11,692  | 38,143  | 81.5                   | 348.0                             | 141.9                                         | 206.9       |
| Laundries and dry cleaners                       | 2,232                                             | 7,153                | 13,468  | 20,621  | 36.2                   | 92.3                              | 23.7                                          | 68.7        |
| Hairdressing and beauty salons                   | 9,432                                             | 6,743                | 20,390  | 27,133  | 26.7                   | 84.9                              | 20.4                                          | 64.9        |
| Total, Selected service establishments           | 27,220                                            | 97,824               | 121,448 | 219,272 | 359.6                  | 1,800.7                           | 951.5                                         | 854.3       |
| GRAND TOTAL                                      | 164,078                                           | 481,999              | 455,320 | 937,319 | 1,522.9                | 13,953.6                          | 10,343.0                                      | 3,718.6     |

(a) See letterpress immediately preceding the previous table. (b) At end of June 1969; includes working proprietors and unpaid helpers working at least 15 hours during the week. (c) Excludes amounts drawn by working proprietors.

### Commodity Statistics

Details of retail (and wholesale) sales of groups of commodities were collected in the 1968-69 Integrated Economic Censuses. It will be noted, however, that the commodity groupings in the retail and wholesale censuses are, in most cases, not identical, and direct comparison is not possible. In addition, the retail and wholesale sales tables differ in scope in that the retail sales figures include sales by mining, manufacturing, and electricity and gas establishments, whereas the wholesale sales tables exclude them.

Retail sales were defined as the sale to final consumers of new or used goods of a type used mainly for household and personal purposes. Sales by retailers of commodities such as basic building materials, builders' hardware and builders' supplies, timber, commercial refrigerators and freezers, agricultural tractors, farm machinery and implements, construction and earthmoving equipment, grain, feed, fertilisers and agricultural supplies, and business machines and equipment, were treated as wholesale sales since the goods are of a type used mainly for commercial purposes.

The table below shows retail sales made by retail and selected service establishments, wholesale, mining, manufacturing, and electricity and gas establishments which operated during 1968-69. Details of retail sales obtained from the Integrated Economic Censuses differ from those recorded in the quarterly Survey of Retail Establishments (see table on page 439) and from previous censuses due to variations in scope and definition. Direct comparisons with figures from previous censuses and from retail surveys are therefore not possible.

INTEGRATED ECONOMIC CENSUSES, 1968-69—RETAIL SALES (a)  
NUMBER OF ESTABLISHMENTS AND VALUE OF RETAIL SALES BY COMMODITY ITEM

| Commodity item                                                                | Number of establishments (a) | Value of retail sales (a) | Commodity item                                                                    | Number of establishments (a) | Value of retail sales (a) |
|-------------------------------------------------------------------------------|------------------------------|---------------------------|-----------------------------------------------------------------------------------|------------------------------|---------------------------|
|                                                                               |                              | \$'000                    |                                                                                   |                              | \$'000                    |
| Groceries, other food items, etc.—                                            |                              |                           | Hardware (b)—                                                                     |                              |                           |
| Groceries .....                                                               | 2,715                        | 122,975                   | Domestic hardware, china, glassware (including garden equipment) ....             | 1,237                        | 16,685                    |
| Fresh meat .....                                                              | 1,166                        | 46,110                    |                                                                                   |                              |                           |
| Fresh fruit and vegetables .....                                              | 1,644                        | 21,295                    | Petrol, motor vehicles, boats, etc. (c)—                                          |                              |                           |
| Bread, cakes and pastries .....                                               | 2,100                        | 11,312                    | Petrol, oils and motor lubricants, etc. ....                                      | 1,739                        | 51,072                    |
| Delivered bread .....                                                         | 22                           | 4,283                     | New motor vehicles .....                                                          | 325                          | 118,356                   |
| Delivered milk .....                                                          | 332                          | 11,054                    | New parts and accessories for motor vehicles .....                                | 1,266                        | 15,875                    |
| Fish (fresh or cooked), chips, hamburgers, etc. ....                          | 931                          | 7,884                     | Used motor vehicles .....                                                         | 404                          | 80,696                    |
| Confectionery, ice cream, soft drinks, wrapped lunches, etc. ....             | 4,244                        | 29,075                    | Used parts and accessories for motor vehicles .....                               | 188                          | 1,785                     |
| Beer, wine and spirits .....                                                  | 1,114                        | 87,720                    | New and used motor cycles, motor scooters .....                                   | 130                          | 1,816                     |
| Cigarettes and other tobacco products                                         | 5,271                        | 31,945                    | New and used motor tyres, tubes and batteries .....                               | 1,342                        | 19,842                    |
|                                                                               |                              |                           | Boats, outboard motors, caravans ....                                             | 103                          | 9,894                     |
| Furniture and floor coverings—                                                |                              |                           | Miscellaneous—                                                                    |                              |                           |
| Furniture, mattresses, blinds, etc. including installation and repairs ....   | 461                          | 23,557                    | Cosmetics, perfumes, toilet preparations, etc. ....                               | 1,650                        | 10,576                    |
| Floor coverings, carpets, lino, etc. including laying of floor coverings .... | 279                          | 10,618                    | Patent medicines and therapeutic appliances .....                                 | 1,202                        | 8,977                     |
| Fabrics, clothing and footwear—                                               |                              |                           | Prescription medicines .....                                                      | 400                          | 10,516                    |
| Fabrics, piece goods, manchester, blankets, soft furnishings, etc. ....       | 827                          | 21,068                    | Photographic equipment and supplies .....                                         | 725                          | 3,996                     |
| Clothing—                                                                     |                              |                           | Watches, clocks, jewellery, silverware .....                                      | 693                          | 7,526                     |
| Men's and boys' .....                                                         | 936                          | 29,993                    | Sporting goods, bicycles, toys, etc. ....                                         | 981                          | 8,769                     |
| Women's, girls' and infants' .....                                            | 1,041                        | 49,023                    | Books, stationery, newspapers, etc. ....                                          | 1,498                        | 21,688                    |
| Footwear—                                                                     |                              |                           | Antiques, disposal goods, secondhand goods (excluding goods traded in), etc. .... | 213                          | 2,726                     |
| Men's and boys' .....                                                         | 628                          | 6,099                     | Cut flowers, garden seeds, shrubs, etc. ....                                      | 335                          | 3,234                     |
| Women's, girls' and infants' .....                                            | 542                          | 10,552                    | Travel goods, brief cases, etc. ....                                              | 361                          | 1,765                     |
| Household appliances—                                                         |                              |                           | Bottled liquefied petroleum gas .....                                             | 213                          | 1,950                     |
| Radios, radiograms, tape recorders, etc. ....                                 | 427                          | 5,878                     | Goods not included above .....                                                    | 511                          | 4,925                     |
| Musical instruments, records, etc. ....                                       | 340                          | 3,840                     |                                                                                   |                              |                           |
| Television sets and accessories .....                                         | 274                          | 6,667                     |                                                                                   |                              |                           |
| Domestic refrigerators and freezers .....                                     | 298                          | 9,615                     |                                                                                   |                              |                           |
| Washing machines, stoves, household heating appliances, etc. ....             | 323                          | 7,831                     |                                                                                   |                              |                           |
| Other household appliances .....                                              | 694                          | 10,359                    |                                                                                   |                              |                           |
|                                                                               |                              |                           | Total .....                                                                       | (d)                          | 971,422                   |

(a) See letterpress immediately preceding table. (b) Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc. See letterpress *Commodity Statistics* preceding table. (c) Excludes tractors, farm machinery and implements, earthmoving equipment, etc. See letterpress *Commodity Statistics* preceding table. (d) Many establishments show takings in more than one commodity item. Accordingly, the sum of the number of establishments showing sales for individual items will exceed the total number of retail and selected service, wholesale, mining, manufacturing and electricity and gas establishments reporting retail sales.



## CENSUS OF WHOLESALE ESTABLISHMENTS, 1968-69

This census covered all establishments defined by the ASIC as predominantly engaged in the resale (as agent or principal) of new or used goods to retailers or other wholesalers, or to institutional, professional or other business users (including farmers and builders). This definition included wholesale merchants, manufacturers' sales offices which held stocks, commission agents including import, export and purchasing agents, co-operatives and marketing boards. In addition, establishments engaged mainly in repairing farm machinery and business machines, or in leasing machinery and equipment for periods of one year or more without operators were classified to wholesaling.

The next two tables give preliminary results for the major variables collected in the Census of Wholesale Establishments, 1968-69. In these tables, wholesale establishments have not been classified by industry, but by 'type of operation', which is an additional classification adopted in the wholesale census mainly to indicate the method of selling by wholesale establishments. At the time of publication, data for wholesale establishments classified by industry classes were not available.

WHOLESALE ESTABLISHMENTS  
SUMMARY OF OPERATIONS: WESTERN AUSTRALIA, 1968-69 (a)

| Broad type of operation                                | Number of wholesale establishments operating during 1968-69 | Persons employed (b) |         |        | Wages and salaries (c) | Sales on own account, transfers out and other operating revenue | Purchases, transfers in and selected expenses | Value added | Sales or purchases on commission |
|--------------------------------------------------------|-------------------------------------------------------------|----------------------|---------|--------|------------------------|-----------------------------------------------------------------|-----------------------------------------------|-------------|----------------------------------|
|                                                        |                                                             | Males                | Females | Total  |                        |                                                                 |                                               |             |                                  |
| Primary produce dealers or agents .....                | 313                                                         | 2,996                | 1,180   | 4,176  | \$m 11.8               | \$m 173.6                                                       | \$m 145.1                                     | \$m 30.3    | \$m 248.2                        |
| Wholesale merchants—                                   |                                                             |                      |         |        |                        |                                                                 |                                               |             |                                  |
| Import and/or export merchants .....                   | 233                                                         | 1,411                | 632     | 2,043  | 5.6                    | 176.9                                                           | 163.8                                         | 17.4        | 18.7                             |
| Other wholesale merchants .....                        | 1,567                                                       | 12,643               | 4,819   | 17,462 | 44.5                   | 556.9                                                           | 460.3                                         | 103.8       | 49.1                             |
| Manufacturers' sales branches holding stocks .....     | 227                                                         | 2,230                | 633     | 2,863  | 8.8                    | 127.7                                                           | 102.1                                         | 31.1        | 35.9                             |
| Commission agents or brokers .....                     | 415                                                         | 1,285                | 646     | 1,931  | 4.0                    | 34.2                                                            | 22.9                                          | 11.4        | 210.8                            |
| Petroleum distributors .....                           | 330                                                         | 1,768                | 339     | 2,107  | 6.6                    | 152.7                                                           | 120.4                                         | 32.3        | 122.9                            |
| Repairers and lessors of machinery and equipment ..... | 57                                                          | 280                  | 56      | 336    | 0.9                    | 3.8                                                             | 0.9                                           | 3.2         | 0.1                              |
| Total .....                                            | 3,142                                                       | 22,613               | 8,305   | 30,918 | 82.3                   | 1,225.8                                                         | 1,015.4                                       | 229.6       | 685.7                            |

(a) See letterpress immediately preceding table.  
amounts drawn by working proprietors.

(b) At end of June 1969; includes working proprietors.

(c) Excludes

WHOLESALE ESTABLISHMENTS  
SUMMARY OF OPERATIONS: AUSTRALIA, 1968-69 (a)

| Broad type of operation                                | Number of wholesale establishments operating during 1968-69 | Persons employed (b) |         |         | Wages and salaries (c) | Sales on own account, transfers out and other operating revenue | Purchases, transfers in and selected expenses | Value added | Sales or purchases on commission |
|--------------------------------------------------------|-------------------------------------------------------------|----------------------|---------|---------|------------------------|-----------------------------------------------------------------|-----------------------------------------------|-------------|----------------------------------|
|                                                        |                                                             | Males                | Females | Total   |                        |                                                                 |                                               |             |                                  |
| Primary produce dealers or agents .....                | 3,619                                                       | 28,039               | 9,865   | 37,904  | \$m 107.6              | \$m 1,560.2                                                     | \$m 1,316.0                                   | \$m 240.6   | \$m 2,849.9                      |
| Wholesale merchants—                                   |                                                             |                      |         |         |                        |                                                                 |                                               |             |                                  |
| Import and/or export merchants .....                   | 3,285                                                       | 23,043               | 11,363  | 34,406  | 108.1                  | 2,129.5                                                         | 1,889.6                                       | 280.1       | 293.3                            |
| Other wholesale merchants .....                        | 18,802                                                      | 149,174              | 53,282  | 202,456 | 560.4                  | 7,728.7                                                         | 6,441.4                                       | 1,368.7     | 335.5                            |
| Manufacturers' sales branches holding stocks .....     | 1,804                                                       | 22,894               | 7,142   | 30,036  | 96.6                   | 1,481.5                                                         | 1,171.7                                       | 331.7       | 444.0                            |
| Commission agents or brokers .....                     | 3,579                                                       | 11,240               | 5,821   | 17,061  | 46.5                   | 357.2                                                           | 244.1                                         | 116.5       | 2,202.6                          |
| Petroleum distributors .....                           | 2,423                                                       | 18,214               | 3,182   | 21,396  | 75.7                   | 1,632.1                                                         | 1,322.7                                       | 325.7       | 1,346.2                          |
| Repairers and lessors of machinery and equipment ..... | 732                                                         | 3,907                | 764     | 4,671   | 13.3                   | 74.8                                                            | 25.6                                          | 50.2        | 1.5                              |
| Total .....                                            | 34,244                                                      | 256,511              | 91,419  | 347,930 | 1,008.4                | 14,964.1                                                        | 12,411.2                                      | 2,713.6     | 7,472.9                          |

(a) See letterpress immediately preceding the previous table.  
(c) Excludes amounts drawn by working proprietors.

(b) At end of June 1969; includes working proprietors.

## Commodity Statistics

Details of wholesale (and retail) sales of groups of commodities were collected in the 1968-69 Integrated Economic Censuses. It will be noted, however, that the commodity groupings in the retail and wholesale censuses are, in most cases, not identical, and direct comparison is not possible. In addition, the retail and wholesale sales tables differ in scope in that the retail sales figures include sales by mining, manufacturing, and electricity and gas establishments, whereas the wholesale sales tables exclude them.

Wholesale sales were defined as the resale of new and used goods to retailers or other wholesalers, or to institutional (including government), professional or other business users (including builders and farmers). The table below shows wholesale sales made by wholesale and retail and selected service establishments which operated during 1968-69. Data for wholesale sales are not free of duplication, in that they may include, for example, sales of the same goods from wholesaler to wholesaler and wholesaler to retailer, respectively. Wholesale sales on commission by agents are not included in the table.

INTEGRATED ECONOMIC CENSUSES, 1968-69—WHOLESALE SALES (a)  
NUMBER OF ESTABLISHMENTS AND VALUE OF WHOLESALE SALES BY COMMODITY ITEM

| Commodity item                                                          | Number of establishments (a) | Wholesale sales on own account (a) | Commodity item                                    | Number of establishments (a) | Wholesale sales on own account (a) |
|-------------------------------------------------------------------------|------------------------------|------------------------------------|---------------------------------------------------|------------------------------|------------------------------------|
|                                                                         |                              | \$'000                             |                                                   |                              | \$'000                             |
| Agricultural and pastoral products and supplies—                        |                              |                                    | Vehicles and transport equipment— <i>contd.</i>   |                              |                                    |
| Livestock .....                                                         | 25                           | 2,634                              | Tyres and wet cell batteries .....                | 46                           | 13,421                             |
| Wool .....                                                              | 94                           | 91,869                             | Other (aircraft, boats, etc.) .....               | 24                           | 5,002                              |
| Hides, skins, raw furs, leather and tallow .....                        | 66                           | 9,897                              | Household appliances, furniture, etc.—            |                              |                                    |
| Wheat and other cereal grains .....                                     | 35                           | 15,616                             | Household appliances .....                        | 120                          | 31,310                             |
| Other farm products, n.e.i. ....                                        | 14                           | 1,008                              | China, glassware, kitchenware, etc. ....          | 124                          | 6,045                              |
| Farm and garden supplies .....                                          | 406                          | 71,844                             | Garden equipment .....                            | 22                           | 943                                |
| Metals and minerals—                                                    |                              |                                    | Furniture, mattresses and blinds .....            | 43                           | 1,594                              |
| Iron and steel .....                                                    | 98                           | 37,379                             | Floor coverings .....                             | 40                           | 5,092                              |
| Scrap metal .....                                                       | 52                           | 5,216                              | Clothing, footwear and textile products—          |                              |                                    |
| Other metals and minerals .....                                         | 34                           | 5,828                              | Men's and boys' clothing .....                    | 50                           | 7,111                              |
| Machinery and equipment including parts—                                |                              |                                    | Women's, girls' and infants' clothing .....       | 58                           | 7,597                              |
| Agricultural machinery and implements .....                             | 406                          | 57,663                             | Footwear .....                                    | 24                           | 1,359                              |
| Construction and earthmoving machinery .....                            | 66                           | 38,350                             | Textiles and textile products, n.e.i. ....        | 90                           | 10,663                             |
| Industrial machinery for use in manufacturing, mining, etc. ....        | 223                          | 49,850                             | Foodstuffs—                                       |                              |                                    |
| Machinery and equipment for commercial and service establishments ..... | 85                           | 10,057                             | Meat .....                                        | 52                           | 39,303                             |
| Professional and scientific equipment .....                             | 49                           | 4,491                              | Dairy products, smallgoods and poultry .....      | 67                           | 6,225                              |
| Business machines, including computers .....                            | 55                           | 6,753                              | Eggs and egg pulp .....                           | 19                           | (b)                                |
| Electrical and electronic equipment, n.e.i. ....                        | 132                          | 26,069                             | Fresh fruit and vegetables .....                  | 84                           | 32,719                             |
| Building materials and supplies—                                        |                              |                                    | Fish .....                                        | 51                           | 29,211                             |
| Timber, plywood and veneers .....                                       | 157                          | 26,714                             | Confectionery .....                               | 67                           | 10,729                             |
| Glass .....                                                             | 88                           | 4,433                              | Groceries—Food lines only .....                   | 135                          | 49,203                             |
| Other basic building materials .....                                    | 236                          | 21,131                             | Tea .....                                         | 35                           | 3,122                              |
| Builders' hardware and supplies .....                                   | 916                          | 77,666                             | Coffee .....                                      | 44                           | 2,441                              |
| Pharmaceuticals, toiletries and chemicals—                              |                              |                                    | Other food .....                                  | 18                           | 2,395                              |
| Chemicals and allied products, n.e.i. ....                              | 81                           | 7,106                              | Beverages and tobacco products—                   |                              |                                    |
| Medical and pharmaceutical products .....                               | 82                           | 16,202                             | Soft drinks .....                                 | 41                           | 1,124                              |
| Toiletries, perfumes and cosmetics .....                                | 80                           | 5,141                              | Wine and brandy .....                             | 30                           | 7,397                              |
| Soap and detergents .....                                               | 73                           | 2,569                              | Beer and other spirits .....                      | 32                           | 7,487                              |
| Petroleum, petroleum products and fuel—                                 |                              |                                    | Cigarettes and other tobacco products .....       | 40                           | 17,600                             |
| Petroleum and petroleum products .....                                  | 50                           | 129,464                            | Miscellaneous—                                    |                              |                                    |
| Liquefied petroleum gas .....                                           | 10                           | 1,405                              | Books, periodicals and other printed matter ..... | 32                           | 4,264                              |
| Coal, coke, briquettes and charcoal .....                               | 3                            |                                    | Paper, paper products and stationery .....        | 109                          | 15,012                             |
| Vehicles and transport equipment—                                       |                              |                                    | Photographic goods .....                          | 36                           | 2,043                              |
| Motor vehicles .....                                                    | 41                           | 35,008                             | Watches, clocks, jewellery, etc. ....             | 58                           | 2,322                              |
| Motor cycles and scooters .....                                         | 2                            | (b)                                | Sporting goods and bicycles .....                 | 81                           | 4,289                              |
| Motor vehicle parts, accessories and engines .....                      | 100                          | 17,958                             | Toys and games .....                              | 62                           | 2,765                              |
|                                                                         |                              |                                    | Fancy goods, gifts and souvenirs .....            | 53                           | 2,226                              |
|                                                                         |                              |                                    | Secondhand goods, excluding motor vehicles .....  | 60                           | 1,028                              |
|                                                                         |                              |                                    | Goods not included above .....                    | 594                          | 41,445                             |
|                                                                         |                              |                                    | Total .....                                       | (c)                          | 1,160,524                          |

n.e.i. denotes 'not elsewhere included'.

(a) See letterpress immediately preceding table. (b) Not available for publication. (c) Many establishments showed takings in more than one commodity item. Accordingly, the sum of the number of establishments showing sales for individual items will exceed the total number of wholesale, retail and selected service establishments reporting wholesale sales.

### Other Information Available

Further details about the Integrated Economic Censuses and data for local government authorities relating to retail sales and employment and wages and salaries in whole-sale establishments are available in the bulletins *Economic Censuses 1968-69 : Retail and Selected Service Establishments—Preliminary Bulletin, Western Australia* and *Economic Censuses 1968-69 : Wholesale Establishments—Preliminary Bulletin, Western Australia*, respectively. In addition, bulletins relating to each of the other States and Territories and Australia as a whole are also available.

### SURVEY OF RETAIL ESTABLISHMENTS

During the period between censuses, estimates of the value of retail sales are derived from returns received from a representative sample of retailers throughout Australia. These establishments account for approximately 45 per cent of the total retail sales in Australia. From these sample returns, totals for all retail establishments in Australia are estimated by methods appropriate to a stratified sample, using data from the 1961-62 Census as a benchmark.

Annual revisions to the sample take account of the changing pattern of retail trade and ensure that new businesses entering the field are represented in the survey.

Quarterly estimates for each State and Territory and Australia as a whole in broad commodity groups are published by the Commonwealth Statistician in the bulletin *Retail Sales of Goods*. Preliminary monthly estimates of total retail sales in Australia (excluding motor vehicles, etc.), based on a sub-sample of the establishments used to provide the quarterly estimates, appear in *Retail Sales of Goods (Provisional)*.

In the following table, the estimated value of retail sales of goods in Western Australia is given by commodity groups for each of the years 1966-67 to 1970-71. The estimates shown are compiled on a basis comparable with the 1961-62 Census of Retail Establishments.

RETAIL SALES CLASSIFIED ACCORDING TO COMMODITY GROUPS (a)  
(\$ million)

| Commodity group                                            | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|------------------------------------------------------------|---------|---------|---------|---------|---------|
| Groceries .....                                            | 93.7    | 102.6   | 113.7   | 120.9   | 135.3   |
| Butchers' meat .....                                       | 40.5    | 43.8    | 48.8    | 51.7    | 56.9    |
| Other food (b) .....                                       | 70.3    | 78.0    | 85.9    | 93.8    | 106.8   |
| Total food and groceries .....                             | 204.5   | 224.4   | 248.4   | 266.4   | 299.0   |
| Beer, wine and spirits (c) .....                           | 62.3    | 69.3    | 82.7    | 92.8    | 101.8   |
| Clothing, drapery, soft furnishings .....                  | 80.6    | 88.2    | 96.8    | 104.7   | 113.8   |
| Footwear .....                                             | 13.5    | 15.1    | 16.8    | 17.6    | 18.6    |
| Hardware, china and glassware (d) .....                    | 13.4    | 14.8    | 16.7    | 17.7    | 18.9    |
| Electrical goods (e) .....                                 | 31.5    | 35.9    | 40.7    | 43.3    | 47.3    |
| Furniture, mattresses, floor coverings .....               | 24.4    | 28.0    | 32.0    | 36.1    | 37.7    |
| Chemists' goods .....                                      | 26.4    | 29.0    | 34.6    | 38.3    | 40.8    |
| Newspapers, books, stationery .....                        | 14.8    | 16.2    | 18.6    | 20.6    | 21.5    |
| Other goods (f) .....                                      | 52.9    | 57.1    | 64.3    | 68.8    | 73.8    |
| Total (excluding motor vehicles, etc.) .....               | 524.3   | 578.0   | 651.6   | 706.3   | 773.2   |
| New and used motor vehicles, parts, petrol, etc. (g) ..... | 219.5   | 249.9   | 293.3   | 315.7   | 339.2   |
| GRAND TOTAL .....                                          | 743.8   | 827.9   | 944.9   | 1,022.0 | 1,112.4 |

(a) Figures for 1967-68 to 1969-70 have been revised since previous issue. (b) Includes fresh fruit and vegetables, confectionery, soft drinks, ice cream, cakes, pastry, cooked provisions, fish, etc. but excludes most delivered milk and some delivered bread. (c) Excludes sales made by licensed clubs. (d) Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc. (e) Includes radios, television and accessories, musical instruments, domestic refrigerators. (f) Includes tobacco, cigarettes, etc.; jewellery, sporting goods, etc. but excludes grain and produce, and business machines. (g) Excludes tractors, farm machinery and implements, earthmoving equipment, etc.

For purposes of comparison the following table shows, for each of the Australian States and Territories, the total value of retail sales excluding motor vehicles, etc. in each of the years 1966-67 to 1970-71.

### RETAIL SALES (EXCLUDING MOTOR VEHICLES, ETC.): STATES AND TERRITORIES (a) (\$ million)

| State or Territory                | 1966-67        | 1967-68        | 1968-69            | 1969-70            | 1970-71            |
|-----------------------------------|----------------|----------------|--------------------|--------------------|--------------------|
| New South Wales ....              | 2,680.4        | 2,866.5        | 3,020.9            | 3,250.5            | 3,491.6            |
| Victoria ....                     | 2,042.1        | 2,177.1        | 2,293.5            | 2,469.5            | 2,654.7            |
| Queensland ....                   | 960.6          | 1,020.6        | 1,068.8            | 1,142.0            | 1,213.8            |
| South Australia ....              | 627.1          | 663.6          | 706.5              | 760.9              | 812.3              |
| Western Australia ....            | 524.3          | 578.0          | 651.6              | 706.3              | 773.2              |
| Tasmania ....                     | 215.0          | 227.9          | 239.8              | 252.8              | 266.3              |
| Australian Capital Territory .... | 65.7           | 74.6           | (b)                | (b)                | (b)                |
| Northern Territory ....           | 28.8           | 34.4           | (b)                | (b)                | (b)                |
| <b>AUSTRALIA ....</b>             | <b>7,144.0</b> | <b>7,642.7</b> | <b>(c) 7,981.1</b> | <b>(c) 8,582.0</b> | <b>(c) 9,211.9</b> |

(a) Figures for 1966-67 to 1969-70 have been revised since previous issue.

(b) Not available.

(c) Excludes Australian Capital Territory and Northern Territory.

### DELIVERIES OF NEW AGRICULTURAL MACHINERY

The statistics in this section, which cover certain types of imported and Australian-made new agricultural machinery, have been derived from quarterly returns collected from principals marketing the equipment. Deliveries represent implements and machines sent to agents or dealers by the principals or by the State distributors, plus direct sales to final users by the principals or distributors. Additional information on receipts, deliveries and stocks is available in the quarterly bulletin *New Agricultural Machinery Statistics* issued by the Commonwealth Statistician, Canberra.

### DELIVERIES OF NEW AGRICULTURAL MACHINERY (a) (Number)

| Type of implement or machine                              | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------------------------------|---------|---------|---------|---------|---------|
| <b>Tillage implements—</b>                                |         |         |         |         |         |
| Disc ploughs—                                             |         |         |         |         |         |
| Tractor-mounting type ....                                | 46      | 39      | 41      | (b)     | 19      |
| Trailing type ....                                        | 1,137   | 1,096   | 969     | 306     | 59      |
| Agricultural rippers (sub-soilers) ....                   | n.a.    | 126     | 153     | 150     | 55      |
| Tine cultivators and scarifiers ....                      | 483     | 639     | (b)     | 242     | 181     |
| Tine harrows (number of leaves or sections) ....          | 8,219   | 12,099  | *8,944  | *3,937  | 2,783   |
| Disc harrows ....                                         | n.a.    | 155     | 185     | 182     | 105     |
| Rotary cultivators ....                                   | 335     | 327     | 351     | (b)     | 206     |
| <b>Seeding and fertilising machinery—</b>                 |         |         |         |         |         |
| Drills and cultivating drills ....                        | 932     | 1,184   | 975     | 336     | 142     |
| Fertiliser spreaders, other than direct drop ....         | 518     | 660     | 512     | *273    | 214     |
| <b>Harvesting, haymaking and silage-making machinery—</b> |         |         |         |         |         |
| Pick-up balers ....                                       | 193     | 209     | 131     | 347     | 239     |
| Forage harvesters ....                                    | 25      | 13      | (b)     | 31      | 34      |
| Headers (combine harvesters)—                             |         |         |         |         |         |
| Self-propelled ....                                       | 216     | 376     | 192     | 103     | 127     |
| Drawn ....                                                | 735     | 411     | 335     | (b)     | (b)     |
| <b>Agricultural mowers (4 ft cut and over) (c)—</b>       |         |         |         |         |         |
| Reciprocating knife ....                                  | 243     | 192     | (b)     | 229     | 191     |
| Rotary mowers, slashers, and toppers ....                 | 449     | 449     | 345     | *217    | 255     |
| Pick-up hale loaders for baled hay ....                   | n.a.    | 90      | 134     | 202     | 197     |
| Bale elevators and stackers ....                          | n.a.    | 102     | 104     | 151     | 157     |
| Grain augers ....                                         | n.a.    | 691     | (b)     | (b)     | (b)     |
| <b>Other agricultural machinery—</b>                      |         |         |         |         |         |
| Post-hole diggers (auger type) ....                       | 260     | 294     | (b)     | *212    | 71      |
| Hammer mills (farm type) ....                             | 126     | (b)     | 135     | 99      | (b)     |

n.a. denotes 'not available'.

(a) See letterpress immediately preceding table.

(b) Not available for publication.

(c) Excludes flail mowers and toppers.

\*Revised.

### SALES OF NEW TRACTORS

The following table has been derived from the quarterly collection of tractor statistics from businesses which distribute the various makes of new tractors throughout Australia. The figures for sales represent the number of new tractors delivered or in transit to end-users or to manufacturers of tractor attachments. For additional information, the reader is referred to the bulletin *Receipts, Sales and Stocks of New Tractors* issued quarterly by the Commonwealth Statistician, Canberra.

### SALES OF NEW TRACTORS (a) (Number)

| Horsepower and shipping weight     | Agricultural (b) |         |         | Non-agricultural (b) |         |         |
|------------------------------------|------------------|---------|---------|----------------------|---------|---------|
|                                    | 1968-69          | 1969-70 | 1970-71 | 1968-69              | 1969-70 | 1970-71 |
| <b>WHEELED TRACTORS</b>            |                  |         |         |                      |         |         |
| Maximum power take-off horsepower— |                  |         |         |                      |         |         |
| Up to and including 15 hp          | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| Over 15 hp and up to 25 hp         | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| " 25 hp " " 35 hp                  | 244              | (c)     | 18      | 95                   | (c)     | 2       |
| " 35 hp " " 45 hp                  | (c)              | (c)     | 175     | (c)                  | (c)     | 72      |
| " 45 hp " " 60 hp                  | (c)              | 135     | 126     | (c)                  | 347     | 389     |
| " 60 hp " " 80 hp                  | 864              | (c)     | 202     | 56                   | (c)     | 54      |
| " 80 hp " " 100 hp                 | (c)              | 77      | 64      | (c)                  | (c)     | 43      |
| " 100 hp " " "                     | (c)              | (c)     | 39      | (c)                  | (c)     | 84      |
| Total                              | 1,752            | (c)     | 635     | 524                  | (c)     | 650     |
| <b>CRAWLER TRACTORS</b>            |                  |         |         |                      |         |         |
| Shipping weight—                   |                  |         |         |                      |         |         |
| Over 3,000 lb and up to 6,000 lb   | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| " 6,000 lb " " 10,000 lb           | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| " 10,000 lb " " 15,000 lb          | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| " 15,000 lb " " 25,000 lb          | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| " 25,000 lb " " 40,000 lb          | (c)              | (c)     | (c)     | (c)                  | (c)     | 28      |
| " 40,000 lb " " "                  | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |
| Total                              | (c)              | (c)     | (c)     | (c)                  | (c)     | (c)     |

(a) See letterpress immediately preceding table.

(b) Includes wheeled tractors which are operated from in front of the engine when the vehicle is in forward motion, and articulated tractors.

(c) Not available for publication.

### WHOLESALE SALES AND STOCKS OF WINE AND BRANDY

#### WINE AND BRANDY—WHOLESALE SALES AND STOCKS (See letterpress on page 442)

| Type                              | Wholesale sales (a) |               |               | Stocks held by wholesalers and winemakers at 30 June |               |               |
|-----------------------------------|---------------------|---------------|---------------|------------------------------------------------------|---------------|---------------|
|                                   | 1968-69             | 1969-70       | 1970-71       | 1969                                                 | 1970          | 1971          |
|                                   | gallons             | gallons       | gallons       | gallons                                              | gallons       | gallons       |
| <b>Wine—</b>                      |                     |               |               |                                                      |               |               |
| Sherry—                           |                     |               |               |                                                      |               |               |
| Flor                              | 38,868              | 33,245        | 34,774        | 19,766                                               | 28,939        | 33,903        |
| Other dry                         | 38,600              | 35,935        | 37,643        | 45,851                                               | 41,829        | 31,313        |
| Medium (b)                        | 178,665             | 157,041       | 170,757       | 46,629                                               | 49,550        | 55,135        |
| Sweet                             | 484,838             | 420,124       | 394,472       | 228,693                                              | 217,085       | 215,378       |
| Dessert wines—                    |                     |               |               |                                                      |               |               |
| Port (c)                          | 174,848             | 155,285       | 165,410       | 134,109                                              | 152,897       | 157,747       |
| Muscat (d)                        | 204,799             | 170,965       | 166,958       | 169,526                                              | 212,387       | 202,746       |
| Other (e)                         | 63,200              | 58,869        | 56,376        | 31,998                                               | 21,549        | 23,141        |
| Table wines (still, unfortified)— |                     |               |               |                                                      |               |               |
| Dry white (f)                     | 148,820             | 157,109       | 179,004       | 171,851                                              | 209,708       | 291,969       |
| Dry red (g)                       | 388,721             | 410,282       | 405,709       | 446,313                                              | 505,720       | 500,637       |
| Sweet (h)                         | 47,710              | 57,826        | 44,463        | 25,382                                               | 37,938        | 32,567        |
| Rose                              | 18,253              | 29,746        | 52,094        | 13,206                                               | 28,626        | 39,870        |
| Sparkling wines (all types) (i)—  |                     |               |               |                                                      |               |               |
| White                             | 165,225             | 131,906       | 130,745       | 39,626                                               | 20,427        | 25,891        |
| Red                               | 24,134              | 52,433        | 59,531        | 7,973                                                | 7,973         | 8,221         |
| Wine cocktails, etc. (j)          | 30,028              | 27,098        | 26,749        | 5,515                                                | 5,469         | 5,758         |
| Vermouth                          | 30,028              | 35,853        | 45,219        | 7,439                                                | 11,389        | 13,227        |
| Total, Wine                       | 2,006,709           | 1,933,717     | 1,969,904     | 1,385,904                                            | 1,551,486     | 1,637,503     |
|                                   | proof gallons       | proof gallons | proof gallons | proof gallons                                        | proof gallons | proof gallons |
| <b>Brandy</b>                     | 92,903              | 97,626        | 117,470       | 21,537                                               | 21,918        | 19,607        |

(a) Comprises sales (both local and interstate) made by wholesalers and winemakers from stocks held in Western Australia. Excludes sales to wholesalers and winemakers for resale by them, overseas exports, and sales for ships' stores. (b) Includes medium dry and medium sweet. (c) Other than white. (d) Includes Frontignac. (e) Includes Madeira, Tokay, Marsala and White Port. (f) Includes Riesling, Hock, Moselle, Chablis and White Burgundy. (g) Includes Claret and Burgundy. (h) Includes Sauterne and Graves. (i) Includes carbonated and pearl-type wines, etc. (j) Includes aperitif and tonic wines.

Each year details are obtained from winemakers, wholesale merchants, and importers, of the quantities of the various types of wine and brandy held in stock at 30 June or sold to retailers and consumers during the previous twelve months. The survey thus covers all sales of wine and brandy by wholesalers and manufacturers in the State except sales made to other wholesalers or manufacturers for resale by them, or to overseas purchasers. Although the figures for sales in the previous table are free of duplication, they should not be regarded as showing actual consumption in Western Australia as they include sales to retailers and consumers in other States and, conversely, exclude purchases from other States by Western Australian retailers and consumers.

## Chapter IX—continued

### Part 3—Transport

Western Australia's main transport systems are based generally on Perth, the capital, and the principal port, at Fremantle. Subsidiary systems are centred on a number of outports north and south of Fremantle and on some inland towns.

The railway system extends from Fremantle, Perth and Midland for hundreds of miles into the mining, agricultural, pastoral and forest areas in the southern half of the State. There is also a well-developed road system in this area, and the coastal towns in the north-west and the north are connected by road with the south and with the pastoral and mining areas of the hinterland. International flights operate through the airport at Perth, which is also the centre of a comprehensive network of airline services to towns in Western Australia and to the capital cities of other States.

In recent years important mineral developments in the north-west have led to the provision of deep-water port facilities and the construction of railways and roads connecting them with the extensive iron-ore deposits now being exploited.

The following table shows distances by road, rail, sea and air between Perth and selected towns and localities in Western Australia.

**DISTANCES BETWEEN PERTH AND SELECTED TOWNS AND LOCALITIES  
IN WESTERN AUSTRALIA**  
(Route miles)

| Town or locality                | Road  | Rail | Sea (a) | Air (b)<br>(*) | Town or locality                | Road | Rail | Air (b)<br>(*) |
|---------------------------------|-------|------|---------|----------------|---------------------------------|------|------|----------------|
| <b>North of 26°S. latitude—</b> |       |      |         |                | <b>South of 26°S. latitude—</b> |      |      |                |
| <b>Coastal—</b>                 |       |      |         |                | <b>Inland—continued</b>         |      |      |                |
| Broome ....                     | 1,372 | .... | 1,193   | 1,040          | Bruce Rock ....                 | 149  | 193  | ....           |
| Carnarvon ....                  | 611   | .... | 484     | 512            | Collie ....                     | 126  | 124  | ....           |
| Dampier ....                    | 1,005 | .... | 857     | 800            | Coolgardie ....                 | 347  | 364  | ....           |
| Denham (Shark Bay) ....         | 568   | .... | 479     | ....           | Donnybrook ....                 | 133  | 132  | ....           |
| Derby ....                      | 1,470 | .... | 1,358   | 1,130          | Forrest ....                    | .... | 783  | ....           |
| Exmouth ....                    | 835   | .... | 683     | 693            | Harvey ....                     | 87   | 86   | ....           |
| Onslow ....                     | 880   | .... | 733     | 723            | Hyden ....                      | 211  | 344  | ....           |
| Port Hedland ....               | 1,031 | .... | 957     | 822            | Kalgoorlie ....                 | 371  | 407  | 333            |
| Roebourne ....                  | 1,020 | .... | (c) 885 | 810            | Kambalda ....                   | 394  | .... | ....           |
| Wyndham ....                    | 2,007 | .... | 1,761   | 1,456          | Katanning ....                  | 175  | 244  | ....           |
| <b>Inland—</b>                  |       |      |         |                | Koolyanobbing ....              | 262  | 284  | ....           |
| Fitzroy Crossing ....           | 1,575 | .... | ....    | 1,267          | Leonora ....                    | 516  | 549  | 385            |
| Goldsworthy ....                | 1,058 | .... | ....    | 880            | Madura ....                     | 780  | .... | ....           |
| Halls Creek ....                | 1,774 | .... | ....    | 1,400          | Manjimup ....                   | 191  | 197  | ....           |
| Kununurra ....                  | 1,996 | .... | ....    | 1,481          | Meekatharra ....                | 475  | 608  | 400            |
| Marble Bar ....                 | 917   | .... | ....    | 918            | Merredin ....                   | 162  | 177  | ....           |
| Newman ....                     | 736   | .... | ....    | 637            | Moora ....                      | 117  | 108  | ....           |
| Nullagine ....                  | 846   | .... | ....    | 970            | Mount Barker ....               | 223  | 321  | ....           |
| Tom Price ....                  | 1,014 | .... | ....    | 650            | Mukinbudin ....                 | 191  | 223  | ....           |
| Wittenoom ....                  | 898   | .... | ....    | 692            | Mullewa ....                    | 289  | 339  | ....           |
| <b>South of 26°S. latitude—</b> |       |      |         |                | Nannup ....                     | 177  | 181  | ....           |
| <b>Coastal—</b>                 |       |      |         |                | Narrogin ....                   | 118  | 181  | ....           |
| Albany ....                     | 254   | 361  | 353     | 235            | Newdegate ....                  | 247  | 325  | ....           |
| Augusta ....                    | 188   | .... | ....    | ....           | Norseman ....                   | 451  | 473  | 344            |
| Bunbury ....                    | 96    | 115  | 93      | ....           | Northam ....                    | 61   | 76   | ....           |
| Busselton ....                  | 128   | 149  | 113     | ....           | Pinjarra ....                   | 54   | 54   | ....           |
| Esperance ....                  | 460   | 598  | 560     | 361            | Ravensthorpe ....               | 338  | .... | ....           |
| Eucla ....                      | 893   | .... | ....    | ....           | Southern Cross ....             | 230  | 249  | ....           |
| Fremantle ....                  | 11    | 12   | ....    | ....           | Wagin ....                      | 141  | 212  | ....           |
| Geraldton ....                  | 312   | 306  | 215     | 233            | Wiluna ....                     | 587  | .... | 490            |
| <b>Inland—</b>                  |       |      |         |                | Wyalkatchem ....                | 118  | 148  | ....           |
| Bridgetown ....                 | 169   | 174  | ....    | ....           | York ....                       | 60   | 97   | ....           |

(a) Nautical miles from Fremantle.  
since previous issue.

(b) Shortest regular route.

(c) Distance to Point Samson.

(\*) Figures revised

Distances by road, rail, sea and air between Perth and other capital cities in Australia are shown in the next table.

### DISTANCES BETWEEN PERTH AND OTHER CAPITAL CITIES (Miles)

| Method of travel | Canberra  | Sydney    | Melbourne | Brisbane  | Adelaide  | Hobart    | Darwin    |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Road .....       | (a) 2,457 | (a) 2,594 | (a) 2,168 | (a) 3,222 | 1,704     | ....      | 2,564     |
| Rail .....       | (b) 2,655 | (c) 2,461 | 2,132     | (c) 3,074 | 1,649     | ....      | ....      |
| Sea (d) .....    | ....      | 2,157     | (e) 1,700 | (e) 2,664 | (e) 1,378 | (e) 1,829 | (e) 1,848 |
| Air .....        | 1,991     | 2,120     | 1,784     | 2,599     | 1,377     | 2,176     | 1,868     |

(a) Via Adelaide. (b) Via Melbourne. (c) Via Broken Hill. (d) Distance in nautical miles. (e) From Fremantle.

### SHIPPING

Western Australia's sea-borne trade is conducted through the Port of Fremantle and a number of outports. Of these, Geraldton, Bunbury, Busselton, Albany and Esperance are situated in the more highly-developed south-western and southern part of the State. The less closely-settled areas of the north-west and the north are served by ports and other landing points at Useless Loop (Shark Bay), Carnarvon, Cape Cuvier, Exmouth, Onslow, Barrow Island, Dampier, Cape Lambert, Point Samson, Port Walcott, Port Hedland, Broome, Derby, Yampi and Wyndham.

The following table shows the number of entrances and the net tonnage of vessels entering each port, and the tonnage of cargo discharged at and shipped from each port, during the years 1968-69 and 1969-70. The figures exclude particulars of naval vessels; yachts and other craft used for pleasure; foreign fishing vessels that neither load nor discharge cargo; fishing vessels registered in Australia; vessels engaged in geographic, seismic or oceanographic surveys; offshore oil-drilling rigs and vessels servicing them; and vessels of 200 registered net tons and under.

### ENTRANCES OF VESSELS AND CARGO HANDLED AT PORTS

| Port                    | Entrances of vessels |                        |         |                        | Cargo handled |           |            |           |
|-------------------------|----------------------|------------------------|---------|------------------------|---------------|-----------|------------|-----------|
|                         | 1968-69              |                        | 1969-70 |                        | 1968-69       |           | 1969-70    |           |
|                         | Number               | Net tonnage of vessels | Number  | Net tonnage of vessels | Discharged    | Shipped   | Discharged | Shipped   |
|                         |                      | '000                   |         | '000                   | '000 tons     | '000 tons | '000 tons  | '000 tons |
| Port of Fremantle ..... | 1,389                | 8,920                  | 1,414   | 10,112                 | 6,175         | 4,712     | 6,060      | 4,819     |
| Other ports—            |                      |                        |         |                        |               |           |            |           |
| Albany .....            | 159                  | 890                    | 161     | 905                    | 278           | 190       | 256        | 245       |
| Barrow Island (a) ..... | 91                   | 672                    | 87      | 843                    | 10            | 1,467     | 8          | 1,879     |
| Broome .....            | 109                  | 260                    | 129     | 324                    | 22            | 12        | 24         | 13        |
| Bunbury .....           | 154                  | 806                    | 145     | 779                    | 286           | 775       | 248        | 762       |
| Busselton .....         | 7                    | 13                     | 2       | 3                      | ....          | 11        | ....       | 3         |
| Carnarvon (b) .....     | 32                   | 135                    | 58      | 310                    | 24            | 239       | 22         | 659       |
| Dampier .....           | 271                  | 3,726                  | 373     | 5,032                  | 160           | 10,933    | 175        | 14,204    |
| Derby .....             | 75                   | 141                    | 82      | 160                    | 27            | 3         | 36         | 3         |
| Esperance .....         | 59                   | 299                    | 70      | 392                    | 182           | 153       | 161        | 315       |
| Exmouth .....           | 19                   | 116                    | 18      | 75                     | 25            | 1         | 29         | (c)       |
| Geraldton .....         | 123                  | 686                    | 104     | 702                    | 214           | 1,024     | 171        | 1,088     |
| Onslow .....            | 49                   | 88                     | 35      | 63                     | 1             | 1         | 1          | 1         |
| Port Hedland .....      | 309                  | 2,107                  | 499     | 5,045                  | 230           | 5,549     | 248        | 14,743    |
| Port Walcott (d) .....  | 61                   | 94                     | 44      | 71                     | 7             | 2         | 13         | 1         |
| Wyndham .....           | 97                   | 253                    | 102     | 300                    | *47           | 18        | 54         | 21        |
| Yampi .....             | 166                  | 1,274                  | 160     | 1,211                  | 44            | 2,763     | 30         | 2,646     |
| Total .....             | 1,781                | 11,559                 | 2,069   | 16,216                 | *1,557        | 23,139    | 1,477      | 36,581    |
| All ports .....         | 3,170                | 20,479                 | 3,483   | 26,328                 | *7,732        | 27,851    | 7,536      | 41,401    |

(a) Buoyed sea terminal. (b) Includes Cape Cuvier and Useless Loop. (c) Less than 500 tons. (d) Includes Cape Lambert and Point Samson. \* Revised.

The net tonnage of a vessel, expressed in tons of 100 cubic feet, represents the volume of enclosed space that can be used for cargo and passengers. Most cargoes are recorded in terms of the ton weight of 2,240 lb but some cargo, consisting mainly of bulky commodities, is recorded on the basis of the ton measurement, a unit equivalent to forty cubic



feet of space. Statistics are compiled accordingly in terms of 'tons weight' or 'tons measurement'. In order to provide a ready comparison, as in the previous table, of the volume of cargo handled at the several ports or in different years, the amounts recorded in the two categories have been aggregated. In the following table, details of cargo handled at each port during 1969-70 are presented separately on the basis of 'tons weight' and 'tons measurement'.

**TONNAGE OF OVERSEAS, INTERSTATE AND INTRASTATE CARGO: 1969-70**  
(Tons)

| Port              | Overseas   |             | Interstate |             | Intrastate |             | Total      |             |
|-------------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
|                   | Weight     | Measurement | Weight     | Measurement | Weight     | Measurement | Weight     | Measurement |
| <b>DISCHARGED</b> |            |             |            |             |            |             |            |             |
| Port of Fremantle | 3,802,030  | 283,956     | 1,157,424  | 17,246      | 791,079    | 7,900       | 5,750,533  | 309,102     |
| Other ports—      |            |             |            |             |            |             |            |             |
| Albany            | 173,227    | 8           | 19,946     | ....        | 63,217     | ....        | 256,390    | 8           |
| Barrow Island (a) | 1,584      | ....        | 1,490      | ....        | 3,543      | 1,307       | 6,617      | 1,307       |
| Broome            | 3,095      | 937         | 5,355      | 287         | 6,975      | 7,283       | 15,425     | 8,507       |
| Bunbury           | 139,447    | ....        | 2,501      | ....        | 105,698    | ....        | 247,646    | ....        |
| Busselton         | ....       | ....        | ....       | ....        | ....       | ....        | ....       | ....        |
| Carnarvon (b)     | 11,791     | ....        | ....       | ....        | 10,413     | ....        | 22,204     | ....        |
| Dampier           | 145,866    | 5,897       | 162        | ....        | 13,484     | 9,728       | 159,512    | 15,625      |
| Derby             | 18,444     | ....        | 310        | 94          | 5,545      | 11,248      | 24,299     | 11,342      |
| Esperance         | 82,816     | ....        | 22,227     | ....        | 56,432     | ....        | 161,475    | ....        |
| Exmouth           | 1,898      | 882         | 2,401      | ....        | 23,566     | 200         | 27,865     | 1,082       |
| Geraldton         | 99,771     | 184         | 11,000     | ....        | 59,879     | ....        | 170,650    | 184         |
| Onslow            | ....       | ....        | ....       | ....        | 1,252      | 88          | 1,252      | 88          |
| Port Hedland      | 84,202     | 8,502       | 8,501      | 2,430       | 123,631    | 20,590      | 216,334    | 31,522      |
| Port Walcott (c)  | 2,153      | ....        | 4,565      | ....        | 5,780      | 535         | 12,498     | 535         |
| Wyndham           | 15,341     | 804         | 2,967      | 31          | 13,687     | 20,865      | 31,995     | 21,700      |
| Yampi             | 780        | ....        | 23,420     | ....        | 3,391      | 2,864       | 27,591     | 2,864       |
| Total             | 780,415    | 17,214      | 104,845    | 2,842       | 496,493    | 74,708      | 1,381,753  | 94,764      |
| All ports         | 4,582,445  | 301,170     | 1,262,269  | 20,088      | 1,287,572  | 82,608      | 7,132,286  | 403,866     |
| <b>SHIPPED</b>    |            |             |            |             |            |             |            |             |
| Port of Fremantle | 2,565,506  | 178,428     | 1,454,740  | 18,288      | 525,749    | 76,606      | 4,545,995  | 273,322     |
| Other ports—      |            |             |            |             |            |             |            |             |
| Albany            | 243,276    | 787         | ....       | ....        | 489        | ....        | 243,765    | 787         |
| Barrow Island (a) | ....       | ....        | 1,366,451  | ....        | 512,882    | ....        | 1,879,333  | ....        |
| Broome            | 7,923      | 1           | 2          | 312         | 911        | 4,257       | 8,836      | 4,570       |
| Bunbury           | 671,583    | 32,744      | 55,809     | ....        | 799        | 810         | 728,191    | 33,554      |
| Busselton         | 1,502      | 1,086       | ....       | ....        | ....       | ....        | 1,502      | 1,086       |
| Carnarvon (b)     | 659,320    | ....        | ....       | ....        | ....       | ....        | 659,320    | ....        |
| Dampier           | 14,112,689 | ....        | 91,197     | 7           | 18         | ....        | 14,203,904 | 7           |
| Derby             | ....       | 1           | 2          | 146         | 494        | 2,419       | 496        | 2,566       |
| Esperance         | 313,934    | ....        | ....       | ....        | 690        | ....        | 314,624    | ....        |
| Exmouth           | 45         | 38          | ....       | ....        | ....       | ....        | 45         | 38          |
| Geraldton         | 1,087,370  | ....        | ....       | ....        | 232        | ....        | 1,087,602  | ....        |
| Onslow            | ....       | ....        | ....       | ....        | 571        | 103         | 571        | 103         |
| Port Hedland      | 14,441,078 | 3,477       | 292,354    | 1,090       | 3,527      | 1,369       | 14,736,959 | 5,936       |
| Port Walcott (c)  | ....       | ....        | 8          | 3           | 528        | 161         | 536        | 164         |
| Wyndham           | 16,435     | ....        | 622        | 461         | 1,734      | 2,054       | 18,791     | 2,515       |
| Yampi             | 580,819    | ....        | 1,826,760  | 12          | 236,019    | 1,961       | 2,643,598  | 1,973       |
| Total             | 32,135,974 | 38,134      | 3,633,205  | 2,031       | 758,894    | 13,134      | 36,528,073 | 53,299      |
| All ports         | 34,701,480 | 216,562     | 5,087,945  | 20,319      | 1,284,643  | 89,740      | 41,074,068 | 326,621     |

(a) Buoyed sea terminal.

(b) Includes Cape Cuvier and Useless Loop.

(c) Includes Cape Lambert and Point Samson.

Apart from general cargo, overseas and interstate consignments discharged were principally petroleum products, rock phosphate, iron and steel products, coke and sulphur. Outward cargoes, with the exception of refined petroleum products and steel products shipped from the Port of Fremantle (Outer Harbour), consisted largely of primary products, including minerals. Cargo shipped from Esperance comprised mainly cereal grains and nickel ore, and from Albany cereal grains, wool and apples. At Bunbury the principal cargo was mineral sands, followed next in importance by wheat. Exports from Busselton

consisted entirely of timber. Iron ore and cereal grains were the main items shipped from Geraldton. In the northern part of the State, Dampier, Port Hedland and Yampi are the major ports for the shipment of iron ore. The buoyed sea terminal at Barrow Island provides facilities for the loading of crude petroleum. From other ports in the area, cargo shipped consisted mainly of cotton, cotton seed, meat, and minerals, including salt and gypsum.

The Western Australian Coastal Shipping Commission was established in 1965 to carry on the services formerly maintained by the State Shipping Service. The Commission's ships operate along the north-west and northern coasts, calling regularly at ports between Fremantle and Darwin (Northern Territory). Besides general cargo, the freight discharged at north-west and northern ports consists mainly of refined petroleum products, building and construction materials, refrigerated cargo, vehicles and livestock. Cargoes carried south to Fremantle are mainly primary products, such as cotton, meat, livestock, wool and minerals.

#### SHIPPING—ENTRANCES AND CLEARANCES: 1969-70

| Port              |      |      | From or to overseas countries |                             |                                    | From or to other Australian States |                                    | From or to other Western Australian ports | Total  |                               |
|-------------------|------|------|-------------------------------|-----------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------------|--------|-------------------------------|
|                   |      |      | Direct                        | Via other Australian States | Via other Western Australian ports | Direct                             | Via other Western Australian ports |                                           | Number | Net tonnage of vessels ('000) |
| ENTRANCES         |      |      |                               |                             |                                    |                                    |                                    |                                           |        |                               |
| Port of Fremantle | .... | .... | 523                           | 335                         | 267                                | 165                                | 44                                 | 80                                        | 1,414  | 10,112                        |
| Other ports—      |      |      |                               |                             |                                    |                                    |                                    |                                           |        |                               |
| Albany            | .... | .... | 31                            | 57                          | 62                                 | 4                                  | ....                               | 7                                         | 161    | 905                           |
| Barrow Island (a) | .... | .... | 4                             | 15                          | 5                                  | 26                                 | ....                               | 37                                        | 87     | 843                           |
| Broome            | .... | .... | 13                            | 7                           | 12                                 | 8                                  | 4                                  | 85                                        | 129    | 324                           |
| Bunbury           | .... | .... | 24                            | 32                          | 72                                 | 4                                  | ....                               | 13                                        | 145    | 779                           |
| Busselton         | .... | .... | ....                          | ....                        | 2                                  | ....                               | ....                               | ....                                      | 2      | 3                             |
| Carnarvon (b)     | .... | .... | 38                            | ....                        | 20                                 | ....                               | ....                               | ....                                      | 58     | 310                           |
| Dampier           | .... | .... | 263                           | 7                           | 33                                 | 2                                  | ....                               | 68                                        | 373    | 5,032                         |
| Derby             | .... | .... | 7                             | ....                        | 1                                  | 14                                 | 1                                  | 59                                        | 82     | 160                           |
| Esperance         | .... | .... | 24                            | 11                          | 25                                 | 5                                  | ....                               | 5                                         | 70     | 392                           |
| Exmouth           | .... | .... | 2                             | 3                           | 9                                  | ....                               | ....                               | 4                                         | 18     | 75                            |
| Geraldton         | .... | .... | 71                            | 1                           | 24                                 | ....                               | 1                                  | 7                                         | 104    | 702                           |
| Onslow            | .... | .... | ....                          | ....                        | ....                               | ....                               | ....                               | 35                                        | 35     | 63                            |
| Port Hedland      | .... | .... | 342                           | 15                          | 36                                 | 3                                  | 13                                 | 90                                        | 499    | 5,045                         |
| Port Walcott (c)  | .... | .... | 2                             | ....                        | 8                                  | 3                                  | 1                                  | 30                                        | 44     | 71                            |
| Wyndham           | .... | .... | 11                            | 12                          | 7                                  | 7                                  | 4                                  | 61                                        | 102    | 300                           |
| Yampi             | .... | .... | 37                            | ....                        | 1                                  | 45                                 | ....                               | 77                                        | 160    | 1,211                         |
| Total             | .... | .... | 869                           | 160                         | 317                                | 121                                | 24                                 | 578                                       | 2,069  | 16,216                        |
| All ports         | .... | .... | 1,392                         | 495                         | 584                                | 286                                | 68                                 | 658                                       | 3,483  | 26,328                        |
| CLEARANCES        |      |      |                               |                             |                                    |                                    |                                    |                                           |        |                               |
| Port of Fremantle | .... | .... | 649                           | 336                         | 150                                | 135                                | 53                                 | 96                                        | 1,419  | 10,119                        |
| Other ports—      |      |      |                               |                             |                                    |                                    |                                    |                                           |        |                               |
| Albany            | .... | .... | 60                            | 18                          | 70                                 | 2                                  | ....                               | 9                                         | 159    | 899                           |
| Barrow Island (a) | .... | .... | ....                          | 14                          | 9                                  | 34                                 | ....                               | 30                                        | 87     | 843                           |
| Broome            | .... | .... | 3                             | 3                           | 26                                 | 1                                  | 18                                 | 78                                        | 129    | 324                           |
| Bunbury           | .... | .... | 23                            | 17                          | 88                                 | 8                                  | ....                               | 10                                        | 146    | 785                           |
| Busselton         | .... | .... | ....                          | 2                           | ....                               | ....                               | ....                               | ....                                      | 2      | 3                             |
| Carnarvon (b)     | .... | .... | 47                            | ....                        | 11                                 | ....                               | ....                               | ....                                      | 58     | 310                           |
| Dampier           | .... | .... | 258                           | 7                           | 34                                 | 1                                  | 1                                  | 68                                        | 369    | 4,979                         |
| Derby             | .... | .... | ....                          | ....                        | 8                                  | ....                               | 14                                 | 60                                        | 82     | 160                           |
| Esperance         | .... | .... | 22                            | 10                          | 27                                 | 1                                  | ....                               | 9                                         | 69     | 384                           |
| Exmouth           | .... | .... | 3                             | ....                        | 11                                 | ....                               | ....                               | 4                                         | 18     | 75                            |
| Geraldton         | .... | .... | 33                            | ....                        | 62                                 | ....                               | ....                               | 8                                         | 103    | 696                           |
| Onslow            | .... | .... | ....                          | ....                        | ....                               | ....                               | ....                               | 35                                        | 35     | 63                            |
| Port Hedland      | .... | .... | 335                           | 3                           | 48                                 | 6                                  | 16                                 | 90                                        | 498    | 5,048                         |
| Port Walcott (c)  | .... | .... | 1                             | ....                        | 9                                  | ....                               | 3                                  | 31                                        | 44     | 71                            |
| Wyndham           | .... | .... | 5                             | 4                           | 21                                 | 35                                 | ....                               | 38                                        | 103    | 302                           |
| Yampi             | .... | .... | 13                            | 3                           | 3                                  | 73                                 | 12                                 | 54                                        | 158    | 1,165                         |
| Total             | .... | .... | 803                           | 81                          | 427                                | 161                                | 64                                 | 524                                       | 2,060  | 16,109                        |
| All ports         | .... | .... | 1,452                         | 417                         | 577                                | 296                                | 117                                | 620                                       | 3,479  | 26,228                        |

(a) Buoyed sea terminal.

(b) Includes Cape Cuvier and Useless Loop.

(c) Includes Cape Lambert and Point Samson.

In the previous table vessels entered at and cleared from each Western Australian port during 1969-70 are classified according to the direction of the voyage on which each vessel was engaged. 'Direction' is determined by reference to the port of commencement of the inward voyage or the port of termination of the outward voyage.

### Administration of Ports

The State Government, through the Harbour and Light Department, controls the ports at Broome, Busselton, Carnarvon, Derby, Onslow, Port Walcott (Cape Lambert and Point Samson) and Wyndham. The ports at Albany, Bunbury, Esperance, Fremantle, Geraldton and Port Hedland are controlled by separately-constituted authorities established by Act of Parliament. Private operators control the ports (or landing points) at Barrow Island, Cape Cuvier, Dampier, Exmouth, Useless Loop and Yampi.

Administration of the harbour at Port Hedland passed from the Harbour and Light Department to the Port Hedland Port Authority with effect from 15 June 1971, the date of proclamation of the *Port Hedland Port Authority Act, 1970*.

### THE PORT OF GERALDTON <sup>(1)</sup>

The Port of Geraldton (latitude 28° 46' S., longitude 114° 36' E.) is situated in Champion Bay on the west coast, 215 nautical miles in a north-westerly direction from Fremantle. The outer harbour, which is six fathoms deep, provides a good holding anchorage and the inner harbour, enclosed by a breakwater, affords ample protection for shipping and shore works. The Port of Geraldton covers an area bounded by a line from Point Moore to a point two and a half miles due north, thence due east to the shore of the mainland and thence south and west along the shores of the Bay to Point Moore. The depth of the inner harbour is thirty feet but the rock base of the entrance channel has necessitated the restriction of the loaded draft of vessels to 28 feet 6 inches.

Statistics of activity at the Port during the years 1968-69 and 1969-70 are shown in the tables on pages 444-6.

**Administration.** The Port of Geraldton is under the control of the Geraldton Port Authority which was established, with effect from 14 March 1969, under the provisions of the *Geraldton Port Authority Act, 1968*. The Authority consists of five members, including a chairman, appointed by the Governor. The principal executive officer is the Managing Secretary.

The Authority has the exclusive control of the Port of Geraldton and is responsible for the maintenance and preservation of the assets invested in it and the further development of the port and its facilities. The Authority provides wharves, navigation channels, transit cargo sheds, roads, railways, cargo handling plant and ancillary services for port operation. It manages the shore handling of cargo and for this purpose it engages water-side labour as required. Navigational aids and pilot services are provided by the Harbour and Light Department.

**Finance.** The revenue of the Geraldton Port Authority is derived from berthing dues levied on ships using the port, wharfage levied on cargo shipped into or out of the port, rates payable on cargo handled by the Authority and charges for the use of plant and services, such as weighbridge, fork lift, water and power. Expenditure includes salaries, wages and other costs of handling cargo, the purchase of materials and other expenses incurred in the upkeep and maintenance of the assets of the Authority, and the costs of port services. Funds for capital works are provided by allocations from the General Loan Fund (see page 283), by borrowing against inscribed stock and by the retention of revenue surpluses.

The following table gives details of the revenue and expenditure of the Authority for the years ended 30 June 1970 and 1971.

<sup>(1)</sup>The second of a series of articles on ports in Western Australia. Details for the Port of Albany appeared in the previous issue of the Year Book.

**GERALDTON PORT AUTHORITY—REVENUE AND EXPENDITURE**  
(£)

| Particulars                              | 1969-70        | 1970-71        |
|------------------------------------------|----------------|----------------|
| <b>Revenue—</b>                          |                |                |
| Wharfage, berthage, cargo handling ..... | 579,884        | 682,687        |
| Wharf labour recoups .....               | 17,275         | 22,673         |
| Plant hire, power and water sales .....  | 18,003         | 18,916         |
| Rentals and leases .....                 | 14,534         | 14,062         |
| Sundry receipts .....                    | 13,309         | 31,003         |
| <b>Total revenue</b> .....               | <b>643,005</b> | <b>769,341</b> |
| <b>Expenditure—</b>                      |                |                |
| <b>Working expenses—</b>                 |                |                |
| Administration .....                     | 38,557         | 47,502         |
| Cargo handling costs .....               | 34,782         | 45,225         |
| Plant hire .....                         | 2,180          | 121            |
| Maintenance .....                        | 97,104         | 207,361        |
| Water and power .....                    | 13,233         | 14,117         |
| Insurance .....                          | 3,345          | 3,717          |
| Other expenses .....                     | 1,585          | 3,963          |
| <b>Total</b> .....                       | <b>190,786</b> | <b>322,006</b> |
| <b>Other charges—</b>                    |                |                |
| Depreciation .....                       | 60,075         | 109,106        |
| Interest on loan capital .....           | 272,022        | 286,643        |
| Interest on inscribed stock .....        | 2,544          | 32,025         |
| <b>Total</b> .....                       | <b>334,641</b> | <b>427,774</b> |
| <b>Total expenditure</b> .....           | <b>525,427</b> | <b>749,780</b> |
| <b>Net surplus</b> .....                 | <b>117,578</b> | <b>19,561</b>  |

**Berthing Facilities and Cargo Handling.** The port has four concrete-decked land-backed berths which have a continuous length of 2,238 feet and are dredged to a maximum depth of thirty-two feet. Oil bunker facilities, as well as fresh water, are available at all berths and good access by rail and road is provided.

During the year 1970-71 the principal items of cargo discharged were crude phosphates, sulphur and petroleum products. Cargoes shipped consisted mainly of iron ore, wheat, barley and oats.

At No. 1 berth there is a transit shed with a floor area of 24,000 square feet. No. 2 berth is used for general cargoes, for discharge of bulk phosphate, sulphur, and fuel oils from bulk tankers, and for oil bunkering. Bulk grain-loading facilities are provided at No. 3 berth. An overhead belt conveyor system brings grain from a modern terminal of 5·2 million bushels capacity at the rear of the wharf area to a loading gallery at the berth. The grain is delivered to ships' holds through two travelling gantry loaders each with a capacity of 400 tons per hour. A fully automatic ore conveyor system operates at No. 4 berth. The system handles iron ore from bottom-opening rail wagons to stock-pile areas and thence to ships' holds through a travelling gantry loader at a rated capacity of 1,200 tons per hour. Extensive paved standing areas are available for the open storage of cargo.

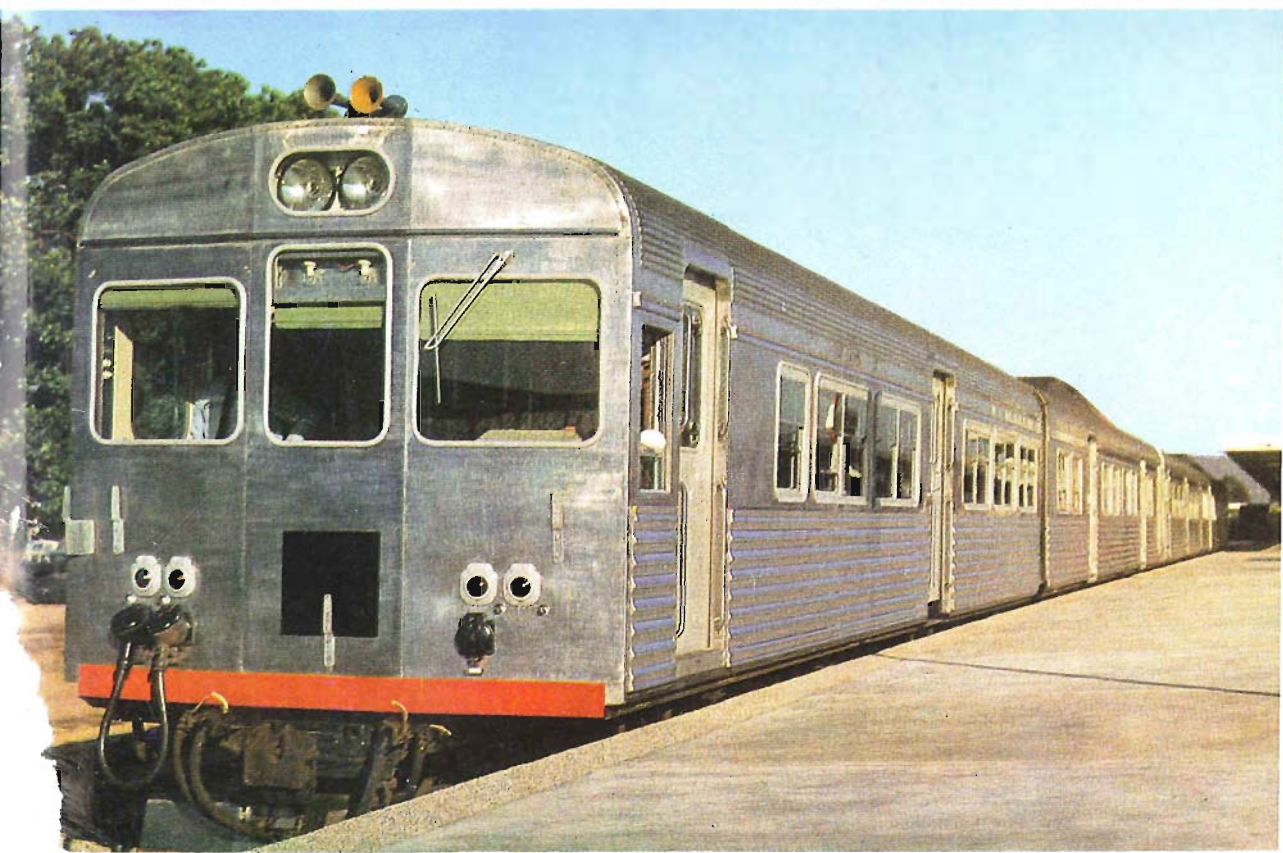
The following table gives details of the principal items of cargo shipped overseas, interstate and intrastate from Geraldton during the five years 1966-67 to 1970-71.

**PORT OF GERALDTON—PRINCIPAL ITEMS OF CARGO SHIPPED (a)**  
(Tons)

| Cargo              | 1966-67          | 1967-68          | 1968-69          | 1969-70          | 1970-71          |
|--------------------|------------------|------------------|------------------|------------------|------------------|
| Barley .....       | 21,273           | 14,244           | 19,767           | 16,756           | 100,874          |
| Iron ore .....     | 644,326          | 578,943          | 577,097          | 600,243          | 691,160          |
| Manganese .....    | 69,888           | 21,692           | 50,276           | 12,062           | .....            |
| Oats .....         | 17,811           | 7,309            | 22,046           | .....            | 26,449           |
| Wheat .....        | 356,613          | 514,671          | 350,578          | 484,239          | 591,515          |
| Other .....        | 5,846            | 6,569            | 5,864            | 3,475            | 3,414            |
| <b>Total</b> ..... | <b>1,115,757</b> | <b>1,143,428</b> | <b>1,025,628</b> | <b>1,116,775</b> | <b>1,413,412</b> |
| Bunker oil .....   | 1,790            | 2,253            | 1,120            | 3,395            | 2,084            |

(a) Overseas, interstate and intrastate.





The modern co-ordinated rail and road passenger terminal at Midland

*Block by courtesy of the Western Australian Government Railways Commission*

Stainless steel railcar and trailers used for suburban passenger services

*Block by courtesy of the Western Australian Government Railways Commission*





*Block by courtesy of the Western Australian Government Railways Commission*

#### TRANSPORTING IRON ORE

A narrow gauge iron-ore train is shown leaving Koolanooka Hills, near Morawa, for the port of Geraldton.

**Harbour Maintenance and Development.** As a result of mineral prospecting in the region served by the port, a variety of cargoes including mineral sands, kaolin, nickel, quartz, copper and talc are likely to require storage accommodation and handling facilities in the future. Investigation has been undertaken with a view to providing deep-water berths, and an area in the outer harbour, approximately one mile north of the present berths, has been selected for closer examination. Seismic surveys of this locality indicate a considerable area which could possibly be deepened to approximately forty feet before encountering travertine rock.

## RAILWAYS

Railways open for general and passenger traffic in the southern part of the State are operated by the Western Australian Government Railways Commission. The system is linked with railways of other States by the Commonwealth Government Trans-Australian Railway between Kalgoorlie in Western Australia and Port Pirie in South Australia. There are, in addition, private railways for the haulage of iron ore in the northern part of the State and timber in the south-west.

### Origin and Development

The first railway in the Colony, built in 1871 from Busselton into the nearby forest, was a private line constructed for the transport of timber. By the end of 1900, the Colony had a railway system for general and passenger traffic which comprised 1,355 miles of government line and 277 miles of privately-owned line. The State Government system reached a maximum of 4,381 miles in 1940 but this figure has been subsequently reduced, particularly over the last decade, by the closure of certain non-paying lines. A summary of the development of railways in Western Australia appeared in the *Western Australian Year Book*, No. 7—1968 and earlier issues.

At 30 June 1971 there were 4,291 miles of railway open for general and passenger traffic in Western Australia. Of this total, 3,837 miles were owned by the State Government and operated by the Western Australian Government Railways Commission, and 454 miles were owned and operated by the Commonwealth Government. The Western Australian Government Railways Commission also operated thirteen miles of privately-owned line connecting iron-ore deposits at Koolanooka with its railway to Geraldton. Other private railways used for the transport of iron ore were those between Newman and Port Hedland (265 miles), Goldsworthy and Port Hedland (71 miles), and Tom Price and Dampier (182 miles). In addition, there were eighteen miles of private railway operated by timber millers.

Government and private railways in Western Australia are shown on the map of the State appearing at the back of the Year Book.

### The Western Australian Government Railways Commission

The *Government Railways Act, 1904-1971* constitutes a Commission, in the person of the Commissioner of Railways, who is responsible, subject to the Minister, for the administration of the Act.

Financial procedure for the Western Australian Government Railways Commission is basically the same as for other Departments. Receipts are paid into the Consolidated Revenue Fund, and finance for its operations and the servicing of debt is provided from the Fund by statutory appropriations. Loan moneys, for the construction and improvement of permanent way, for the purchase of traction units and rolling stock and for other capital outlay, are advanced by the Parliament from the General Loan Fund. The loan liability of the Western Australian Government Railways Commission to the Treasury was \$164,812,755 at 30 June 1971, the net increase during 1970-71 being \$3,026,255.

In addition to its railway services, the Commission operates an extensive system of road services for the carriage of passengers, mail and freight.



**Summary of Operations.** The following table gives particulars of the financial transactions, railway operations and road service operations of the Western Australian Government Railways for each of the years 1966-67 to 1970-71.

### WESTERN AUSTRALIAN GOVERNMENT RAILWAYS

| Particulars                                     | 1966-67           | 1967-68           | 1968-69           | 1969-70           | 1970-71           |
|-------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>FINANCE (a)</b>                              |                   |                   |                   |                   |                   |
| Capital investment at 30 June (b) ....          | \$'000<br>139,393 | \$'000<br>145,580 | \$'000<br>155,697 | \$'000<br>161,786 | \$'000<br>164,813 |
| Operating revenues—                             |                   |                   |                   |                   |                   |
| Passenger fares ....                            | 3,217             | 3,367             | 3,471             | 4,104             | 4,238             |
| Parcels and mails ....                          | 1,483             | 1,530             | 1,699             | 1,752             | 1,725             |
| Paying goods and livestock ....                 | 42,772            | 46,098            | 43,375            | 48,580            | 52,761            |
| Miscellaneous ....                              | 1,649             | 1,778             | 2,013             | 2,803             | 3,193             |
| Total operating revenues ....                   | 49,120            | 52,773            | 50,558            | 57,240            | 61,917            |
| Operating expenses ....                         | 40,170            | 42,623            | 44,503            | 48,550            | 53,205            |
| Excess of operating revenues over expenses .... | 8,950             | 10,149            | 6,055             | 8,689             | 8,713             |
| Depreciation ....                               | 5,340             | 6,140             | 6,574             | 7,632             | 7,721             |
| Interest charges ....                           | 8,069             | 8,810             | 9,533             | 10,631            | 11,697            |
| Total deficit ....                              | 4,459             | 4,800             | 10,052            | 9,573             | 10,705            |

|                                 |           |           |           |             |           |
|---------------------------------|-----------|-----------|-----------|-------------|-----------|
| <b>RAILWAY OPERATIONS</b>       |           |           |           |             |           |
| Route mileage at 30 June—       |           |           |           |             |           |
| 3 ft 6 in gauge (c) ....        | (c) 3,502 | (c) 3,502 | (c) 3,381 | (c) * 3,379 | (c) 3,388 |
| 4 ft 8½ in gauge ....           | 247       | 249       | 377       | * 375       | 375       |
| Dual gauge ....                 | 66        | 64        | 68        | 74          | 74        |
| Employees at 30 June ....       | 11,321    | 11,226    | 10,940    | 10,613      | 10,144    |
| Number of—                      | '000      | '000      | '000      | '000        | '000      |
| Train miles run (d) ....        | 9,124     | 9,226     | 8,680     | 8,633       | 8,771     |
| Passenger-journeys—             |           |           |           |             |           |
| Suburban ....                   | 9,468     | 9,628     | 9,832     | 10,227      | 10,557    |
| Country ....                    | 343       | 342       | 338       | 352         | 362       |
| Total ....                      | 9,811     | 9,970     | 10,170    | 10,580      | 10,919    |
| Tons of freight—                |           |           |           |             |           |
| Paying goods and livestock .... | 7,873     | 8,910     | 8,934     | 10,665      | 13,244    |
| Departmental (e) ....           | 461       | 491       | 517       | 611         | 529       |
| Total ....                      | 8,334     | 9,402     | 9,452     | 11,277      | 13,774    |
| Ton mileage—                    |           |           |           |             |           |
| Paying goods and livestock .... | 1,244,067 | 1,571,749 | 1,525,835 | 1,749,116   | 2,077,965 |
| Departmental ....               | 43,095    | 40,534    | 37,327    | 45,178      | 40,353    |
| Total ....                      | 1,287,162 | 1,612,282 | 1,563,162 | 1,794,293   | 2,118,317 |

|                                |       |       |       |       |       |
|--------------------------------|-------|-------|-------|-------|-------|
| <b>ROAD SERVICE OPERATIONS</b> |       |       |       |       |       |
| Route mileage at 30 June—      |       |       |       |       |       |
| Omnibus ....                   | 3,572 | 3,958 | 4,045 | 4,119 | 4,044 |
| Freight vehicle ....           | 1,426 | 1,807 | (f)   | 2,004 | 2,004 |
| Employees at 30 June ....      | 246   | 256   | 254   | 262   | 269   |
| Number of—                     | '000  | '000  | '000  | '000  | '000  |
| Miles run—                     |       |       |       |       |       |
| Omnibus ....                   | 1,945 | 1,875 | 1,958 | 1,930 | 1,867 |
| Freight vehicle ....           | 909   | 895   | 1,011 | 978   | 983   |
| Total ....                     | 2,854 | 2,770 | 2,969 | 2,908 | 2,849 |
| Passenger-journeys ....        | 237   | 228   | 234   | 222   | 207   |

(a) Includes financial transactions in relation to road services.  
mileage of 3 ft 6 in gauge line which parallels the 4 ft 8½ in gauge line.

(b) Including Stores Funds. (c) Excludes route  
(d) Revenue and non-revenue train miles. (e) De-  
partmental freight comprises mainly coal, oil, water, ballast, timber and rails. (f) Not available. \* Revised.

**Goods and Livestock Carried.** The following table shows the tonnage of paying goods and livestock carried during each year in the period from 1966-67 to 1970-71. The classification used in the table is that adopted by the Railways Commission in dissecting its freight transport statistics. The actual number of livestock carried in each of the five years is given in the second part of the table.

**WESTERN AUSTRALIAN GOVERNMENT RAILWAYS  
TONNAGE OF PAYING GOODS AND LIVESTOCK CARRIED**

| Freight classification                  | 1966-67          | 1967-68          | 1968-69          | 1969-70           | 1970-71           |
|-----------------------------------------|------------------|------------------|------------------|-------------------|-------------------|
| Wheat ....                              | 2,338,140        | 2,276,520        | 1,512,215        | 2,280,523         | 2,424,220         |
| Other grain ....                        | 253,812          | 212,706          | 265,970          | 140,786           | 580,809           |
| Grain products ....                     | 43,757           | 46,057           | 45,254           | 43,525            | 45,299            |
| Chaff ....                              | 6,208            | 6,842            | 6,863            | .....             | .....             |
| Fertilisers ....                        | 664,357          | 703,806          | 666,714          | 559,862           | 413,765           |
| Fruit and vegetables ....               | 98,790           | 95,672           | 103,629          | 102,113           | 88,106            |
| Wool ....                               | 109,258          | 116,824          | 141,964          | 126,340           | 128,908           |
| Timber ....                             | 363,545          | 392,676          | 332,900          | 333,442           | 291,584           |
| Firewood ....                           | 284              | 276              | 147              | .....             | .....             |
| Coal, etc. ....                         | 590,994          | 359,394          | 229,242          | 135,129           | 186,201           |
| Ores and minerals ....                  | 2,264,298        | 3,477,873        | 4,352,432        | 5,435,810         | 7,471,275         |
| Oil in tank wagons ....                 | 237,571          | 248,163          | 256,116          | 266,091           | 315,711           |
| Other classifications ....              | 804,838          | 885,828          | 933,330          | 1,157,361         | 1,228,875         |
| Livestock (†) ....                      | 97,126           | 87,827           | 87,701           | 84,410            | 69,686            |
| <b>Total</b> ....                       | <b>7,872,978</b> | <b>8,910,464</b> | <b>8,934,477</b> | <b>10,665,392</b> | <b>13,244,439</b> |
| <b>(†) Number of livestock carried—</b> |                  |                  |                  |                   |                   |
| Sheep ....                              | 1,523,968        | 1,460,691        | 1,508,721        | 1,552,640         | 1,117,620         |
| Cattle ....                             | 73,081           | 58,391           | 57,082           | 46,085            | 50,562            |
| Pigs ....                               | 107,297          | 119,895          | 83,588           | 90,696            | 69,251            |
| Horses ....                             | 755              | 576              | 582              | 541               | 460               |

**Railways Rolling Stock.** The following table shows the numbers of the various categories of rolling stock of the Western Australian Government Railways in service at 30 June for the years 1967 to 1971.

**WESTERN AUSTRALIAN GOVERNMENT RAILWAYS  
ROLLING STOCK IN SERVICE**

| Category                             | At 30 June—     |            |            |            |            |                  |              |              |              |              |
|--------------------------------------|-----------------|------------|------------|------------|------------|------------------|--------------|--------------|--------------|--------------|
|                                      | 1967            | 1968       | 1969       | 1970       | 1971       | 1967             | 1968         | 1969         | 1970         | 1971         |
|                                      | 3 ft 6 in gauge |            |            |            |            | 4 ft 8½ in gauge |              |              |              |              |
| <b>Locomotives—</b>                  |                 |            |            |            |            |                  |              |              |              |              |
| Steam ....                           | 237             | 215        | 204        | 154        | 48         | .....            | .....        | .....        | .....        | .....        |
| Diesel—                              |                 |            |            |            |            |                  |              |              |              |              |
| Electric ....                        | 90              | 105        | 105        | 121        | 136        | 19               | 28           | 42           | 42           | 42           |
| Mechanical ....                      | 4               | 4          | 4          | 4          | 4          | .....            | .....        | .....        | .....        | .....        |
| Hydraulic ....                       | 11              | 11         | 11         | 11         | 11         | .....            | .....        | .....        | .....        | .....        |
| <b>Total</b> ....                    | <b>342</b>      | <b>335</b> | <b>324</b> | <b>290</b> | <b>199</b> | <b>19</b>        | <b>28</b>    | <b>42</b>    | <b>42</b>    | <b>42</b>    |
| <b>Coaching stock—</b>               |                 |            |            |            |            |                  |              |              |              |              |
| Passenger cars ....                  | 94              | 75         | 63         | 57         | 37         | .....            | .....        | .....        | .....        | .....        |
| Sleeping cars ....                   | 59              | 59         | 57         | 52         | 51         | .....            | .....        | .....        | .....        | .....        |
| Lounge, buffet, and dining cars .... | 11              | 11         | 11         | 11         | 11         | .....            | .....        | .....        | .....        | .....        |
| Rail motor cars ....                 | 37              | 47         | 47         | 46         | 45         | .....            | .....        | .....        | .....        | .....        |
| Rail motor trailers ....             | 26              | 34         | 36         | 36         | 36         | .....            | .....        | .....        | .....        | .....        |
| Service vehicles (a) ....            | 12              | 12         | 11         | 12         | 12         | .....            | .....        | .....        | .....        | .....        |
| <b>Total</b> ....                    | <b>239</b>      | <b>238</b> | <b>225</b> | <b>214</b> | <b>192</b> | <b>.....</b>     | <b>.....</b> | <b>.....</b> | <b>.....</b> | <b>.....</b> |
| Goods stock (b) ....                 | 11,842          | 11,713     | 11,447     | 11,259     | 11,220     | 447              | 494          | 654          | 840          | 1,129        |
| Service stock (c) ....               | 933             | 873        | 868        | 875        | 813        | 108              | 108          | 108          | 109          | 98           |

(a) Consists of inspection, track recorder, ministerial, vice-regal and special cars. (b) Includes brake vans, goods wagons, livestock wagons, mineral wagons, etc. (c) Includes ballast wagons, workmen's vans, ash disposal wagons, water tanks, etc. Excludes service vehicles shown under *Coaching stock*; see note (a).

### Iron-ore Railways

In recent years the exploitation of extensive inland deposits of iron ore in Western Australia has necessitated the construction of a number of railways for the transport of ore from the mines to the coast. Conditions applying to the construction and operation of these railways are incorporated in agreements made between the State Government and mining companies and ratified by Act of Parliament.

The following summary relates to railways in use for the transport of iron ore at 31 December 1971. The quantity of ore carried on these railways was 9.69 million tons in 1967, 15.5 million tons in 1968, 26.0 million tons in 1969, 36.6 million tons in 1970 and 44.7 million tons in 1971. At 30 June 1971 there were sixty-seven locomotives and 2,991 ore wagons in service.

#### RAILWAYS USED FOR TRANSPORT OF IRON ORE

| Railway                           | Enabling Act        | Length (route miles) | Gauge      | Date operative (a) |
|-----------------------------------|---------------------|----------------------|------------|--------------------|
| Westmine-Tilley (b) ....          | No. 104 of 1964 (c) | 13                   | 3 ft 6 in  | 1966—31 January    |
| Goldsworthy-Port Hedland (d) .... | No. 97 of 1964 (e)  | 71                   | 4 ft 8½ in | 1966—23 May        |
| Tom Price-Dampier (d) ....        | No. 24 of 1963 (f)  | 182                  | 4 ft 8½ in | 1966—1 July        |
| Koolyanobbing-Kwinana (g) ....    | No. 27 of 1961 (h)  | 306                  | 4 ft 8½ in | 1967—10 April      |
| Newman-Port Hedland (d) ....      | No. 75 of 1964 (i)  | 265                  | 4 ft 8½ in | 1969—18 January    |

(a) Date on which first load of iron ore was dispatched from mine. (b) Privately owned, but operated by the Western Australian Government Railways Commission. Connected at Tilley to the Western Australian Government Railways line to the Port of Geraldton. (c) *Iron Ore (Talling Peak) Agreement Act, 1964.* (d) Privately owned and operated. (e) *Iron Ore (Mount Goldsworthy) Agreement Act, 1964.* (f) *Iron Ore (Hamersley Range) Agreement Act, 1963.* (g) Part of the Western Australian Government Railways system; open for general and passenger traffic. (h) *Railways (Standard Gauge) Construction Act, 1961.* See also letterpress on page 454. (i) *Iron Ore (Mount Newman) Agreement Act, 1964.*

### Commonwealth Government Railways

The Commonwealth Government Railways comprise four separate systems. These are the Trans-Australian Railway, operating partly in Western Australia and partly in South Australia; the Central Australia Railway, partly in South Australia and partly in the Northern Territory; the North Australia Railway, wholly in the Northern Territory; and the Australian Capital Territory Railway.

Construction of the Trans-Australian Railway was begun at Port Augusta, the original South Australian terminus of the line, in 1912 and work was completed in 1917. Of the total length of 1,108 miles between Kalgoorlie and Port Pirie (South Australia), 454 miles are in Western Australia. Although statistical details of activities on each of the four systems are available, it is not possible to give separate particulars of the operations in Western Australia of the Trans-Australian Railway. Some statistics relating to the Commonwealth Government Railways are shown in the next table.

### Operations of Government Railways in Australia

The following table gives a summary of operations during the year ended 30 June 1970 on each of the railway systems owned by the State and Commonwealth Governments.

#### GOVERNMENT RAILWAYS IN AUSTRALIA—SUMMARY OF OPERATIONS, 1969–70

| Railway system of—                | Route mileage at 30 June | Revenue train miles run | Passenger-journeys | Goods and livestock carried | Gross earnings | Average number of employees (a) |
|-----------------------------------|--------------------------|-------------------------|--------------------|-----------------------------|----------------|---------------------------------|
| New South Wales ....              | 6,061                    | 39,128                  | 251,578            | 33,442                      | 247,288        | 43,845                          |
| Victoria ....                     | 4,166                    | 20,543                  | 144,309            | 11,835                      | 105,045        | (b) 26,429                      |
| Queensland ....                   | 5,813                    | 18,263                  | 28,515             | 14,439                      | 108,831        | 23,140                          |
| South Australia ....              | 2,444                    | 6,192                   | 13,990             | 5,888                       | 33,340         | 7,764                           |
| Western Australia ....            | 3,828                    | 7,848                   | 10,580             | 10,665                      | 56,044         | (b) 10,656                      |
| Tasmania ....                     | 500                      | 1,180                   | 907                | 1,258                       | 6,920          | 2,152                           |
| Commonwealth—                     |                          |                         |                    |                             |                |                                 |
| Trans-Australian ....             | 1,108                    | 2,588                   | 140                | 991                         | 17,389         | 2,058                           |
| Central Australia ....            | 818                      | 1,034                   | 26                 | 2,387                       | 7,510          | 1,246                           |
| North Australia ....              | 317                      | 325                     | (c)                | 1,158                       | 2,478          | 263                             |
| Australian Capital Territory .... | 5                        | 17                      | 79                 | 288                         | 271            | 53                              |
| Australia ....                    | 25,060                   | 97,119                  | 450,122            | 82,351                      | 585,116        | 117,606                         |

(a) Excluding construction staff except for Victoria and Western Australia where construction staff are included. (b) See footnote (a). (c) Less than 500.

It will be noted that particulars of route miles shown for the New South Wales and Victorian systems differ from the details given for those States in the table in the next section *Railway Gauges*, which is compiled according to the State or Territory in which the several lengths of line are situated. The Victorian system includes lines extending into New South Wales, the aggregate length of such lines in New South Wales being 204 miles.

### Railway Gauges

The following table shows the route mileage of government railways of each gauge in each of the Australian States and Territories at 30 June 1970. Except where otherwise indicated, the mileages shown relate to lines owned by the several State railway authorities.

GOVERNMENT RAILWAYS IN EACH STATE AND TERRITORY OF AUSTRALIA  
ROUTE MILEAGE OPEN AT 30 JUNE 1970

| State or Territory           | Route miles of gauge— |            |           |           |           | Total route miles |
|------------------------------|-----------------------|------------|-----------|-----------|-----------|-------------------|
|                              | 5 ft 3 in             | 4 ft 8½ in | 3 ft 6 in | 2 ft 6 in | 2 ft 0 in |                   |
| State systems in—            |                       |            |           |           |           |                   |
| New South Wales              | (a) 204               | (b) 6,090  | ....      | ....      | ....      | 6,294             |
| Victoria                     | (c) 3,751             | 202        | ....      | 9         | ....      | 3,962             |
| Queensland                   | ....                  | 69         | 5,714     | ....      | 30        | 5,813             |
| South Australia              | 1,601                 | 217        | 597       | ....      | ....      | 2,415             |
| Western Australia            | ....                  | 449        | (e) 3,379 | ....      | ....      | 3,828             |
| Tasmania                     | ....                  | ....       | 500       | ....      | ....      | 500               |
| Commonwealth systems in—     |                       |            |           |           |           |                   |
| South Australia              | ....                  | 871        | 428       | ....      | ....      | 1,299             |
| Western Australia            | ....                  | 454        | ....      | ....      | ....      | 454               |
| Northern Territory           | ....                  | ....       | 490       | ....      | ....      | 490               |
| Australian Capital Territory | ....                  | 5          | ....      | ....      | ....      | 5                 |
| Total route miles            | 5,556                 | 8,357      | 11,108    | 9         | 30        | 25,060            |

(a) Part of the Victorian railway system. (b) Includes 29 miles of 4 ft 8½ in line from Broken Hill to Cockburn owned and operated by the South Australian Government Railways. (c) Excludes 202 miles of 5 ft 3 in gauge line which almost parallels the 4 ft 8½ in gauge line between Melbourne and the Murray River. (d) Operated by the New South Wales Government Railways. (e) Excludes 248 miles of 3 ft 6 in gauge line which parallels the 4 ft 8½ in gauge line. Excludes 74 miles of 4 ft 8½ in/3 ft 6 in dual gauge line which is included in the 4 ft 8½ in gauge line.

Standardisation of gauges on main trunk routes throughout Australia and on some other lines has been the subject of inquiries by the Commonwealth Government and of agreements between the Commonwealth and some States. The principle of standardisation was accepted at a Premiers' Conference in August 1945 following an investigation instituted by the Commonwealth Government in March 1944 and the submission of a favourable report in March 1945. The use of the 4 ft 8½ in gauge was recommended for adoption in a unification plan, one of the projects in which was to be the construction of a line from the Port of Fremantle through Perth to Kalgoorlie. Approval was given to the making of a survey for a route, and field work began in October 1945. The work was continued until December 1947, when it was abandoned pending agreement between the Governments of the Commonwealth and the State on the provision of finance for the unification scheme. In the years immediately following the second World War it became apparent that considerable expenditure would be necessary on the rehabilitation of the Western Australian Government Railways. The urgency and the magnitude of this undertaking were such that all the Department's available resources of money, labour and materials were absorbed in the programme and, in these circumstances, works associated with the unification plan could not be contemplated but, where possible, works connected with the restoration of the 3 ft 6 in system were so designed as to make provision for later conversion to the standard gauge.

In March 1956, a committee consisting of members of the Federal Parliament was appointed to re-examine the matter of standardisation. Among its recommendations, submitted in October 1956, was the provision of the standard gauge line between Fremantle and Kalgoorlie, but no immediate action was taken to carry out this work.

During the 1960 session, the Western Australian Parliament passed the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act ratifying an agreement between the Government and the Company relating to the establishment of an integrated iron and steel industry at Kwinana on the coast south of Fremantle. The Act made the operation of the agreement contingent upon the passage of legislation by the State and Commonwealth Parliaments to provide for the financing, construction and completion before 31 December 1968 of a standard gauge railway between the works site at Kwinana and the terminus of the Trans-Australian Railway at Kalgoorlie. Accordingly the Commonwealth Parliament passed the *Railway Agreement (Western Australia) Act 1961* extending to the State financial assistance for the project. The State Parliament approved this agreement by the *Railway Standardisation Agreement Act, 1961* and gave authority for the construction of the railway by means of the *Railways (Standard Gauge) Construction Act, 1961*. Work on route surveys was begun in 1961 and the construction of earthworks commenced on 5 November 1962. Basic planning and all major surveys required for the project were completed during 1965. The 3 ft 6 in portion of the dual gauge route between Midland and Northam along the Avon River valley was commissioned for general and passenger traffic on 13 February 1966. In October of the same year, haulage of grain on the standard gauge railway commenced between Merredin and the Port of Fremantle and the first train load of iron ore from Koolyanobbing to Kwinana was hauled in April 1967. The standard gauge line from Kwinana to Kalgoorlie was linked with the Trans-Australian Railway to Port Pirie (South Australia) on 3 August 1968, enabling 'through' freight services to commence in November 1968.

In 1962, the opening of a new 4 ft 8½ in gauge railway between Melbourne (Victoria) and Albury, on the border between Victoria and New South Wales, completed the standard gauge link between Melbourne and South Brisbane (Queensland). Late in 1969 work was completed on the last stage of a standard gauge connection between Sydney (New South Wales) and Perth and Fremantle, through Broken Hill (New South Wales), Port Pirie (South Australia) and Kalgoorlie. The length of this route is 2,461 miles (Sydney to Perth). Regular services for freight began in January 1970, and for passengers in March 1970. The passenger service has been named 'The Indian-Pacific' after the oceans it links.

## ROADS AND ROAD TRAFFIC

Work connected with road construction and maintenance and associated projects in Western Australia is undertaken by the State Government, through the Main Roads Department, and by local government authorities, comprising City Councils, Town Councils and Shire Councils.

Under the provisions of the Main Roads Act, the Main Roads Department was established in 1930 to replace the Main Roads Board originally constituted as a central road authority in 1926. The Department operates under the *Main Roads Act, 1930-1969* and is administered by a Commissioner of Main Roads responsible to the Minister for Works. The Act makes provision for public roads in the categories of 'main' roads, 'controlled-access' roads and 'developmental' roads. An additional category, that of 'important secondary' roads, is used by the Department in determining its works programme.

Main roads are those which provide communication between a large producing area, either actual or potential, and its market or nearest port or railway station; between two or more such areas; between large centres of population; or between the capital city and a large producing area or a large centre of population. Controlled-access roads are those which do not permit direct access from abutting property and may be entered or departed from only at certain selected road connections located at points which are considered to serve best the traffic for which the controlled-access road was designed. Developmental roads are those which serve to develop an area or to increase its development. Important secondary roads are those which, though originally classified as developmental, have come to be used consistently by through traffic and therefore warrant a

special allocation of funds by the Main Roads Department. The Act provides that, on the recommendation of the Commissioner, any road may be proclaimed a main road and any main road may cease to be a main road.

The construction and maintenance of main roads and controlled-access roads are the responsibility of the Main Roads Department. The Department also makes substantial financial provision for the construction and maintenance of important secondary roads and for the construction of developmental roads. The construction and maintenance of strategic roads and roads of access to Commonwealth property is undertaken by the Department for the Commonwealth Government.

Within its own district, each local government authority is responsible for the provision and upkeep of roads other than those provided by the Main Roads Department. In addition, the local authority is required by the Main Roads Act to maintain any developmental road situated in its district.

The following table shows the length of public roads open for vehicular traffic at 30 June 1969, classified according to Statistical Division (see map of Western Australia following Index). Included in the total are 6,412 miles of main roads, 7 miles of controlled access roads and 5,983 miles of important secondary roads.

ROADS OPEN FOR VEHICULAR TRAFFIC AT 30 JUNE 1969  
MILEAGE CLASSIFIED ACCORDING TO STATISTICAL DIVISION  
(Source: Main Roads Department)

| Statistical Division            | Formed roads |                |                 |        | Unformed roads (b) | Grand total |
|---------------------------------|--------------|----------------|-----------------|--------|--------------------|-------------|
|                                 | Sealed       | Gravel surface | Formed only (a) | Total  |                    |             |
| Perth Statistical Division .... | 3,762        | 496            | 93              | 4,351  | *1,639             | *5,991      |
| Other Divisions—                |              |                |                 |        |                    |             |
| South-West .....                | 2,234        | 2,517          | 1,380           | 6,131  | 12,300             | 18,431      |
| Southern Agricultural .....     | 1,811        | 1,531          | 4,994           | 8,336  | 2,753              | 11,090      |
| Central Agricultural .....      | 3,345        | 3,778          | 7,219           | 14,342 | 3,061              | 17,403      |
| Northern Agricultural .....     | 1,970        | 3,177          | 3,901           | 9,049  | 2,305              | 11,353      |
| Eastern Goldfields .....        | 1,572        | 1,454          | 3,588           | 6,614  | 5,153              | 11,767      |
| Central .....                   | 284          | 747            | 2,376           | 3,408  | 4,483              | 7,891       |
| North-West .....                | 439          | 148            | 1,118           | 1,705  | 2,890              | 4,595       |
| Pilbara .....                   | 138          | 515            | 1,176           | 1,829  | 2,310              | 4,139       |
| Kimberley .....                 | 424          | 585            | 1,463           | 2,472  | 2,215              | 4,688       |
| Total .....                     | 12,218       | 14,452         | 27,215          | 53,886 | 37,471             | 91,357      |
| WESTERN AUSTRALIA .....         | 15,980       | 14,948         | 27,308          | 58,237 | *39,110            | *97,348     |

(a) Comprises roads, mainly of natural surfaces, formed but not metalled or otherwise prepared, except for certain clearing, used for vehicular traffic.

\* Revised.

(b) Roads, unprepared

### Vehicle Registration, Licences and Traffic Control

The *Traffic Act, 1919-1971* provides for the registration of vehicles, the issue of licences and the regulation of traffic throughout the State, and prescribes the fees payable in respect of the several types of licences required.

In Western Australia there is no single authority responsible for the licensing of vehicles. The Traffic Branch of the Police Department licenses vehicles in the Metropolitan Traffic Area and in certain country districts in accordance with the provisions of the *Traffic Act Amendment Act (No. 2), 1969*; see further reference on page 458. At 31 December 1971 the Metropolitan Traffic Area comprised the Cities of Perth, Fremantle, Melville, Nedlands, South Perth, Stirling and Subiaco; the Towns of Canning, Claremont, Cockburn, Cottesloe, East Fremantle, and Mosman Park; the Shires of Armadale-Kelmscott, Bassendean, Bayswater, Belmont, Gosnells, Kwinana, Peppermint Grove, Rockingham and Serpentine-Jarrahdale; and parts of the Shires of Mundaring and Swan. Outside these areas of Police responsibility for vehicle licensing, each local government authority licenses vehicles in its own district.

The Traffic Act provides that the issue of drivers' and riders' licences and used car dealers' licences throughout the State shall be the function of the Police Department.

The following table shows the number of motor vehicles, classified according to type, on register in the Perth Statistical Division (see map of Western Australia following Index) and in the whole of Western Australia for selected years between 1946 and 1971. Vehicles owned by the Commonwealth Government are not licensed under the Traffic Act but are included in the figures. The table also gives the estimated number of vehicles per 1,000 of population and the number of persons per vehicle. The figures show that over this period of twenty-five years there has been a threefold increase in the ratio of vehicles to population.

#### MOTOR VEHICLES ON REGISTER (a) AND RATIO TO POPULATION

| At 30 June—                | Motor cars and station wagons<br>( <sup>'000</sup> ) | Utilities, vans, trucks, omnibuses<br>( <sup>'000</sup> ) | Motor cycles and scooters<br>( <sup>'000</sup> ) | Total<br>( <sup>'000</sup> ) | Estimated number of vehicles per 1,000 of population (b) |                        | Estimated number of persons per vehicle (b) |                        |     |
|----------------------------|------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------|------------------------------|----------------------------------------------------------|------------------------|---------------------------------------------|------------------------|-----|
|                            |                                                      |                                                           |                                                  |                              | Motor cars and station wagons                            | All motor vehicles (a) | Motor cars and station wagons               | All motor vehicles (a) |     |
| PERTH STATISTICAL DIVISION |                                                      |                                                           |                                                  |                              |                                                          |                        |                                             |                        |     |
| 1946                       | ....                                                 | 20.0                                                      | 9.7                                              | 4.5                          | 34.2                                                     | 68                     | 116                                         | 14.7                   | 8.6 |
| 1951                       | ....                                                 | 34.4                                                      | 17.5                                             | 9.5                          | 61.3                                                     | 97                     | 172                                         | 10.4                   | 5.8 |
| 1956                       | ....                                                 | 65.4                                                      | 25.9                                             | 9.3                          | 100.7                                                    | 155                    | 239                                         | 6.4                    | 4.2 |
| 1961                       | ....                                                 | 95.5                                                      | 29.0                                             | 9.1                          | 133.6                                                    | 201                    | 281                                         | 5.0                    | 3.6 |
| 1966                       | ....                                                 | 153.9                                                     | 35.2                                             | 6.3                          | 195.4                                                    | 275                    | 349                                         | 3.6                    | 2.9 |
| 1967                       | ....                                                 | 171.1                                                     | 38.1                                             | 6.4                          | 215.6                                                    | 293                    | 369                                         | 3.4                    | 2.7 |
| 1968                       | ....                                                 | 189.3                                                     | 41.2                                             | 6.7                          | 237.2                                                    | 310                    | 388                                         | 3.2                    | 2.6 |
| 1969                       | ....                                                 | 210.2                                                     | 45.0                                             | 7.2                          | 262.4                                                    | 328                    | 409                                         | 3.1                    | 2.5 |
| 1970                       | ....                                                 | 233.1                                                     | 49.2                                             | 8.0                          | 290.3                                                    | 348                    | 433                                         | 2.9                    | 2.3 |
| 1971 (d)                   | ....                                                 | 251.9                                                     | 52.2                                             | 8.7                          | 312.9                                                    | 359                    | 446                                         | 2.8                    | 2.2 |
| WESTERN AUSTRALIA (c)      |                                                      |                                                           |                                                  |                              |                                                          |                        |                                             |                        |     |
| 1946                       | ....                                                 | 31.4                                                      | 28.9                                             | 6.8                          | 67.1                                                     | 64                     | 136                                         | 15.7                   | 7.3 |
| 1951                       | ....                                                 | 56.2                                                      | 47.9                                             | 14.5                         | 118.7                                                    | 97                     | 205                                         | 10.3                   | 4.9 |
| 1956                       | ....                                                 | 99.2                                                      | 62.8                                             | 13.0                         | 175.0                                                    | 147                    | 259                                         | 6.8                    | 3.9 |
| 1961                       | ....                                                 | 141.6                                                     | 71.0                                             | 12.6                         | 225.2                                                    | 192                    | 306                                         | 5.2                    | 3.3 |
| 1966                       | ....                                                 | 219.8                                                     | 84.4                                             | 8.8                          | 313.0                                                    | 259                    | 369                                         | 3.9                    | 2.7 |
| 1967                       | ....                                                 | 240.5                                                     | 87.7                                             | 8.9                          | 337.1                                                    | 274                    | 384                                         | 3.7                    | 2.6 |
| 1968                       | ....                                                 | 263.6                                                     | 92.6                                             | 9.6                          | 365.7                                                    | 288                    | 400                                         | 3.5                    | 2.5 |
| 1969                       | ....                                                 | 288.7                                                     | 96.6                                             | 10.4                         | 395.8                                                    | 303                    | 415                                         | 3.3                    | 2.4 |
| 1970                       | ....                                                 | 316.4                                                     | 102.3                                            | 11.7                         | 430.4                                                    | 320                    | 435                                         | 3.1                    | 2.3 |
| 1971 (d)                   | ....                                                 | 346.0                                                     | 107.6                                            | 13.2                         | 466.8                                                    | 337                    | 454                                         | 3.0                    | 2.2 |

(a) Excluding tractors, trailers, caravans, and plant and equipment such as bulldozers, road graders and rollers, and mobile cranes.

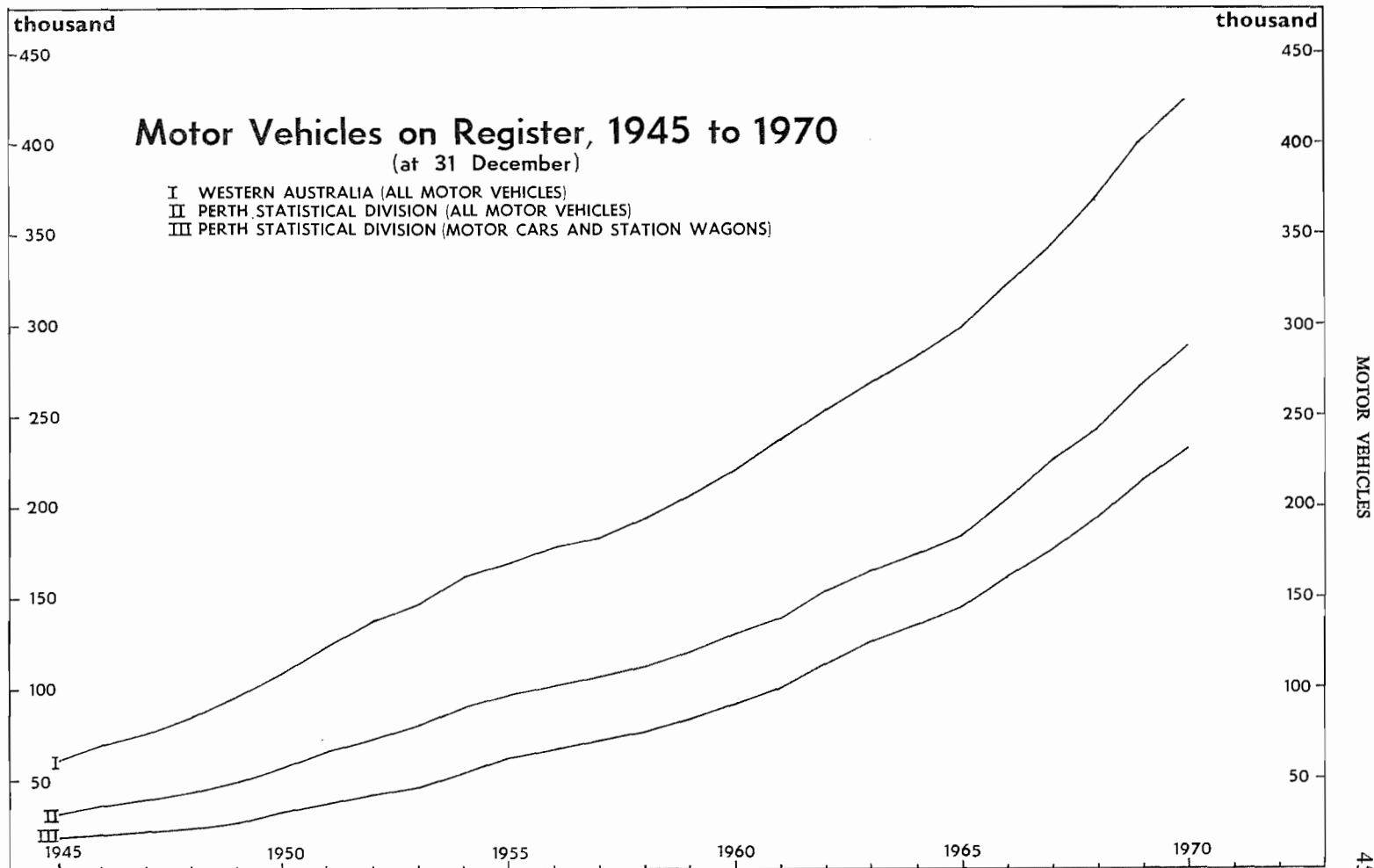
(b) The estimates shown for 30 June 1967 and later have been revised in accordance with the preliminary results of the 1971 Population Census.

(c) Includes Commonwealth Government-owned vehicles (other than those of the defence services) listed with the Commonwealth Motor Vehicle Registry, Canberra. At 30 June 1971 there were in Western Australia 2,199 such vehicles comprising 218 motor cars, 397 station wagons, 503 utilities, 409 panel vans, 572 trucks, 32 omnibuses and 68 motor cycles.

(d) Preliminary figures; subject to revision.

Traffic control in general is exercised by the Police Department in the Metropolitan Traffic Area (except for certain powers in relation to the parking of vehicles granted the Perth City Council by the *City of Perth Parking Facilities Act, 1956-1970*) and in other areas for which vehicle licensing and traffic control powers have been conferred on the Commissioner of Police. Outside these Police-controlled areas, control is vested by the Traffic Act in the local government authorities, each of which is required by the Act to appoint at least one traffic inspector for its district.

In June 1965, a Departmental Committee was appointed by the State Government to investigate country traffic control, and to consider and report upon the necessity for the establishment of a single traffic authority throughout the State responsible for traffic control only; licensing of vehicles only; or both functions.





The majority of the committee, in a report which was presented in April 1966, recommended that 'the Police Department be established as the sole authority responsible for the enforcement of the Traffic Act throughout the State'. A further majority recommendation was to the effect that 'licensing of vehicles throughout the State be made the responsibility of a single authority and that the Commissioner of Police is the appropriate authority to assume this responsibility.' Although the recommendations were not adopted by the Government, it was decided that a local authority exercising vehicle licensing and traffic control powers in any territory outside the Metropolitan Traffic Area might voluntarily transfer these powers to the Police Department. Legislative authority for any such transfer is contained in the *Traffic Act Amendment Act (No. 2), 1969* which provides that if a local authority, by resolution of its Council, so requires, the Minister may, by notice in the *Government Gazette*, confer on the Commissioner of Police all the powers and duties imposed on the local authority by the Traffic Act, other than those relating to road construction. The Shire Councils of Broome and West Kimberley were the first local government authorities to avail themselves of this provision, and the transfer of powers became effective from 1 January 1969. Other Shires which voluntarily transferred vehicle licensing and traffic control powers to the Police Department were Serpentine-Jarrahdale (1 January 1970), Esperance, Manjimup and Ravensthorpe (1 October 1970), Merredin (1 December 1970), Busselton (1 April 1971), Ashburton, Lake Grace, Murray and Wyndham-East Kimberley (1 July 1971).

### Finance for Roads

The principal source of revenue for road works in Western Australia is in the form of Commonwealth financial assistance authorised by a series of Acts, the first of which, the Main Roads Development Act, was passed in 1923. The legislation currently in operation for the provision of grants to the States for or in connection with roads is the *Commonwealth Aid Roads Act 1969*.

The *Commonwealth Aid Roads Act 1969* authorises the Commonwealth to grant an amount of \$1,252.05 million as financial assistance to the States in relation to roads during the five-year period from 1 July 1969 to 30 June 1974. The assistance comprises a 'principal grant' of \$1,200 million and a 'supplementary grant' of \$52.05 million. The principal grant is apportioned among the six States and must be spent on specified classes of roads and on road planning and research. Moneys are provided from the supplementary grant to the States of Western Australia, South Australia and Tasmania, and are available for the construction and maintenance of roads generally. The annual amounts payable from the principal grant increase from \$180 million in 1969-70 to \$310 million in 1973-74, while those payable from the supplementary grant decrease from \$13 million to \$6.80 million.

Western Australia's share of the principal grant of \$1,200 million is \$159.6 million, of which \$62.41 million is required to be spent on the construction of urban arterial roads, \$23.91 million on the construction of rural arterial roads, \$70.88 million on the construction and maintenance of other rural roads, and \$2.40 million on road planning and research. Western Australia's share of the supplementary grant of \$52.05 million is \$40.80 million.

Payment of moneys provided by the *Commonwealth Aid Roads Act 1969* is contingent on a State's expenditure on roads from its own resources. To qualify for the full amount of the grant a State must increase its annual expenditure on roads in proportion to the increase in the number of motor vehicles on the register in that State.

The *Traffic Act Amendment Act (No. 2), 1969* and the *Main Roads Act Amendment Act, 1969*, both of which came into operation on 1 July 1969, established a new system for the receipt and disbursement of moneys to be spent on roads. Other Western Australian Acts which provide revenue for road purposes are the *Road Maintenance (Contribution) Act, 1965-1970* (see page 277) and the *Transport Commission Act, 1966-1970* (see pages 277 and 466).

The *Traffic Act, 1919-1971* requires that there shall be paid to the Main Roads Trust Account, maintained under the Main Roads Act, the motor vehicle licence fees received by local government authorities, or by the Commissioner of Police as the licensing authority in the Metropolitan Traffic Area and other areas for which vehicle licensing (and traffic control) powers have been conferred on the Commissioner. Provision is made for the retention by these authorities of specified amounts to cover costs of administration in respect of motor vehicle licensing. The Commissioner of Police is also required to pay into the Account one-half of the fees which he receives on the issue or renewal of drivers' licences.

The *Main Roads Act Amendment Act, 1969* provides that there shall be paid to the Main Roads Trust Account moneys received from the Commonwealth as financial assistance in relation to roads; amounts payable under the provisions of the Traffic Act or any other Act; moneys appropriated by the Parliament; and payments by local government authorities in respect of permanent works and the maintenance of main roads and developmental roads. Moneys standing to the credit of the Account are used to meet expenditure by the Commissioner of Main Roads on the administration of the Act and the construction of roads and associated works, and to provide funds to local government authorities for roads and road works.

The Act provides that every local government authority shall be paid from the Main Roads Trust Account an annual grant calculated by applying a percentage increase to a 'base grant' specified for each authority. An additional grant is payable to any local government authority whose annual expenditure on road construction from its own resources exceeds a prescribed amount. The Act requires that one-half of the moneys received by a local authority in the form of grants shall be spent on the construction of urban arterial roads where its district is within the Perth Statistical Division, and on the construction of rural roads other than arterial rural roads where its district is outside the Division. The remaining moneys are to be applied to the construction and maintenance of roads generally.

Grants payable from the Main Roads Trust Account constitute the principal revenue available to local government authorities for road construction and maintenance. Other moneys may be provided from the ordinary revenue of a local authority or from loans raised for road purposes.

**Beef Cattle Roads.** In addition to grants made under the Commonwealth Aid Roads legislation, the Commonwealth Government provided financial assistance, during the six-year period ended 30 June 1967, in terms of a series of Western Australia Grant (Beef Cattle Roads) Acts, the first of which was passed in 1961. The aim of this assistance was to improve the standard of roads used for the transport of beef cattle in the Kimberley. During the period of the programme almost \$17 million was spent, the State Government matching Commonwealth contributions on a dollar for dollar basis. An extension of Commonwealth financial assistance is authorised by the *States Grants (Beef Cattle Roads) Act 1968*. The Act provides for a contribution of up to \$9.5 million as Western Australia's share of funds for a further programme of construction during a period of seven years commencing on 1 July 1967. The grants are again conditional upon equal expenditure by the State.

## ROAD PASSENGER TRANSPORT SERVICES

Motor omnibus services (as well as a passenger ferry service) in the metropolitan area are operated by the Metropolitan (Perth) Passenger Transport Trust, constituted under the *Metropolitan (Perth) Passenger Transport Trust Act, 1957-1966*. For the purposes of the Act, the metropolitan area is defined by a proclamation of 1 May 1958 as being 'all the land within a circle having a radius of 30 miles from the Perth Town Hall' and in addition, an area bounded by the South Western Highway and the ocean, extending southward to an east-west line one mile south of the town of Pinjarra. The trolley-bus services formerly operated by the Trust were discontinued on 29 August 1969.

Road transport of passengers outside the metropolitan area is provided by the railways road services (see pages 449-50), which cover long-distance routes between Perth and country centres; by The Eastern Goldfields Transport Board, which serves the Kalgoorlie-Boulder urban area under an agreement with the Kalgoorlie and Boulder local government authorities; and by privately-owned omnibus services, which operate mainly in and around country centres. Extensive tourist services operate mainly from Perth.

In certain country areas, children are taken to and from school by motor bus at government expense. In 1969-70 the cost to the Government of school transport services was \$3,128,409. The number of omnibuses engaged was 690. They travelled a daily total of 47,108 miles and carried 23,371 children daily.

Details of the operations of omnibus services in Western Australia during the five years ended 30 June 1970 are given in the following table.

## OMNIBUS SERVICES (a)

| Year | Route miles operated | Omnibuses at end of year | Omnibus miles run '000 | Passenger-journeys '000 | Employees at end of year | Operating revenues (b) \$'000 | Operating expenses \$'000 | Depreciation \$'000 | Interest \$'000 |
|------|----------------------|--------------------------|------------------------|-------------------------|--------------------------|-------------------------------|---------------------------|---------------------|-----------------|
|------|----------------------|--------------------------|------------------------|-------------------------|--------------------------|-------------------------------|---------------------------|---------------------|-----------------|

## METROPOLITAN (PERTH) PASSENGER TRANSPORT TRUST (c) (d)

|         |     |     |        |        |       |       |       |     |     |
|---------|-----|-----|--------|--------|-------|-------|-------|-----|-----|
| 1965-66 | 614 | 626 | 17,893 | 52,268 | 1,759 | 5,622 | 6,095 | 601 | 408 |
| 1966-67 | 626 | 653 | 18,708 | 53,126 | 1,764 | 6,676 | 6,529 | 581 | 426 |
| 1967-68 | 642 | 681 | 19,031 | 52,929 | 1,753 | 7,012 | 6,734 | 630 | 452 |
| 1968-69 | 628 | 688 | 19,736 | 54,713 | 1,737 | 7,205 | 7,320 | 626 | 463 |
| 1969-70 | 633 | 688 | 20,919 | 55,804 | 1,752 | 7,918 | 8,011 | 636 | 505 |

## WESTERN AUSTRALIAN GOVERNMENT RAILWAYS

|         |       |    |       |     |     |     |     |     |    |
|---------|-------|----|-------|-----|-----|-----|-----|-----|----|
| 1965-66 | 3,730 | 60 | 2,061 | 255 | 140 | 529 | 580 | 60  | 26 |
| 1966-67 | 3,572 | 64 | 1,945 | 237 | 137 | 542 | 597 | 75  | 33 |
| 1967-68 | 3,958 | 61 | 1,875 | 228 | 142 | 549 | 610 | 76  | 34 |
| 1968-69 | 4,045 | 63 | 1,958 | 234 | 145 | 596 | 635 | 104 | 66 |
| 1969-70 | 4,119 | 63 | 1,930 | 206 | 148 | 613 | 654 | 114 | 73 |

## THE EASTERN GOLDFIELDS TRANSPORT BOARD

|         |     |    |     |     |    |     |     |    |       |
|---------|-----|----|-----|-----|----|-----|-----|----|-------|
| 1965-66 | *14 | 12 | 171 | 656 | 14 | 50  | 59  | 3  | ....  |
| 1966-67 | *14 | 12 | 185 | 684 | 14 | 57  | 60  | 5  | ....  |
| 1967-68 | *14 | 15 | 232 | 734 | 18 | 69  | 78  | 9  | ....  |
| 1968-69 | 14  | 19 | 275 | 791 | 19 | 84  | 82  | 11 | (e)   |
| 1969-70 | 14  | 21 | 421 | 899 | 19 | 118 | 126 | 13 | (e) 1 |

## PRIVATE

|         |       |         |           |           |     |         |     |     |     |
|---------|-------|---------|-----------|-----------|-----|---------|-----|-----|-----|
| 1965-66 | 628   | 37      | 752       | 1,379     | 48  | 148     | 155 | 15  | 1   |
| 1966-67 | 4,223 | 41      | 847       | 1,431     | 51  | 238     | 233 | 30  | 3   |
| 1967-68 | 3,895 | 35      | 1,231     | 1,162     | 48  | 382     | 390 | 30  | 4   |
| 1968-69 | (g)   | 37      | 1,098     | 1,199     | 46  | 419     | 440 | 38  | 8   |
| 1969-70 | (g)   | (f) 165 | (f) 1,830 | (f) 1,161 | (g) | (f) 767 | (g) | (g) | (g) |

(a) Excludes school transport services and tourist services. (b) Passenger fares and subsidies only. (c) For passenger ferry operations, see page 463. (d) Includes operations of trolley-buses until 29 August 1969 when the service was discontinued. (e) Less than \$500. (f) New series; includes tourist and charter services. (g) Not available. \* Revised.

## MOTOR VEHICLE USAGE

Some information on the usage of motor vehicles was obtained in a sample survey conducted throughout Australia by the Commonwealth Bureau of Census and Statistics in November 1963. The sample comprised 19,676 vehicles, of which 2,742 were cars or station wagons. Because the survey results are based on a sample, they are subject to sampling variability and may therefore differ somewhat from the results that would

have been obtained from a complete enumeration of all registered motor vehicles. Details, including particulars relating to goods-carrying vehicles, appear in *Survey of Motor Vehicle Usage, 1963—Preliminary Bulletin: States and Territories* published by the Commonwealth Statistician, Canberra.

A further sample survey of motor vehicle usage is being undertaken, based on the census of motor vehicles on register at 30 September 1971. The final phase of the survey will be completed late in 1972 and preliminary results are expected to be available early in 1973.

## ROAD TRAFFIC ACCIDENTS

Statistics of road traffic accidents are prepared from information concerning accidents in public thoroughfares, as reported to officers of the Police Department in the Metropolitan Traffic Area and other areas as prescribed (see page 458) and, outside those areas, to traffic inspectors employed by local government authorities and/or police officers. Accidents involving casualties are those which result in the death of any person within a period of thirty days after the accident, or in which any person suffers bodily injury to an extent requiring surgical or medical treatment.

The following table shows, for each year during the period 1966 to 1970, the number of accidents involving casualties which occurred in Western Australia and in Australia.

The number of persons injured per 100,000 of mean population was higher in Western Australia than the corresponding Australian figure in each year except 1969. However, the number of persons injured per 10,000 motor vehicles on register was higher in Australia as a whole than in Western Australia for each of the years shown.

### ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES WESTERN AUSTRALIA AND AUSTRALIA

| Particulars                                 | 1966   | 1967   | 1968   | 1969   | 1970   |
|---------------------------------------------|--------|--------|--------|--------|--------|
| <b>WESTERN AUSTRALIA</b>                    |        |        |        |        |        |
| Accidents involving casualties—             |        |        |        |        |        |
| Total .....                                 | 4,346  | 4,659  | 4,708  | 4,809  | 5,218  |
| Per 10,000 motor vehicles on register ..... | *138   | *137   | 129    | *121   | 122    |
| Number of persons killed—                   |        |        |        |        |        |
| Total .....                                 | 253    | 256    | 320    | 311    | 351    |
| Per 10,000 motor vehicles on register ..... | 8      | 8      | 9      | 8      | 8      |
| Per 100,000 of mean population (a) .....    | 30     | 29     | 35     | 33     | 35     |
| Number of persons injured—                  |        |        |        |        |        |
| Total .....                                 | 5,997  | 6,426  | 6,553  | 6,788  | 7,373  |
| Per 10,000 motor vehicles on register ..... | *190   | *189   | *179   | *170   | 172    |
| Per 100,000 of mean population (a) .....    | 706    | *731   | *717   | *712   | 743    |
| <b>AUSTRALIA</b>                            |        |        |        |        |        |
| Accidents involving casualties—             |        |        |        |        |        |
| Total .....                                 | 55,538 | 57,253 | 58,759 | 62,597 | 65,210 |
| Per 10,000 motor vehicles on register ..... | 141    | 139    | 135    | 136    | 134    |
| Number of persons killed—                   |        |        |        |        |        |
| Total .....                                 | 3,242  | 3,166  | 3,382  | 3,502  | 3,798  |
| Per 10,000 motor vehicles on register ..... | 8      | 8      | 8      | 8      | 8      |
| Per 100,000 of mean population (a) .....    | 28     | 27     | 28     | *29    | 30     |
| Number of persons injured—                  |        |        |        |        |        |
| Total .....                                 | 77,837 | 80,021 | 82,210 | 87,864 | 91,554 |
| Per 10,000 motor vehicles on register ..... | 198    | 194    | 189    | 191    | 188    |
| Per 100,000 of mean population (a) .....    | 671    | *678   | *684   | *717   | 732    |

(a) Based on preliminary results of the Population Census of 30 June 1971.

\* Revised.

In the next table road traffic accident casualties which occurred in Western Australia during the five years ended 31 December 1970 are classified according to type of road user. The figures shown in the category 'Other' refer to such persons as bystanders, train drivers, riders of horses and drivers of animal-drawn vehicles.

## ROAD TRAFFIC ACCIDENTS—CASUALTIES ACCORDING TO TYPE OF ROAD USER

| Type of road user              | 1966  | 1967  | 1968  | 1969  | 1970  |
|--------------------------------|-------|-------|-------|-------|-------|
| PERSONS KILLED                 |       |       |       |       |       |
| Drivers of motor vehicles .... | 101   | 113   | 143   | 124   | 137   |
| Motor cyclists (a) ....        | 4     | 6     | 7     | 18    | 8     |
| Pedal cyclists ....            | 9     | 4     | 8     | 9     | 4     |
| Passengers—                    |       |       |       |       |       |
| Pillion ....                   | ...   | ...   | 1     | 3     | 3     |
| Other ....                     | 88    | 75    | 105   | 84    | 117   |
| Pedestrians ....               | 51    | 58    | 56    | 73    | 74    |
| Other ....                     | ...   | ...   | ...   | ...   | 8     |
| Total ....                     | 253   | 256   | 320   | 311   | 351   |
| PERSONS INJURED                |       |       |       |       |       |
| Drivers of motor vehicles .... | 2,351 | 2,680 | 2,680 | 2,863 | 3,247 |
| Motor cyclists (a) ....        | 342   | 329   | 328   | 325   | 361   |
| Pedal cyclists ....            | 344   | 339   | 275   | 340   | 247   |
| Passengers—                    |       |       |       |       |       |
| Pillion ....                   | 44    | 45    | 54    | 51    | 54    |
| Other ....                     | 2,196 | 2,263 | 2,431 | 2,468 | 2,752 |
| Pedestrians ....               | 714   | 763   | 781   | 715   | 689   |
| Other ....                     | 6     | 7     | 4     | 26    | 23    |
| Total ....                     | 5,997 | 6,426 | 6,553 | 6,788 | 7,373 |

(a) Includes riders of motor scooters.

The following table gives a classification of casualties according to the ages of persons killed and persons injured during each year of the period from 1966 to 1970.

## ROAD TRAFFIC ACCIDENTS—CASUALTIES CLASSIFIED ACCORDING TO AGE

| Year            | Age last birthday (years) |      |      |       |       |       |       |       |             |            | Total |        |       |
|-----------------|---------------------------|------|------|-------|-------|-------|-------|-------|-------------|------------|-------|--------|-------|
|                 | 0-4                       | 5-6  | 7-16 | 17-20 | 21-29 | 30-39 | 40-49 | 50-59 | 60 and over | Not stated |       |        |       |
| PERSONS KILLED  |                           |      |      |       |       |       |       |       |             |            |       |        |       |
| 1966            | ....                      | .... | 9    | 1     | 29    | 34    | 52    | 25    | 19          | 47         | 37    | ....   | 253   |
| 1967            | ....                      | .... | 3    | 4     | 22    | 48    | 43    | 29    | 27          | 26         | 52    | .... 2 | 256   |
| 1968            | ....                      | .... | 11   | 6     | 29    | 54    | 75    | 35    | 29          | 27         | 51    | .... 3 | 320   |
| 1969            | ....                      | .... | 13   | 6     | 27    | 56    | 70    | 35    | 27          | 21         | 56    | ....   | 311   |
| 1970            | ....                      | .... | 14   | 3     | 31    | 58    | 76    | 34    | 41          | 42         | 52    | ....   | 351   |
| PERSONS INJURED |                           |      |      |       |       |       |       |       |             |            |       |        |       |
| 1966            | ....                      | .... | 209  | 130   | 791   | 1,342 | 1,033 | 618   | 545         | 460        | 405   | 464    | 5,997 |
| 1967            | ....                      | .... | 234  | 121   | 792   | 1,344 | 1,185 | 627   | 603         | 482        | 457   | 581    | 6,426 |
| 1968            | ....                      | .... | 233  | 142   | 759   | 1,364 | 1,276 | 676   | 561         | 452        | 409   | 681    | 6,553 |
| 1969            | ....                      | .... | 261  | 134   | 867   | 1,383 | 1,293 | 728   | 608         | 424        | 501   | 589    | 6,788 |
| 1970            | ....                      | .... | 238  | 117   | 815   | 1,624 | 1,524 | 765   | 697         | 480        | 479   | 634    | 7,373 |

Road traffic accidents during the years ended 31 December 1969 and 1970 are classified in the next table according to nature of accident and type of vehicle involved. It should be noted that, as accidents (and casualties) may involve more than one type of vehicle and, in such cases, are classified to each type involved, it is not appropriate to derive totals by adding the figures shown in the second part of the table.

For additional information on road traffic accidents in this State, the reader is referred to the mimeographed bulletin *Road Traffic Accidents involving Casualties* issued quarterly and annually by the Western Australian Office of the Bureau of Census and Statistics.

### ROAD TRAFFIC ACCIDENTS NATURE OF ACCIDENT AND TYPE OF VEHICLE INVOLVED

| Nature of accident and<br>type of vehicle involved | 1969                                 |                   |                    | 1970                                 |                   |                    |
|----------------------------------------------------|--------------------------------------|-------------------|--------------------|--------------------------------------|-------------------|--------------------|
|                                                    | Accidents<br>involving<br>casualties | Casualties        |                    | Accidents<br>involving<br>casualties | Casualties        |                    |
|                                                    |                                      | Persons<br>killed | Persons<br>injured |                                      | Persons<br>killed | Persons<br>injured |
| NATURE OF ACCIDENT                                 |                                      |                   |                    |                                      |                   |                    |
| Vehicle colliding with—                            |                                      |                   |                    |                                      |                   |                    |
| Moving or stationary vehicle (a) ....              | 2,738                                | 102               | 4,249              | 3,041                                | 117               | 4,705              |
| Railway vehicle ....                               | 16                                   | 1                 | 37                 | 16                                   | 13                | 11                 |
| Pedestrian ....                                    | 731                                  | 72                | 702                | 708                                  | 74                | 676                |
| Parked vehicle ....                                | 124                                  | 5                 | 163                | 123                                  | 3                 | 151                |
| Fixed object ....                                  | 12                                   | ....              | 19                 | 10                                   | ....              | 10                 |
| Animal or animal-drawn vehicle ....                | 14                                   | 2                 | 15                 | 15                                   | 1                 | 24                 |
| Vehicle overturning or leaving road ....           | 1,075                                | 121               | 1,501              | 1,188                                | 129               | 1,668              |
| Passenger accident ....                            | 25                                   | 3                 | 22                 | 24                                   | 6                 | 23                 |
| Other accidents ....                               | 74                                   | 5                 | 80                 | 93                                   | 8                 | 105                |
| Total ....                                         | 4,809                                | 311               | 6,788              | 5,218                                | 351               | 7,373              |

|                                     |       |     |       |       |     |       |
|-------------------------------------|-------|-----|-------|-------|-----|-------|
| <b>TYPE OF VEHICLE INVOLVED (b)</b> |       |     |       |       |     |       |
| Motor vehicle—                      |       |     |       |       |     |       |
| Car, other than taxi ....           | 4,073 | 236 | 5,921 | 4,489 | 269 | 6,502 |
| Taxi ....                           | 88    | 4   | 124   | 95    | 1   | 138   |
| Van; utility ....                   | 882   | 73  | 1,277 | 950   | 90  | 1,374 |
| Truck ....                          | 369   | 25  | 503   | 372   | 35  | 509   |
| Semi-trailer ....                   | 56    | 10  | 84    | 62    | 9   | 90    |
| Omnibus; trolley-bus ....           | 62    | 2   | 110   | 72    | 3   | 102   |
| Motor cycle, motor scooter ....     | 377   | 22  | 411   | 402   | 11  | 449   |
| Other (c) ....                      | 26    | 4   | 30    | 49    | 5   | 56    |
| Pedal cycle ....                    | 348   | 9   | 346   | 247   | 4   | 255   |

(a) Excludes parked vehicles.

(b) See letterpress immediately preceding table.

(c) Includes unidentified vehicles.

### PASSENGER FERRY SERVICE

The Metropolitan (Perth) Passenger Transport Trust operates a passenger ferry service across the Swan River from Perth to South Perth. Particulars of private charter excursions are excluded from the figures in the following table, other than those which relate to operating revenues and expenses.

#### PASSENGER FERRY SERVICE

| Year         | Ferries at end of year | Miles run (a) | Passengers carried (a) | Employees at end of year | Operating revenues | Operating expenses | Depreciation | Interest |
|--------------|------------------------|---------------|------------------------|--------------------------|--------------------|--------------------|--------------|----------|
|              |                        |               |                        |                          | \$                 | \$                 | \$           | \$       |
| 1966-67 .... | 5                      | 21,784        | 253,160                | 9                        | 40,925             | 41,096             | 564          | 623      |
| 1967-68 .... | 5                      | 22,308        | 311,888                | 9                        | 47,778             | 47,974             | 964          | 814      |
| 1968-69 .... | 5                      | 22,524        | 336,146                | 9                        | 55,368             | 53,462             | 1,216        | 766      |
| 1969-70 .... | 5                      | 22,328        | 367,643                | 9                        | 70,079             | 58,233             | 3,152        | 5,098    |
| 1970-71 .... | 5                      | 22,392        | 357,372                | 9                        | 74,393             | 66,468             | 3,188        | 6,276    |

(a) Excludes private charter operations.

### AIR TRANSPORT

The supervision and control of civil air transport throughout Australia is the responsibility of the Commonwealth Department of Civil Aviation. Its regulatory functions include the licensing of air crew, engineering staff, airlines, charter and aerial work operators, flying schools and aerodromes; the approval of fares, freight rates and timetables; and the establishment and operation of air traffic control procedures. It is also responsible for the conduct of search and rescue operations; the provision and maintenance of government aerodromes, aeronautical communication systems and radio navigational

aids; and the specification of required meteorological services. The Department co-operates with the State Transport Commission which has a statutory licensing function in respect of air transport facilities within the State.

An extensive system of regular air services operates in Western Australia for the transport of passengers, freight and mails. The international airport seven miles from Perth is used by international, interstate and intrastate airlines providing services to South Africa, Europe, Singapore, Hong Kong and Japan, to all Eastern States capital cities, to Darwin and to many towns throughout Western Australia.

In May 1972 there were twenty-six aerodromes owned and maintained by the Commonwealth Government in Western Australia in addition to forty-four licensed aerodromes owned privately or by local authorities, while there were more than 535 landing strips suitable for use by light aircraft maintained throughout the State.

At the same date there were forty-one centres served by regular airlines and commuter services operated regularly to a further eighteen centres.

To enable jet aircraft to operate on main trunk routes throughout the State, visual approach slope indicator systems have been installed at thirteen main airports. Turbo-prop and piston engined aircraft maintain the feeder and commuter services between the smaller centres and the trunk routes. (The principal air routes in or through Western Australia at 31 December 1969 are shown on the map of the State following the Index.)

In addition to the aircraft capacity of the airline and commuter services at May 1972 there were 281 aircraft, based at centres throughout Western Australia, available for passenger and freight charter operations or aerial work such as aerial agriculture, aerial surveys, etc. and a further 213 aircraft in the private (*i.e.* not commercial) category.

Perth Airport, which is equipped with electronic and electrical navigation and approach aids to enable operations in periods of low visibility, handled 625,545 intrastate, interstate and overseas passengers in the twelve months ended 31 December 1971. This is more than double the number of airline passengers using Perth Airport five years previously.

The Royal Flying Doctor Service operates from a number of centres and details of its activities are given in Chapter V, Part 3.

**Airport Operations.** The following table, compiled from information published by the Department of Civil Aviation, provides a summary of operations at principal airports in Western Australia during each of the years 1968 to 1970. The figures refer only to regular public transport operations on scheduled services by licensed airlines and do not include charter and commuter services.

CIVIL AVIATION—TRAFFIC HANDLED AND AIRCRAFT MOVEMENTS  
AT PRINCIPAL AIRPORTS

| Airport            | Passengers (a) |         |         | Freight (short tons) (b) |       |       | Aircraft movements (c) |       |        |
|--------------------|----------------|---------|---------|--------------------------|-------|-------|------------------------|-------|--------|
|                    | 1968           | 1969    | 1970    | 1968                     | 1969  | 1970  | 1968                   | 1969  | 1970   |
| Barrow Island .... | 3,526          | 5,203   | 5,309   | 110                      | 101   | 93    | 981                    | 804   | 868    |
| Broome ....        | 7,221          | 6,930   | 8,333   | 238                      | 183   | 244   | 2,044                  | 1,701 | 1,562  |
| Carnarvon ....     | 6,951          | 10,231  | 10,112  | 181                      | 165   | 138   | 1,412                  | 1,562 | 1,558  |
| Dampier ....       | 12,901         | 15,077  | 27,843  | 312                      | 295   | 457   | 1,322                  | 1,290 | 1,815  |
| Derby ....         | 18,586         | 20,418  | 21,707  | 938                      | 1,172 | 1,231 | 2,584                  | 2,845 | 2,764  |
| Geraldton ....     | 19,372         | 18,550  | 18,272  | 101                      | 77    | 64    | 2,455                  | 1,589 | 1,392  |
| Kalgoorlie ....    | 9,828          | 18,527  | 31,521  | 215                      | 161   | 278   | 757                    | 710   | 1,186  |
| Kununurra ....     | 5,277          | 8,789   | 12,279  | 260                      | 393   | 405   | 722                    | 1,291 | 1,660  |
| Learmonth ....     | 5,428          | 5,609   | 6,245   | 112                      | 97    | 95    | 1,329                  | 1,392 | 1,413  |
| Newman ....        | (d)            | (d)     | 15,037  | (d)                      | (d)   | 210   | (d)                    | (d)   | 1,340  |
| Perth—             |                |         |         |                          |       |       |                        |       |        |
| Internal (e) ....  | 339,883        | 381,839 | 467,469 | 8,311                    | 8,241 | 9,090 | 8,962                  | 8,906 | 10,561 |
| International .... | 49,169         | 53,830  | 69,235  | 729                      | 781   | 933   | 2,216                  | 1,864 | 2,601  |
| Port Hedland ....  | 37,468         | 36,732  | 48,260  | 1,468                    | 1,217 | 1,754 | 3,448                  | 2,841 | 4,407  |
| Tom Price ....     | 8,089          | 9,348   | 13,859  | 179                      | 203   | 253   | 862                    | 836   | 1,014  |

(a) Total of embarkations and disembarkations. (b) Total of freight loaded and unloaded. Short ton = 2,000 lb.  
(c) Total of arrivals and departures. (d) Commenced regular transport operations 20 October 1968. Statistics not available prior to 1970.  
(e) Interstate and intrastate.

**Casualty Accidents.** The following table shows the number of accidents involving civil aircraft which resulted in death or serious injury. The statistics relate to the following classes of operation: regular public transport; charter flights; aerial agriculture; training; other aerial work; private; and gliding.

## CIVIL AVIATION—ACCIDENTS INVOLVING CASUALTIES (a)

| Particulars               | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|---------------------------|---------|---------|---------|---------|---------|
| WESTERN AUSTRALIA         |         |         |         |         |         |
| Number of—                |         |         |         |         |         |
| Accidents (a) ....        | 3       | 2       | 3       | 6       | 6       |
| Persons killed ....       | 3       | 2       | (b) 29  | 2       | 10      |
| Persons seriously injured | 4       | 1       | 2       | 9       | 3       |
| AUSTRALIA                 |         |         |         |         |         |
| Number of—                |         |         |         |         |         |
| Accidents (a) ....        | 38      | 36      | 17      | 46      | 31      |
| Persons killed ....       | 66      | 47      | (b) 47  | 49      | 48      |
| Persons seriously injured | 24      | 29      | 20      | 40      | 24      |

(a) Accidents involving civil aircraft which resulted in death or serious injury. Excludes parachutists killed on contact with earth after an uninterrupted fall. Excludes accidents outside Australia involving aircraft on the Australian register. (b) Includes 26 persons killed in one accident which occurred on 31 December 1968.

## TRANSPORT CO-ORDINATION

**State Transport Co-ordination Act**

The *State Transport Co-ordination Act, 1966*, which came into operation on 19 June 1967, repeals the *State Transport Co-ordination Act, 1933-1961*. The Act provides for the appointment of a Director General of Transport, a Transport Advisory Council and a Transport Users' Board.

The duties of the Director General are to recommend to the Minister transport policy or changes in transport policy and measures for achieving policy objectives and the co-ordination of the various forms of transport service; to implement such policies and measures; to provide for research in transport planning and operation and in the economics of every form of transport; to co-ordinate capital works programmes for public transport services; to inquire into existing transport services; to recommend the provision of road transport services; to examine and report on any proposal for the construction of a new railway; to recommend the closure or partial suspension of any transport service, including a railway; and to advise the Minister on the administration of specified Acts relating to transport.

The Transport Advisory Council comprises the Director General of Transport (as Chairman), the Commissioner of Railways, the Commissioner of Main Roads, the Commissioner of Transport, the Chairman of the Metropolitan (Perth) Passenger Transport Trust, the Chairman of the Western Australian Coastal Shipping Commission, a representative of the West Australian Road Transport Association, and a representative of operators of regular air transport services. The duties of the Council are to formulate proposals in respect of, and make recommendations on, any matter referred to it by the Minister or the Director General of Transport, or that it may bring forward of its own motion.

The Transport Users' Board consists of the Director General of Transport (as Chairman) and four persons appointed by the Governor on the nomination of the Minister. These four members must be persons who, in the opinion of the Minister, are capable of assessing the financial and economic effect on transport users of any proposed or existing transport policy, two of them being persons particularly versed in the transport needs of rural industries. The Transport Users' Board is charged with the duty of considering and, where it so resolves, of making recommendations on, any matter affecting a transport service operating in the State, or concerning the lack or inadequacy of a transport service.



### **Transport Commission Act**

The *Transport Commission Act, 1966-1970* provides for the appointment of a Commissioner of Transport. Under the direction of the Minister, the Commissioner is required to call tenders for the provision of road transport where, in the opinion of the Minister, the requirements of a district are not adequately served by any form of transport; to administer and direct the payment of such subsidies with respect to the provision of transport as may be authorised pursuant to the Act; and to consider and determine all applications for licences in respect of public vehicles. In regard to such licences the Commissioner may specify any particular conditions concerning the granting or holding of a licence, and may determine, in respect of any particular licence or group of licences, the conditions that shall be imposed on the granting and holding of such licences.

The public vehicles licensed by the Commissioner are omnibuses (other than those operated by the Metropolitan (Perth) Passenger Transport Trust), commercial goods vehicles, and aircraft.

In the licensing of omnibuses the Commissioner is empowered to prescribe the routes to be operated, the stopping places at which passengers may be picked up or set down, the fares to be charged, the timetables to be observed and the maximum number of passengers to be carried at any one time on any vehicle. The Commissioner may impose such other conditions as he thinks proper in the public interest.

All commercial goods vehicles operating on public roads are required to be licensed, except those which operate solely in the area within a radius of twenty miles from the General Post Office, Perth, or within a radius of twenty miles from the owner's place of business (or, where such place of business is situated more than forty miles from the General Post Office, Perth, within a radius of twenty-five miles). Exemptions from licensing provisions also apply to vehicles used for the transport of specified types of goods, mainly primary produce including forest products, minerals and livestock, or for the transport of goods within particular areas or between particular points.

Aircraft licences issued by the Commissioner relate to regular services and charter flights. Aircraft exempted from the licensing provisions of the Act are those operated solely in connection with the Royal Flying Doctor Service or in the course of aerial spraying, crop dusting, seed sowing, fertiliser distribution, photography, geophysical surveying, dingo baiting or whale or fish spotting.

The *Road and Air Transport Commission Act Amendment Act, 1970* widens the scope of the original Act to include control of the operations of ships engaged in the coasting trade. Under the provisions of the 1970 legislation, ships other than those operated by the Western Australian Coastal Shipping Commission may not engage in the coasting trade unless authorised to do so by a licence or permit granted by the Commissioner of Transport.

Financial transactions are recorded in a Transport Commission Fund account as required by the Act. The principal revenues of the Fund are receipts from licence and permit fees and amounts received from the Treasury for distribution in the form of subsidy to transport operators and others in certain areas. The expenditure from the Fund includes amounts necessary to meet administration costs, disbursements to the Main Roads Department and to local government authorities for the maintenance and improvement of roads, moneys required to be held in trust for the provision and maintenance of landing grounds, and the payment of subsidies. Subsidies are paid principally on the cartage of grain and fertilisers, but also on the air transport of perishable goods to remote parts of the State and on travel, mainly by air, by students normally resident in those areas.

### **Taxi-cars (Co-ordination and Control) Act**

The *Taxi-cars (Co-ordination and Control) Act, 1963-1970* constitutes a Taxi Control Board of seven members to provide for the co-ordination and control of taxi-cars and the registration and conduct of taxi-car drivers in the Metropolitan Traffic Area and such other areas as may be declared. The Act provides that the Board shall consist

of the Commissioner of Transport (as Chairman); a member of the police force appointed by the Commissioner of Police; and five persons, appointed by the Governor, comprising one to represent the interests of local authorities, chosen from a panel of names that is obtained by each local authority submitting the name of one person; one nominated by the W.A. Taxi Operators' Association; two who are taxi-car owners or operators and who are elected by taxi-car owners and operators; and one nominated by the Metropolitan (Perth) Passenger Transport Trust.

The principal functions of the Board are the formulation of schemes for the co-ordination and control of taxis; the determination of the number and kind of taxis to be licensed; the issue of licences; the determination of fares and other charges; the supervision of the operation of taxis and the regulation of stands; the registration of, and the control of the conduct and dress of, drivers; and the enforcement of regulations made under the Act.

It is provided that the number of taxis that may be licensed to operate within the Metropolitan Traffic Area shall not at any time exceed one for every 700, or be less than one for every 800, of the population of the area.

The Act establishes a Taxi Control Fund for the receipt of fees payable on the issue, renewal or transfer of licences. The expenses of the administration of the Act are paid from the Fund.

*Chapter IX—continued*

**Part 4—Communication**

**POSTS, TELEGRAPHS AND TELEPHONES**

The first postmasters in the Colony of Western Australia were appointed at Perth and Fremantle in 1830 and a Postal Department was established by the Colonial Government in 1834. Telegraphic communication, between Perth and Fremantle, was inaugurated in 1869 by means of a private line, which was purchased by the Government in 1871. A telephone exchange system, installed and operated by the Government, was opened at Perth in 1887.

In 1901, following the federation of the Australian Colonies, the post, telegraph and telephone services of the State Governments were transferred to the Commonwealth Government. The Post and Telegraph Act of 1901 placed the services under the control of a Commonwealth Minister to be known as the Postmaster-General.

The following table shows the number of persons employed by the Postmaster-General's Department in Western Australia, and the number of post offices and telephone offices throughout the State at 30 June in each year from 1967 to 1971. Full-time employees are those directly under the control of the Department. The remainder, shown as 'Other employees', provide services, which may or may not occupy their full time, under contract or in return for payments appropriate to work performed. 'Non-official' post offices are conducted by persons who are not members of the Commonwealth Public Service, and are frequently operated in conjunction with some other business activity. 'Telephone offices' are those where trunk-line calls and local calls may be made and telegrams lodged by members of the public, but which do not provide other postal facilities. Multi-coin public telephones are not included.

**POSTMASTER-GENERAL'S DEPARTMENT—NUMBERS OF EMPLOYEES AND OFFICES  
WESTERN AUSTRALIA**

| Particulars                              | At 30 June—  |              |              |              |               |
|------------------------------------------|--------------|--------------|--------------|--------------|---------------|
|                                          | 1967         | 1968         | 1969         | 1970         | 1971          |
| <b>Full-time employees—</b>              |              |              |              |              |               |
| Permanent officers .....                 | 5,344        | 5,561        | 5,808        | 6,001        | 6,400         |
| Temporary and exempt officers .....      | 1,600        | 1,904        | 2,156        | 2,678        | 2,767         |
| <b>Total .....</b>                       | <b>6,944</b> | <b>7,465</b> | <b>7,964</b> | <b>8,679</b> | <b>9,167</b>  |
| <b>Other employees—</b>                  |              |              |              |              |               |
| Non-official postmasters and staff ..... | 492          | 492          | 482          | 461          | 444           |
| Telephone office-keepers .....           | 224          | 202          | 183          | 161          | 161           |
| Mail contractors (a) .....               | 329          | 323          | 323          | 305          | 338           |
| Part-time employees .....                | 305          | 314          | 325          | 340          | 391           |
| <b>Total .....</b>                       | <b>1,350</b> | <b>1,331</b> | <b>1,313</b> | <b>1,267</b> | <b>1,334</b>  |
| <b>Total, Employees .....</b>            | <b>8,294</b> | <b>8,796</b> | <b>9,277</b> | <b>9,946</b> | <b>10,501</b> |
| <b>Post offices—</b>                     |              |              |              |              |               |
| Official .....                           | 153          | 156          | 158          | 161          | 163           |
| Non-official .....                       | 477          | 476          | 468          | 445          | 430           |
| <b>Telephone offices .....</b>           | <b>222</b>   | <b>198</b>   | <b>181</b>   | <b>162</b>   | <b>159</b>    |
| <b>Total, Offices .....</b>              | <b>852</b>   | <b>830</b>   | <b>807</b>   | <b>768</b>   | <b>752</b>    |

(a) Includes persons employed by contractors to drive vehicles on mail runs.

Figures relating to the cash receipts and expenditure of the Department in Western Australia during each of the financial years 1968-69 to 1970-71 are given in the following table. They represent actual collections and payments in each year, as shown by records kept for Treasury purposes. Some additional items of departmental revenue and expenditure are not apportioned to States and therefore do not appear in the table. As the figures shown relate to actual collections and payments made, they do not represent the net results of the Department's operations for the year. In 1968-69 a new system of classification of items of receipt and expenditure was adopted and consequently the figures shown in the table are not comparable with those for 1967-68 and earlier years.

**POSTMASTER-GENERAL'S DEPARTMENT**  
**CASH RECEIPTS AND EXPENDITURE—WESTERN AUSTRALIA**  
 (\$'000)

| Particulars                             | 1968-69       | 1969-70       | 1970-71       |
|-----------------------------------------|---------------|---------------|---------------|
| <b>CASH RECEIPTS (a)</b>                |               |               |               |
| Postal .....                            | 10,698        | 11,567        | 13,577        |
| Telephone .....                         | 26,818        | 30,452        | 37,631        |
| Telegraph .....                         | 1,199         | 1,523         | 1,944         |
| Proceeds of sales .....                 | 375           | 493           | 480           |
| Recoverable works .....                 | 1,914         | 2,058         | 2,156         |
| International services .....            | 152           | 223           | 182           |
| <b>Total .....</b>                      | <b>41,155</b> | <b>46,317</b> | <b>55,970</b> |
| <b>CASH EXPENDITURE (b)</b>             |               |               |               |
| Salaries and wages .....                | 27,139        | 32,585        | 37,938        |
| Material .....                          | 22,390        | 26,203        | 22,465        |
| Carriage of mails by contractors .....  | 749           | 781           | 849           |
| Buildings, sites, properties .....      | 3,122         | 6,025         | 4,377         |
| Accommodation services .....            | 1,805         | 2,026         | 2,195         |
| Other administrative expenses (c) ..... | 3,343         | 4,224         | 4,532         |
| <b>Total .....</b>                      | <b>58,547</b> | <b>71,844</b> | <b>72,356</b> |

(a) Actual collections during the year as taken from the cash records of the Post Office.

(b) Actual payments made during the year for all Post Office purposes.

(c) Major items within this classification are travelling allowances, repairs to plant, engineering contract works and hire of vehicles.

**POSTMASTER-GENERAL'S DEPARTMENT—PROFIT OR LOSS (a) OF SERVICES**  
**AUSTRALIA**  
 (\$'000)

| Particulars                                   | 1968-69 |                     |              | 1969-70 |                     |              | 1970-71 |                     |              |
|-----------------------------------------------|---------|---------------------|--------------|---------|---------------------|--------------|---------|---------------------|--------------|
|                                               | Postal  | Tele-communications | All services | Postal  | Tele-communications | All services | Postal  | Tele-communications | All services |
| Earnings .....                                | 154,936 | 412,272             | 567,208      | 161,866 | 463,378             | 625,244      | 185,599 | 530,014             | 715,613      |
| Working expenses .....                        | 155,947 | 314,475             | 470,422      | 172,948 | 351,393             | 524,341      | 199,816 | 403,077             | 602,893      |
| Profit or loss before charging interest ..... | —1,011  | 97,797              | 96,785       | —11,082 | 111,985             | 100,903      | —14,217 | 126,937             | 112,720      |
| Interest .....                                | 7,689   | 81,059              | 88,749       | 8,786   | 90,135              | 98,921       | 11,272  | 103,091             | 114,363      |
| Profit or loss after charging interest .....  | —8,701  | 16,738              | 8,037        | —19,868 | 21,850              | 1,982        | —25,489 | 23,846              | —1,643       |

(a) Minus sign (—) denotes loss.

The annual net results of the operations throughout Australia of each service, for the three years ended 30 June 1971 after providing for working expenses (including depreciation, superannuation and furlough liability) and interest charges are shown in the previous table. The amounts appearing under the heading of *Interest* represent interest on funds provided by the Treasury.

### Posts

In the following table, postal matter handled in Western Australia during each year from 1966-67 to 1970-71 is dissected according to the type of article dealt with, and whether received from overseas or posted for delivery in Australia or to an overseas destination.

#### POSTAL ARTICLES HANDLED (Thousands)

| Particulars                           | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|---------------------------------------|---------|---------|---------|---------|---------|
| Posted for delivery within Australia— |         |         |         |         |         |
| Ordinary postal articles—             |         |         |         |         |         |
| Letter-form .....                     | 153,082 | 159,093 | 153,580 | 159,151 | 158,178 |
| Other .....                           | 13,861  | 13,252  | 13,753  | 14,104  | 13,719  |
| Parcels (a) .....                     | 1,149   | 1,158   | 1,039   | 1,381   | 1,417   |
| Registered articles (b) .....         | 663     | 667     | 687     | 751     | 718     |
| Posted for delivery overseas—         |         |         |         |         |         |
| Ordinary postal articles—             |         |         |         |         |         |
| Letter-form .....                     | 6,827   | 7,333   | 8,218   | 9,165   | 9,724   |
| Other .....                           | 1,050   | 995     | 985     | 1,009   | 878     |
| Parcels (a) .....                     | 32      | 42      | 40      | 53      | 46      |
| Registered articles (b) .....         | 60      | 78      | 84      | 96      | 110     |
| Received from overseas—               |         |         |         |         |         |
| Ordinary postal articles—             |         |         |         |         |         |
| Letter-form .....                     | 5,213   | 8,508   | 5,118   | 5,679   | 7,036   |
| Other .....                           | 6,653   | 6,948   | 6,204   | 3,344   | 2,931   |
| Parcels (a) .....                     | 93      | 106     | 119     | 133     | 137     |
| Registered articles (b) .....         | 50      | 53      | 56      | 67      | 65      |

(a) Includes registered, cash on delivery and duty parcels.

(b) Excludes registered parcels; see note (a).

### Telegraphs and Telephones

The next two tables relate to telegraph and telephone services in Western Australia in each financial year from 1966-67 to 1970-71. Telephone services comprise ordinary exchange services (*i.e.* those which provide direct access to the exchange system by means of exclusive use of an exchange line), duplex services, party-line services, private branch exchange services and public telephones. The numbers shown as 'Telephone instruments in service' relate to those through which direct access to the exchange system may be obtained.

At 30 June 1971, the single wire mileage of conductors in telegraph and telephone cables in Western Australia was 2,046,138. The single wire mileage of aerial wires was 114,257 and the mileage of pole routes was 15,406. There were 5,254 tube miles of coaxial cable.

#### TELEGRAPHS

| Particulars                       | 1966-67       | 1967-68       | 1968-69       | 1969-70        | 1970-71       |
|-----------------------------------|---------------|---------------|---------------|----------------|---------------|
| Number of—                        |               |               |               |                |               |
| Offices (a) .....                 | 852           | 830           | 807           | 768            | 752           |
| Telegrams—                        |               |               |               |                |               |
| Within Australia—Dispatched ..... | '000<br>2,245 | '000<br>2,359 | '000<br>2,516 | '000<br>*2,487 | '000<br>2,259 |
| Beyond Australia—Dispatched ..... | 119           | 133           | 152           | 188            | 181           |
| Received .....                    | 107           | (b)           | (b)           | (b)            | (b)           |
| Total .....                       | 227           | (b)           | (b)           | (b)            | (b)           |

(a) At 30 June.

(b) Not available.

\* Revised.

## TELEPHONES (a)

| Particulars                       | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------|---------|---------|---------|---------|---------|
| Number of—                        |         |         |         |         |         |
| Exchanges                         | 750     | 745     | 749     | 746     | 744     |
| Services—                         |         |         |         |         |         |
| Metropolitan (b)                  | 93,528  | 101,451 | 112,510 | 127,199 | 136,810 |
| Other                             | 44,161  | 48,211  | 53,181  | 58,857  | 62,748  |
| Total                             | 137,689 | 149,662 | 165,691 | 186,056 | 199,558 |
| Telephone instruments in service— |         |         |         |         |         |
| Total                             | 191,031 | 208,343 | 231,845 | 256,303 | 285,480 |
| Per 100 of population (a) (c)     | 21.7    | 22.8    | 24.3    | 25.9    | 27.8    |

(a) At 30 June. (b) Services connected to exchanges located within 10 miles of the General Post Office, Perth. (c) Figures based on the preliminary results of the 1971 Census of Population.

The teleprinter exchange service (telex) was introduced in Perth in December 1956. This service enables a subscriber's teleprinter to be connected with that of any other subscriber in the local network or networks in other States.

## TELEPRINTER EXCHANGE NETWORK (TELEX)

| Particulars         | 1966-67   | 1967-68   | 1968-69   | 1969-70     | 1970-71   |
|---------------------|-----------|-----------|-----------|-------------|-----------|
| Number of—          |           |           |           |             |           |
| Services at 30 June | 271       | 354       | 477       | 686         | 887       |
| Internal calls (a)  | * 479,975 | * 733,638 | * 932,049 | * 1,319,886 | 1,673,421 |

(a) Includes Post Office Official traffic.

\* Revised.

## RADIOCOMMUNICATION

The Overseas Telecommunications Commission (Australia) is the authority responsible for the operation of telecommunication services between Australia and other countries, with ships at sea and to and between Australia's external Territories.

The Commission was established under the provisions of the *Overseas Telecommunications Act* 1946 which implemented a recommendation of the 1945 Commonwealth Telecommunications Conference for national ownership of the external telecommunications services of the British Commonwealth countries concerned. In 1966 the Commonwealth countries completed a review of the machinery for their collaboration in telecommunications and, as a result, the Commonwealth Telecommunications Organisation was established. The purpose of this body is to promote the efficient exploitation and development of the Commonwealth external telecommunications system.

A number of countries, including Australia, agreed in 1964 to establish a global commercial communications satellite system and Australia, represented by the Commission, is a member of the management body of the sixty-nine nation International Telecommunications Satellite Consortium (INTELSAT).

The Commission operates three 'standard' earth stations (at Carnarvon in Western Australia, Ceduna in South Australia and Moree in New South Wales) which can communicate via satellite with stations in other countries. The standard station at Carnarvon was brought into service on 1 October 1969, enabling a non-standard earth station at Carnarvon to be released for the full-time performance of telemetry, tracking and command functions for the INTELSAT organisation.

The transmission facilities used by the Commission in its external operations are submarine cables, satellites and high frequency radio. It operates a coastal radio service and, in association with the Post Office within Australia and with communication carriers in other Commonwealth and foreign countries, provides public message telegram, telephone, telex, photo-telegram, leased circuit and television services to most countries and places throughout the world.

The coastal radio service provides, as its principal function, essential maritime communications, including distress signals, navigation warnings, air-sea rescue service and radio-medical service messages, meteorological messages and time signals, as well as naval traffic as required. It provides also, by radiotelegraph and radiotelephone, commercial communications with ships at sea and, by radiotelephone, message communication with small vessels. Western Australian coastal radio stations are located at Perth, Broome, Esperance and Geraldton.

The licensing of civil radiocommunication stations and the transmission of radio messages within Australia are the responsibility of the Postmaster-General's Department. The Royal Flying Doctor Service of Australia, to which reference is made in Part 3 of Chapter V, provides general telegraph facilities in remote areas through its extensive radio network.

At 30 June 1971 there were 146,981 civil radiocommunication stations authorised throughout Australia. They comprised 4,443 fixed stations, 12,085 land stations, 124,088 mobile stations and 6,365 amateur stations.

The numbers of each type of radiocommunication station authorised to operate in Western Australia at 30 June 1971 are given in the next table. The following definitions are relevant in considering the figures shown in the table. *Fixed Stations*—Stations established at fixed locations for communication with other stations similarly established. *Outposts*—Stations established in outback areas for communication with control stations such as those of the Royal Flying Doctor Service. *Land Stations*—Stations established at fixed locations for communication with mobile stations. *Coast Stations*—Land stations for communication with ocean-going vessels. *Mobile Stations*—Equipment installed in aircraft (aeronautical), motor vehicles (land mobile services), harbour vessels (harbour mobile services) and ocean-going vessels (ship), and mobile equipment of organisations such as the Royal Flying Doctor Service.

CIVIL RADIOCOMMUNICATION STATIONS AUTHORISED AT 30 JUNE 1971

| Type of station                     | Number | Type of station                          | Number |
|-------------------------------------|--------|------------------------------------------|--------|
| TRANSMITTING AND RECEIVING—         |        | TRANSMITTING AND RECEIVING— <i>cont.</i> |        |
| Fixed stations—                     |        | Mobile stations—                         |        |
| Aeronautical .....                  | 18     | Aeronautical .....                       | 521    |
| Services with other countries ..... | 13     | Land mobile services .....               | 12,335 |
| Outpost .....                       | 413    | Harbour mobile services .....            | 195    |
| Other .....                         | 368    | Outpost .....                            | 1,000  |
| Land stations—                      |        | Ship .....                               | 1,357  |
| Aeronautical .....                  | 42     | Amateur .....                            | 508    |
| Base stations—                      |        |                                          |        |
| Land mobile services .....          | 1,294  | TOTAL TRANSMITTING AND                   |        |
| Harbour mobile services .....       | 41     | RECEIVING .....                          | 18,225 |
| Coast .....                         | 52     | RECEIVING ONLY (fixed) .....             | 87     |
| Special experimental .....          | 68     | GRAND TOTAL .....                        | 18,312 |

## BROADCASTING AND TELEVISION

Broadcasting and television services throughout Australia are controlled by the Australian Broadcasting Control Board under the Ministerial direction of the Postmaster-General. The Board is established by a provision of the *Broadcasting and Television Act 1942-1971*, which places under its general control the National Broadcasting Service, the National Television Service, the Commercial Broadcasting Service and the Commercial Television Service. The Act prescribes the fees payable for broadcast listeners' licences and television viewers' licences, while the fees to be charged for licences to operate commercial broadcasting and television stations are provided for in the *Broadcasting Stations Licence Fees Act 1964-1966* and the *Television Stations Licence Fees Act 1964-1966*.

The principal functions of the Australian Broadcasting Control Board, which consists of three full-time and two part-time members, are to ensure that services by broadcasting stations and television stations are in accordance with approved plans, that stations are

operated in accordance with appropriate technical standards, and that adequate and comprehensive programmes are provided. Subject to the approval of the Minister and of the Treasurer, the Board may give financial and other assistance to commercial broadcasting stations for the purpose of ensuring that programmes of adequate extent, standard and variety are provided in the areas which they serve. The Board is required to hold public inquiries into applications for licences for commercial broadcasting and television stations in areas for which the Minister proposes to grant licences. It is also the responsibility of the Board to determine, subject to any direction of the Minister, the situation, operating power and operating frequencies of broadcasting and television stations.

The Australian Broadcasting Commission, which is constituted under the *Broadcasting and Television Act 1942-1971*, controls the activities of, and provides programmes for, the National Broadcasting Service and the National Television Service which use transmitters operated by the Postmaster-General's Department. The operations of the Commission are financed by appropriations made by the Commonwealth Parliament.

The income of licensees of commercial broadcasting and television stations is derived from advertisements and other forms of publicity.

Commercial broadcasting stations are operated under licences granted and renewed by the Postmaster-General after taking into consideration any recommendations which have been made by the Broadcasting Control Board. The initial period of a licence is five years and renewals are granted for a period of one year.

Commercial television stations are also operated under licences granted and renewed by the Postmaster-General. The initial grant of a licence is for a period of five years and thereafter the licence is renewable annually.

### Broadcasting and Television Stations

In 1923, the first radio broadcasting station commenced operations in Australia and, in the following year, station 6WF (Westralian Farmers) opened in Perth.

Television commenced in Australia on 16 September 1956 when station TCN, Sydney began regular transmission. By 30 June 1971 the number of stations in operation had increased to a total of ninety-four, comprising forty-eight national stations and forty-six commercial stations.

BROADCASTING STATIONS AT 30 JUNE 1971

| NATIONAL STATIONS |           |                 |                      |                               | COMMERCIAL STATIONS |           |                 |                      |                               |
|-------------------|-----------|-----------------|----------------------|-------------------------------|---------------------|-----------|-----------------|----------------------|-------------------------------|
| Type and location | Call sign | Frequency (kHz) | Aerial power (watts) | Hours of service per week (a) | Type and location   | Call sign | Frequency (kHz) | Aerial power (watts) | Hours of service per week (a) |
| Medium frequency— |           |                 |                      |                               | Perth ....          | 6IX       | 1,080           | 2,000                | 168                           |
| Perth ....        | 6WF       | 720             | 50,000               | 126                           | " ....              | 6KY       | 1,210           | 2,000                | 168                           |
| " ....            | 6WN       | 810             | 10,000               | 125½                          | " ....              | 6PM       | 1,000           | 2,000                | 168                           |
| Albany ....       | 6AL       | 650             | 400                  | 126                           | " ....              | 6PR       | 880             | 2,000                | 168                           |
| Broome ....       | 6BE       | 670             | 50                   | 126                           | Albany ....         | 6VA       | 780             | 2,000                | 123                           |
| Busselton ....    | 6BS       | 680             | 4,000                | 126                           | Bridgetown ....     | 6BY       | 900             | 2,000                | 113                           |
| Carnarvon ....    | 6CA       | 850             | 200                  | 126                           | Bunbury ....        | 6TZ       | 960             | 2,000                | 124½                          |
| Dalwallinu ....   | 6DL       | 530             | 10,000               | 126                           | Collie ....         | 6CI       | 1,130           | 2,000                | 124½                          |
| Derby ....        | 6DB       | 870             | 2,000                | 126                           | Geraldton ....      | 6GE       | 1,010           | 2,000                | 121                           |
| Esperance ....    | 6ED       | 840             | 1,000                | 126                           | Kalgoorlie ....     | 6KG       | 980             | 2,000                | 117                           |
| Kalgoorlie ....   | 6GF       | 660             | 2,000                | 126                           | Katanning ....      | 6WB       | 1,070           | 2,000                | 116                           |
| Geraldton ....    | 6GN       | 830             | 2,000                | 126                           | Merredin ....       | 6MD       | 1,100           | 2,000                | 119                           |
| Northam ....      | 6NM       | 600             | 200                  | 126                           | Narrogin ....       | 6NA       | 920             | 2,000                | 121½                          |
| Port Hedland .... | 6PH       | 600             | 2,000                | 126                           | Northam ....        | 6AM       | 860             | 2,000                | 120                           |
| Wagin ....        | 6WA       | 560             | 50,000               | 126                           |                     |           |                 |                      |                               |
| High frequency—   |           |                 |                      |                               |                     |           |                 |                      |                               |
| Perth ....        | VLW       | (b)             | (b)                  | 126                           |                     |           |                 |                      |                               |

(a) To the nearest quarter hour. (b) The station operates two transmitters, of 10,000 and 50,000 watts. Frequencies are varied as required to obtain optimum results.



## TELEVISION STATIONS AT 30 JUNE 1971

| Call sign and channel | Area served             | Location of transmitter           | Authorised frequencies (mHz)             | Polarisation and authorised power (kW e.r.p.) (a) | Hours of service per week (b) | Date of commencement of operations (c) |
|-----------------------|-------------------------|-----------------------------------|------------------------------------------|---------------------------------------------------|-------------------------------|----------------------------------------|
| NATIONAL STATIONS     |                         |                                   |                                          |                                                   |                               |                                        |
| ABW-2                 | Perth ....              | Bickley ....                      | Vision 63-70<br>Sound 64.25<br>69.75     | Horizontal ...<br>Vision 100<br>Sound 20          | 84½                           | 7 May 1960                             |
| ABAW-2                | Southern Agricultural   | Mount Barker                      | Vision 63-70<br>Sound 64.24<br>69.74     | Vertical ...<br>Vision 100<br>Sound 20            | 84½                           | 6 June 1966                            |
| ABCW-4                | Central Agricultural... | Mawson Trig...                    | Vision 94-101<br>Sound 95.26<br>100.76   | Horizontal ...<br>Vision 100<br>Sound 20          | 84½                           | 28 March 1966                          |
| ABGW-6                | Geraldton ....          | Geraldton ....                    | Vision 174-181<br>Sound 175.26<br>180.76 | Horizontal ...<br>Vision 10<br>Sound 2            | 84½                           | 8 December 1969                        |
| ABKW-6                | Kalgoorlie ....         | Kalgoorlie ....                   | Vision 174-181<br>Sound 175.25<br>180.75 | Horizontal ...<br>Vision 4<br>Sound 0.8           | 84½                           | 27 January 1970                        |
| ABNW-7                | Norseman ....           | Norseman<br>Microwave<br>Repeater | Vision 181-188<br>Sound 182.24<br>187.74 | Horizontal ...<br>Vision 0.05<br>Sound 0.01       | 84½                           | 14 April 1971                          |
| ABSW-5                | Bunbury ....            | Mount Lennard                     | Vision 101-108<br>Sound 102.25<br>107.75 | Horizontal ...<br>Vision 100<br>Sound 20          | 84½                           | 10 May 1965                            |
| COMMERCIAL STATIONS   |                         |                                   |                                          |                                                   |                               |                                        |
| STW-9                 | Perth ....              | Bickley ....                      | Vision 195-202<br>Sound 196.25<br>201.75 | Horizontal ...<br>Vision 100<br>Sound 20          | 93½                           | 12 June 1965                           |
| TVW-7                 | Perth ....              | Bickley ....                      | Vision 181-188<br>Sound 182.25<br>187.75 | Horizontal ...<br>Vision 100<br>Sound 20          | 93½                           | 16 October 1959                        |
| BTW-3                 | Bunbury ....            | Mount Lennard                     | Vision 85-92<br>Sound 86.24<br>91.74     | Horizontal ...<br>Vision 50<br>Sound 10           | 40¾                           | 10 March 1967                          |
| GSW-9                 | Southern Agricultural   | Mount Barker                      | Vision 195-202<br>Sound 196.24<br>201.74 | Vertical ...<br>Vision 50<br>Sound 10             | 40¾                           | 23 August 1968                         |
| VEW-8                 | Kalgoorlie ....         | Kalgoorlie ....                   | Vision 188-195<br>Sound 189.25<br>194.75 | Horizontal ...<br>Vision 4<br>Sound 0.8           | 28                            | 18 June 1971                           |

(a) Effective radiated power.

(b) To nearest quarter hour.

(c) Date on which full-scale transmission began.

The first television station in Western Australia commenced full-scale transmission in Perth on 16 October 1959 and, at 30th June 1971, three metropolitan and nine country television stations were operating.

Television transmissions by means of either a translator station or a repeater station are provided to some areas of the State not served by the stations shown in the above table. Translator stations are low-powered stations which receive signals from a parent station or another translator station and re-transmit those signals on a different frequency channel. They mainly serve isolated areas where there is not satisfactory reception from high-powered stations. Repeater stations are stations of low operating power designed to transmit only programmes recorded on magnetic tape.

At 30 June 1971 one national translator station was in operation in Western Australia, at Kambalda, receiving signals from station ABKW-6 Kalgoorlie. At the same date television repeater stations were operating at Cockatoo Island, Dampier, Karratha, Koolan Island, Newman and Tom Price. Low-power national television stations are planned for Carnamah, Carnarvon, Dampier, Esperance, Mingenew, Moora, Port Hedland, Southern Cross and Three Springs. Translator stations (national and commercial) have been approved for Katanning and Wagin.

## Receiving Licences

Broadcast listeners', television viewers', and combined receiving licences are issued at post offices in accordance with the provisions of the *Broadcasting and Television Act* 1942-1971, which stipulates that, except as prescribed, a person shall not use, maintain or have in his possession a broadcast or television receiver unless there is in force a licence which applies to that receiver. A broadcast listener's licence or a television viewer's licence, whichever is appropriate, authorises the operation of any broadcast receiver or any television receiver, which is in the possession of the holder of a licence, or of a member of his family, at the address specified in the licence and is ordinarily kept at that address; or is installed in a vehicle which is ordinarily in the possession of the holder, or a member of his family, and is ordinarily kept at that address when not in use. A person who has both broadcast and television receivers at the one address is required to take out a combined receiving licence, provision for which was introduced by legislation effective from 1 April 1965.

A licence may be granted free of charge to a blind person over sixteen years of age or to a person or authority conducting a school, and at a concession rate to certain classes of pensioners. Receivers provided for the use of inmates of an institution (including a hospital) are covered by an appropriate licence held by the institution. Persons residing in Zone 2 may also be granted a broadcast listener's licence at a reduced rate. Zone 1 is the areas within 250 miles of specified broadcasting stations and Zone 2 is the remainder of Australia.

Each broadcast or television receiver let out on hire (except under a hire purchase agreement) must be covered by a hirer's licence held by the person or firm from whom the receiver is hired. The keeper of a lodging house (which includes a hotel, motel, boarding house or any other premises where lodging or sleeping accommodation is provided for reward) must take out a lodging house licence for each broadcast or television receiver provided by the proprietor in any room or part of the lodging house occupied or available for occupation by lodgers.

### RECEIVING LICENCES

| Class of licence                     | Number in force at 30 June— |         |         |         |         |
|--------------------------------------|-----------------------------|---------|---------|---------|---------|
|                                      | 1967                        | 1968    | 1969    | 1970    | 1971    |
| <b>BROADCAST LISTENERS' LICENCES</b> |                             |         |         |         |         |
| Ordinary .....                       | 34,702                      | 36,857  | 33,933  | 28,961  | 24,574  |
| Hirers' .....                        | 12                          | 12      | 55      | 56      | 106     |
| Lodging house .....                  | 43                          | 196     | 724     | 1,447   | 1,590   |
| Pensioners' .....                    | 9,411                       | 8,900   | 8,124   | 7,236   | 6,168   |
| Total .....                          | 44,168                      | 45,965  | 42,836  | 37,700  | 32,438  |
| <b>TELEVISION VIEWERS' LICENCES</b>  |                             |         |         |         |         |
| Ordinary .....                       | 12,051                      | 11,700  | 11,525  | 10,923  | 10,385  |
| Hirers' .....                        | 15,531                      | 16,149  | 22,230  | 23,871  | 27,280  |
| Lodging house .....                  | 342                         | 519     | 778     | 1,804   | 1,925   |
| Pensioners' .....                    | 1,721                       | 1,873   | 1,977   | 2,115   | 2,160   |
| Total .....                          | 29,645                      | 30,241  | 36,510  | 38,713  | 41,750  |
| <b>COMBINED RECEIVING LICENCES</b>   |                             |         |         |         |         |
| Ordinary .....                       | 111,398                     | 115,867 | 125,131 | 134,558 | 141,815 |
| Pensioners' .....                    | 17,230                      | 18,802  | 20,948  | 23,557  | 25,425  |
| Blind persons' .....                 | 396                         | 722     | 718     | 864     | 892     |
| Schools' .....                       | 379                         |         |         |         |         |
| Total .....                          | 129,403                     | 135,391 | 146,797 | 158,979 | 168,132 |

Revenue in Western Australia from fees for all receiving licences amounted to \$2,570,450 in 1966-67, \$2,665,963 in 1967-68, \$3,127,068 in 1968-69, \$3,483,474 in 1969-70 and \$3,689,269 in 1970-71.

The annual fee payable at 1 October 1971 for each class of licence is shown in the following table.

**BROADCAST LISTENERS' AND TELEVISION VIEWERS' LICENCES**  
**ANNUAL FEES: 1 OCTOBER 1971**

| Class of licence                                                                      | Ordinary rate | Pensioner rate |
|---------------------------------------------------------------------------------------|---------------|----------------|
|                                                                                       | \$            | \$             |
| <b>Broadcast listener's licence and hirer's licence for a broadcast receiver—</b>     |               |                |
| Zone 1 ....                                                                           | 8.00          | 1.00           |
| Zone 2 ....                                                                           | 4.25          | 0.70           |
| <b>Lodging house licence for a broadcast receiver—</b>                                |               |                |
| Zone 1 ....                                                                           | 8.00          | ....           |
| Zone 2 ....                                                                           | 4.25          | ....           |
| <b>Television viewer's licence and hirer's licence for a television receiver ....</b> | 19.00         | 3.00           |
| <b>Lodging house licence for a television receiver ....</b>                           | 19.00         | ....           |
| <b>Combined receiving licence (a) ....</b>                                            | 26.50         | 4.00           |

(a) Also available to lodging house keepers.

### Analysis of Programmes

The particulars shown in the following tables have been taken from the Report of the Australian Broadcasting Control Board for the year ended 30 June 1971.

**Broadcasting.** The analysis of broadcasting programmes for Australia as a whole, as shown in the following table, is based on the combined figures from two surveys conducted by the Board in November 1970 and May 1971. In each case programmes of stations in State capital cities were monitored on a sampling basis for one minute in each ten minutes of transmission between 6.00 a.m. and 10.30 p.m. for a full week.

**BROADCASTING STATIONS—ANALYSIS OF PROGRAMMES**  
**METROPOLITAN STATIONS: AUSTRALIA**  
(Per cent)

| Programme category               | National<br>(12 stations) | Commercial<br>(25 stations) | All stations<br>(37 stations) |
|----------------------------------|---------------------------|-----------------------------|-------------------------------|
| <b>Entertainment—</b>            |                           |                             |                               |
| Light and popular music ....     | 25.6                      | 49.8                        | 42.2                          |
| The arts (a) ....                | 21.3                      | 0.2                         | 6.8                           |
| Variety ....                     | 1.1                       | 1.2                         | 1.2                           |
| Drama ....                       | 3.2                       | 0.2                         | 1.2                           |
| Other ....                       | 5.8                       | 7.2                         | 6.8                           |
| <b>Total</b> ....                | 57.0                      | 58.6                        | 58.2                          |
| <b>Information and services—</b> |                           |                             |                               |
| News ....                        | 11.4                      | 10.5                        | 10.8                          |
| Sport ....                       | 3.9                       | 6.5                         | 5.6                           |
| Information (b) ....             | 7.2                       | 1.4                         | 3.3                           |
| Religious ....                   | 1.8                       | 1.5                         | 1.5                           |
| Social and political ....        | 12.9                      | 4.3                         | 7.0                           |
| Family (c) ....                  | 0.4                       | 1.7                         | 1.3                           |
| Educational (d) ....             | 3.3                       | (e)                         | 1.1                           |
| Children's ....                  | 2.1                       | 0.1                         | 0.7                           |
| <b>Total</b> ....                | 43.0                      | 26.0                        | 31.3                          |
| <b>Advertisements</b> ....       | ....                      | 15.4                        | 10.5                          |
| <b>GRAND TOTAL</b> ....          | 100.0                     | 100.0                       | 100.0                         |

(a) Serious music and opera; readings of prose and poetry; literary and art criticism. (b) Includes such topics as aspects of science; other countries and peoples; agriculture and other industries. (c) Includes programmes dealing with cooking; house and garden; hobbies; care of pets; health and physical fitness. (d) Programmes designed as an aid to formal teaching; kindergarten sessions. (e) Less than 0.05 per cent.

**Television.** The analysis of television programmes, as shown in the following table, is based on a 12 per cent sample of commercial and national programmes televised during the eleven-month period ended 21 February 1971. Details of commercial television programmes are derived from data supplied regularly by each station to the Board and details

of national television programmes are obtained from information supplied by the Australian Broadcasting Commission. For the purpose of the table the national programmes analysed are those of ABV-2 Melbourne as they are considered to be reasonably representative of programmes of the national television service.

## TELEVISION STATIONS—ANALYSIS OF PROGRAMMES: AUSTRALIA

(Per cent)

| Programme category           | Metropolitan stations |          |              | Country stations (a) |
|------------------------------|-----------------------|----------|--------------|----------------------|
|                              | Commercial (b)        | National | All stations | Commercial (b)       |
| Drama—                       |                       |          |              |                      |
| Serious .....                | 0.1                   | 0.3      | 0.1          | (c)                  |
| Adventure .....              | 12.0                  | 6.1      | 10.7         | 12.4                 |
| Crime and suspense .....     | 8.5                   | 3.4      | 7.4          | 11.0                 |
| Domestic and comedy .....    | 15.4                  | 13.7     | 15.0         | 17.1                 |
| Western .....                | 4.5                   | 2.9      | 4.1          | 6.7                  |
| Miscellaneous .....          | 12.0                  | 4.9      | 10.4         | 10.5                 |
| Total .....                  | 52.5                  | 31.3     | 47.7         | 57.7                 |
| Light entertainment—         |                       |          |              |                      |
| Cartoons .....               | 6.2                   | 4.7      | 5.9          | 4.9                  |
| Light music .....            | 3.6                   | 3.0      | 3.4          | 4.4                  |
| Personality programmes ..... | 5.6                   | 0.4      | 4.4          | 5.3                  |
| Talent programmes .....      | 1.3                   | ....     | 1.0          | 2.0                  |
| Variety .....                | 3.7                   | 2.5      | 3.4          | 3.5                  |
| Total .....                  | 20.4                  | 10.6     | 18.1         | 20.1                 |
| Sport .....                  | 6.0                   | 9.6      | 6.8          | 5.4                  |
| News .....                   | 4.9                   | 6.9      | 5.4          | 6.2                  |
| Children—                    |                       |          |              |                      |
| Kindergarten .....           | 5.8                   | 7.0      | 6.0          | 1.4                  |
| Other .....                  | 3.6                   | 4.0      | 3.7          | 2.7                  |
| Total .....                  | 20.3                  | 27.5     | 21.9         | 15.7                 |
| Family activities .....      | 2.5                   | 1.9      | 2.3          | 1.7                  |
| Information .....            | 1.6                   | 3.4      | 2.0          | 2.2                  |
| Current affairs .....        | 1.1                   | 8.2      | 2.8          | 0.8                  |
| Political matter .....       | 0.2                   | 0.2      | 0.2          | 0.1                  |
| Religious matter .....       | 0.9                   | 2.0      | 1.2          | 1.6                  |
| The arts .....               | (c)                   | 2.0      | 0.5          | 0.1                  |
| Education—                   |                       |          |              |                      |
| Formal .....                 | (c)                   | 12.4     | 2.8          | (c)                  |
| Other .....                  | 0.5                   | 0.5      | 0.5          | ....                 |
| Total .....                  | 6.8                   | 30.6     | 12.3         | 6.5                  |
| GRAND TOTAL .....            | 100.0                 | 100.0    | 100.0        | 100.0                |

(a) Due to the similarity of programmes for all national stations a separate analysis for country stations is not made. (b) Excludes time occupied by advertisements. A survey in 1970 showed that, for Melbourne stations, advertisements occupied 15.0 per cent of the total time.

(c) Less than 0.05 per cent.

## CHAPTER X—INDUSTRIAL CONDITIONS, EMPLOYMENT AND PRICES

### Part 1—Industrial Conditions

#### INDUSTRIAL AUTHORITIES

##### Commonwealth Authorities

A Commonwealth Court of Conciliation and Arbitration was established under the provisions of the *Commonwealth Conciliation and Arbitration Act 1904*. By an amendment made to the Conciliation and Arbitration Act in 1956 the Commonwealth arbitration system was reorganised by the creation of two separate authorities to deal with matters formerly within the sole jurisdiction of the Court. The amendment had the effect of allocating to a Commonwealth Industrial Court the judicial functions, and to a Commonwealth Conciliation and Arbitration Commission the arbitral functions, previously carried out by the Commonwealth Court of Conciliation and Arbitration.

**Commonwealth Industrial Court.** The Commonwealth Industrial Court, as constituted at 31 December 1971, comprised a Chief Judge and six other Judges. The Act provides that, except in respect of certain specified matters, the jurisdiction of the Court shall be exercised by not less than two Judges. A single Judge may refer a question of law for the opinion of the Court constituted by not less than two Judges. Although, in general, decisions of the Court are final, an appeal may be made to the High Court of Australia, but only when the High Court grants leave to appeal.

**Commonwealth Conciliation and Arbitration Commission.** The Commonwealth Conciliation and Arbitration Commission, according to the provisions of the *Conciliation and Arbitration Act 1904-1970*, shall consist of a President, not less than two Deputy Presidents, a Senior Commissioner and not less than five Commissioners. The Act provides also for the appointment of Conciliators. At 31 December 1971 there were, in addition to the President and the Senior Commissioner, six Deputy Presidents, fourteen Commissioners and three Conciliators. Generally, the Commission's jurisdiction is limited to the prevention or settlement, by conciliation or arbitration, of industrial disputes which extend beyond the limits of any one State, but the Commission is authorised to conciliate or arbitrate in respect of any dispute or industrial matter associated with Commonwealth Government undertakings or projects. The power to make awards or certify agreements concerning standard hours, basic wages and long service leave is reserved to the Commission in Presidential Session, which is constituted by not less than three presidential members nominated by the President. The Principal Registry of the Commission is in Melbourne, Victoria, and there is a Deputy Industrial Registrar in each State.

##### Western Australian Authorities

A Court of Arbitration was established in Western Australia in 1901 under the provisions of the *Industrial Conciliation and Arbitration Act, 1900*. The Court comprised a President, a representative of associations of employers and a representative of associations of workers. The Court of Arbitration was replaced, with effect from 1 February 1964, by the Western Australian Industrial Appeal Court and The Western Australian Industrial Commission, authorities constituted in terms of the *Industrial Arbitration Act, 1912-1971*.

**Western Australian Industrial Appeal Court.** The Western Australian Industrial Appeal Court consists of three Judges, one of whom is President of the Court. The President and the other members are nominated by the Chief Justice of Western Australia. Certain

of the functions, powers and jurisdiction conferred on the Court may be exercised by any member, on the nomination of the President, sitting or acting alone. An appeal lies to the Court from any decision of The Western Australian Industrial Commission or the Commission in Court Session, but only on the ground that such decision is erroneous in law or is in excess of jurisdiction.

**The Western Australian Industrial Commission.** The Western Australian Industrial Commission consists of a Chief Industrial Commissioner and four other Commissioners. The Act provides that a Commissioner sitting or acting alone constitutes the Commission and may exercise all the powers and jurisdiction of the Commission.

The Commission is empowered to inquire into any industrial matter or industrial dispute in any industry and to make orders or awards fixing the prices for work done by and the rates of wages payable to workers; fixing the number of hours and the times to be worked in order to entitle those workers to the wages so fixed; limiting the hours of piece workers; fixing the rates for overtime, work on holidays, shift work, week-end work and other special work, including allowances as compensation for overtime; determining any industrial matter; and declaring what deduction may be made from the prices or wages of workers for board or residence or board and residence provided for workers and for any customary provisions or payments in kind conceded to such workers.

The Commission in Court Session is constituted by not less than three Commissioners sitting or acting together. Appeals from decisions of a single Commissioner are heard and determined by the Commission in Court Session. Such appeals are restricted to the evidence and matters raised in the proceedings before the single Commissioner.

#### THE WESTERN AUSTRALIAN INDUSTRIAL COMMISSION

| Particulars                          | At 30 June— |         |         |         |         |
|--------------------------------------|-------------|---------|---------|---------|---------|
|                                      | 1967        | 1968    | 1969    | 1970    | 1971    |
| Awards in force .....                | 365         | 371     | 374     | 384     | 389     |
| Industrial agreements in force ..... | 109         | 103     | 105     | 103     | 116     |
| Unions of workers—                   |             |         |         |         |         |
| Number .....                         | 100         | 100     | 102     | 100     | 99      |
| Membership .....                     | 118,018     | 129,595 | 130,518 | 137,556 | 149,846 |
| Unions of employers—                 |             |         |         |         |         |
| Number .....                         | 14          | 14      | 13      | 13      | 13      |
| Membership .....                     | 1,764       | 1,781   | 1,814   | 1,830   | 1,864   |

**Western Australian Coal Industry Tribunal.** The Western Australian Coal Industry Tribunal, as constituted under the *Mining Act, 1904-1971*, consists of five members appointed by the Governor. One member is chairman of the Tribunal, and there are two members representing employees, and two representing employers. The Tribunal has power to consider and determine industrial disputes, not extending beyond the limits of the State, and other matters relating to the coal-mining industry.

#### EMPLOYER ORGANISATIONS

The first employers' organisation in Western Australia was the West Australian Chamber of Commerce which was founded in 1853 and was replaced by the Fremantle Chamber of Commerce in 1873. The Perth Chamber of Commerce (Incorporated) was founded in 1890. Other Chambers of Commerce operate in various parts of the State.

The West Australian Chamber of Manufactures (Incorporated) commenced in 1890, but disbanded and was founded in its present form in 1899.

The Western Australian Employers' Federation (Incorporated) was formed in 1913 to handle labour relations for all private industry throughout the State. It is the major employers' organisation handling labour relations issues which are no longer dealt with by the Chambers of Commerce or the Chamber of Manufactures. A federation of 62 affiliated Associations, comprising more than 20,000 employers, the Employers' Federation had also more than 5,700 individual members at 30 June 1971.

Its activities are controlled by a Council which contains a representative of each member Association and representatives of several major industries where no Association exists. The subscribing members elect a Finance Board to control the Federation's property and finances.

The Federation represents employers in all aspects of the negotiation of industrial awards and agreements, the settlement of industrial disputes, including arbitration and in relationships directly with the trade unions. It is affiliated with the Australian Council of Employers' Federations and through it has affiliations with the Organisation of Employers' Federations and Employers in Developing Countries and with the International Organisation of Employers.

### EMPLOYEE ORGANISATIONS

The trade unions in Western Australia cover all forms of occupations from the unskilled worker to the professional man. The great majority of union organisations are national in character with State branches registered with both the Commonwealth and State industrial authorities.

Major organisations include the Trades and Labor Council of Western Australia, the State branches of the Australian Council of Salaried and Professional Associations, the Australian Public Service Federation, and the Council of Commonwealth Public Service Organisations. These four groups cover most of the wage and salary earners employed in the private and governmental sectors of industry and commerce.

The Trades and Labor Council of Western Australia, which is the State branch of the Australian Council of Trade Unions (A.C.T.U.), has provincial councils at Albany, Geraldton and Kalgoorlie. At 30 June 1971 it had eighty-six State resident unions affiliated to it with a membership of approximately 90,000.

The Trades and Labor Council, representing the largest group of wage and salary earners, frequently acts on behalf of employees in matters before the Western Australian industrial authorities such as wages, hours, holidays, long service leave, and other associated matters of a standard or uniform nature.

The following table gives particulars of the number of trade unions in Western Australia and the number of members at the end of December of the years 1967 to 1971. The table also shows the estimated proportion of trade union members to total wage and salary earners in employment. As estimates of numbers of wage and salary earners in employment do not include employees engaged in agriculture or in private domestic service (see letterpress *Estimates of Employment* on page 507), the percentages have been calculated on figures obtained by adding to the estimates for December in each year the number of employees in agriculture and private domestic service recorded at the 1966 Population Census.

TRADE UNIONS—NUMBER AND MEMBERSHIP

| Date             | Number of unions | Number of members ('000) |         |         | Proportion of total wage and salary earners (a) (per cent) |         |         |
|------------------|------------------|--------------------------|---------|---------|------------------------------------------------------------|---------|---------|
|                  |                  | Males                    | Females | Persons | Males                                                      | Females | Persons |
| End of December— |                  |                          |         |         |                                                            |         |         |
| 1967             | 155              | 117.4                    | 34.9    | 152.3   | 58                                                         | 39      | 52      |
| 1968             | 157              | 123.1                    | 37.8    | 160.9   | 57                                                         | 39      | 52      |
| 1969             | 153              | 122.8                    | 39.3    | 162.2   | 55                                                         | 37      | 49      |
| 1970             | 155              | 127.0                    | 41.6    | 168.6   | 53                                                         | 36      | 48      |
| 1971             | 154              | 133.5                    | 44.8    | 178.3   | 55                                                         | 37      | 49      |

(a) Approximate; see letterpress immediately preceding table.

The following table shows the numbers and membership of trade unions in Western Australia in broad industry groups. The table does not give a precise classification of trade union members according to industry, because in cases where the members of a union are employed in a number of industries they have been classified to the predominant industry for the union concerned.

## TRADE UNIONS—NUMBER AND MEMBERSHIP: INDUSTRY GROUPS

| Date                     | Manufacturing | Building and construction | Transport | Public authority n.e.i., etc. (a) | Other (b) | All groups |
|--------------------------|---------------|---------------------------|-----------|-----------------------------------|-----------|------------|
| NUMBER OF UNIONS         |               |                           |           |                                   |           |            |
| End of December—         |               |                           |           |                                   |           |            |
| 1967                     | 34            | 8                         | 20        | 43                                | 50        | 155        |
| 1968                     | 33            | 7                         | 20        | 46                                | 51        | 157        |
| 1969                     | 32            | 6                         | 20        | 44                                | 51        | 153        |
| 1970                     | 31            | 7                         | 23        | 44                                | 50        | 155        |
| 1971                     | 31            | 7                         | 23        | 43                                | 50        | 154        |
| NUMBER OF MEMBERS ('000) |               |                           |           |                                   |           |            |
| End of December—         |               |                           |           |                                   |           |            |
| 1967                     | 33.5          | 13.9                      | 19.3      | 33.1                              | 52.5      | 152.3      |
| 1968                     | 34.3          | 17.9                      | 20.0      | 35.0                              | 53.9      | 160.9      |
| 1969                     | 37.8          | 12.8                      | 19.6      | 36.8                              | 55.2      | 162.2      |
| 1970                     | 40.9          | 13.6                      | 18.5      | 38.7                              | 56.9      | 168.6      |
| 1971                     | 40.9          | 12.9                      | 19.0      | 41.6                              | 63.9      | 178.3      |

(a) Includes Communication and municipal, etc.

(b) Includes Agriculture, etc.; Mining and quarrying; Banking, insurance and clerical; Wholesale and retail trade; Amusement, hotels, personal service, etc.; and Community and business services.

## APPRENTICESHIP

The first registration of an apprentice in Western Australia was made on 25 May 1903 to the trade of book binding. At 31 December 1970 the total number of apprentices registered in this State was 11,251 in a wide variety of trades as given in the table on page 482.

Apprenticeships in this State are provided for and are subject to awards of The Western Australian Industrial Commission and registered industrial agreements. The Western Australian Industrial Commission functions by authority of the *Industrial Arbitration Act, 1912-1971*.

By definition, an apprentice is a person of either sex and of any age (other than the minimum age for which compulsory school attendance is required) who is apprenticed to learn or to be taught any industry, trade, craft or calling to which the Apprenticeship Regulations of the Commission apply. The Commission controls all industrial aspects of apprenticeship while the Technical Education Division of the Education Department provides the technical training as prescribed by the various awards of the Commission and by industrial agreements.

The Western Australian Apprenticeship Advisory Council, which comprises two representatives each from employers, employees and the State Government, with the Industrial Registrar as Chairman, advises the Minister for Labour, the Minister for Education and the Commission on matters of policy in respect of apprenticeship.

The Council assigns to Apprenticeship Advisory Boards such matters of an advisory nature relating to its trade or group of trades as considered necessary. Recommendations made to the Council from a Board may, after consideration and approval by the Council, be submitted to the Commission or Director-General of Education with a view to their implementation. The Boards consist of representatives from employers and employees, together with a representative from both the Department of Labour and Technical Education Division of the Education Department. The Administrative Officer of the Council is Chairman of all Apprenticeship Advisory Boards, thereby establishing a permanent liaison between the Boards and the Council.



A major achievement has been the general acceptance by most trades and by the consent of all parties involved in apprenticeship agreements of the Council's policy of shortened terms on grounds of educational achievement and vocational aptitude. The only major industry currently not participating in this policy is the printing trade.

Technical school attendance is compulsory when the Technical Education Division has suitable classes available in schools within a twelve-mile radius of the apprentice's home. Block release training was commenced in 1969 in the carpentry and joinery trade and the painting trade; in other cases day release training is prescribed. In the building trade compulsory attendance for intensive training is prescribed for country apprentices and correspondence lessons are available in most other trades.

Federal awards are of much less significance than State awards in apprenticeship matters in Western Australia. The total numbers of apprentices employed in this State at 31 December 1971 under the provisions of the *Commonwealth Conciliation and Arbitration Act 1904-1970* and the *Public Service Act 1922-1968* were 206 and 67, respectively. Section 52 of the *Commonwealth Conciliation and Arbitration Act* enables the Commonwealth Conciliation and Arbitration Commission to issue awards covering the rates of pay and conditions of employment of apprentices. In practice, however, the Commonwealth tends to delegate or refer the authority in such matters to the State.

As a result, the Industrial Registrar of The Western Australian Industrial Commission registers agreements involving apprentices and, on the completion of the term of apprenticeship, issues a Final Certificate, provided the apprentice has met the statutory requirements of the State in respect of examinations conducted by The Western Australian Industrial Commission and the Technical Education Division of the Education Department.

#### APPRENTICESHIP—NUMBER OF EFFECTIVE REGISTRATIONS

| Trade                          | At 31 December— |       |       | Trade                           | At 31 December— |        |        |
|--------------------------------|-----------------|-------|-------|---------------------------------|-----------------|--------|--------|
|                                | 1968            | 1969  | 1970  |                                 | 1968            | 1969   | 1970   |
| State awards—                  |                 |       |       | State awards— <i>continued</i>  |                 |        |        |
| Baking ....                    | 84              | 73    | 78    | Optical ....                    | 11              | 13     | 11     |
| Bootmaking ....                | 6               | 4     | 7     | Pastry cooking ....             | 40              | 34     | 42     |
| Building—                      |                 |       |       | Printing—                       |                 |        |        |
| Carpentry and joinery ....     | 934             | 1,009 | 1,058 | Composing ....                  | 105             | 119    | 131    |
| Bricklaying ....               | 113             | 135   | 153   | Letterpress machining ....      | 29              | 31     | 43     |
| Painting and signwriting ....  | 336             | 349   | 339   | Other ....                      | 81              | 88     | 101    |
| Plastering ....                | 96              | 102   | 110   | Saddlery and leather working    | 4               | 3      | 4      |
| Plumbing ....                  | 474             | 531   | 578   | Scientific instrument making... | 51              | 55     | 61     |
| Other ....                     | 8               | 7     | 6     | Sheetmetal working ....         | 249             | 264    | 240    |
| Butchering and smallgoods      | 437             | 494   | 477   | Timber machining ....           | 62              | 53     | 45     |
| Dental technician ....         | 29              | 33    | 40    | Vehicle building—               |                 |        |        |
| Electrical—                    |                 |       |       | Bodymaking ....                 | 136             | 134    | 122    |
| Auto-electrical fitting ....   | 99              | 101   | 104   | Panel beating ....              | 360             | 389    | 424    |
| Electrical fitting ....        | 532             | 573   | 622   | Spray painting ....             | 194             | 195    | 228    |
| Electrical installing ....     | 510             | 573   | 662   | Trimming ....                   | 20              | 24     | 29     |
| Radio and television servicing | 83              | 82    | 80    |                                 |                 |        |        |
| Furniture—                     |                 |       |       | Total, State awards ....        | 10,024          | 10,546 | 10,949 |
| Cabinetmaking ....             | 288             | 321   | 353   | Commonwealth awards—            |                 |        |        |
| Upholstery ....                | 38              | 42    | 35    | Aircraft engineering ....       | 77              | 51     | 40     |
| Woodmachining ....             | 69              | 78    | 91    | Bootmaking ....                 | 27              | 22     | 16     |
| Other ....                     | 64              | 50    | 55    | Building trades ....            | ....            | ....   | 1      |
| Glazing ....                   | 46              | 46    | 48    | Metal trades ....               | 2               | 13     | 8      |
| Hairdressing—                  |                 |       |       | Printing—                       |                 |        |        |
| Men's ....                     | 90              | 96    | 92    | Composing ....                  | 63              | 59     | 50     |
| Ladies' ....                   | 959             | 1,044 | 1,048 | Letterpress machining ....      | 72              | 72     | 64     |
| Jewellery and watchmaking      | 25              | 28    | 27    | Other ....                      | 20              | 26     | 17     |
| Metal trades—                  |                 |       |       | Shipwrighting ....              | 38              | 37     | 35     |
| Boilermaking ....              | 542             | 575   | 561   |                                 |                 |        |        |
| Fitting and turning ....       | 534             | 537   | 531   | Total, Commonwealth             |                 |        |        |
| Fitting ....                   | 274             | 264   | 241   | awards ....                     | 299             | 280    | 231    |
| Turning ....                   | 93              | 75    | 61    | Commonwealth Government         |                 |        |        |
| Motor mechanic ....            | 1,362           | 1,401 | 1,487 | Departments ....                | 64              | 52     | 71     |
| Moulding ....                  | 59              | 50    | 47    |                                 |                 |        |        |
| Refrigeration fitting ....     | 87              | 106   | 130   | GRAND TOTAL ....                | 10,387          | 10,878 | 11,251 |
| Welding ....                   | 183             | 173   | 165   |                                 |                 |        |        |
| Other ....                     | 228             | 192   | 182   |                                 |                 |        |        |

In the previous table, the total number of apprentices registered in this State at 31 December is given for each of the years 1968 to 1970.

The next table shows the number of new registrations made to various trades during each of the three years.

#### APPRENTICESHIP—REGISTRATIONS TO VARIOUS TRADES

| Trade                          | 1968 | 1969 | 1970 | Trade                             | 1968  | 1969  | 1970  |
|--------------------------------|------|------|------|-----------------------------------|-------|-------|-------|
| State awards—                  |      |      |      | State awards— <i>continued</i>    |       |       |       |
| Baking ....                    | 27   | 20   | 23   | Optical ....                      | 4     | 4     | 3     |
| Bootmaking ....                | 3    | 1    | 3    | Pastry cooking ....               | 10    | 10    | 16    |
| Building—                      |      |      |      | Printing—                         |       |       |       |
| Carpentry and joinery ....     | 294  | 280  | 281  | Composing ....                    | 29    | 41    | 33    |
| Bricklaying ....               | 39   | 48   | 47   | Letterpress machining ....        | 17    | 8     | 15    |
| Painting and signwriting ....  | 101  | 131  | 90   | Other ....                        | 52    | 22    | 33    |
| Plastering ....                | 34   | 34   | 52   | Saddlery and leather working .... | 2     | ....  | 1     |
| Plumbing ....                  | 142  | 163  | 164  | Scientific instrument making .... | 18    | 16    | 24    |
| Other ....                     | 3    | 1    | .... | Sheetmetal working ....           | 59    | 74    | 72    |
| Butchering and smallgoods .... | 140  | 153  | 120  | Timber machining ....             | 15    | 9     | 9     |
| Dental technician ....         | 13   | 10   | 10   | Vehicle building—                 |       |       |       |
| Electrical—                    |      |      |      | Bodymaking ....                   | 35    | 34    | 31    |
| Auto-electrical fitting ....   | 24   | 23   | 33   | Panel beating ....                | 89    | 113   | 120   |
| Electrical fitting ....        | 153  | 158  | 187  | Spray painting ....               | 51    | 53    | 74    |
| Electrical installing ....     | 155  | 195  | 232  | Trimming ....                     | 4     | 9     | 5     |
| Radio and television servicing | 21   | 23   | 23   |                                   |       |       |       |
| Furniture—                     |      |      |      | Total, State awards ....          | 2,970 | 3,064 | 3,180 |
| Cabinetmaking ....             | 105  | 112  | 106  | Commonwealth awards—              |       |       |       |
| Upholstery ....                | 13   | 15   | 10   | Aircraft engineering ....         | 32    | 6     | 4     |
| Woodmachining ....             | 20   | 25   | 31   | Bootmaking ....                   | 8     | 6     | 6     |
| Other ....                     | 11   | 11   | 23   | Building trades ....              | ....  | ....  | 1     |
| Glazing ....                   | 30   | 11   | 12   | Metal trades ....                 | 1     | 11    | ....  |
| Hairdressing—                  |      |      |      | Printing—                         |       |       |       |
| Men's ....                     | 29   | 34   | 25   | Composing ....                    | 17    | 8     | 13    |
| Ladies' ....                   | 270  | 323  | 317  | Letterpress machining ....        | 19    | 22    | 8     |
| Jewellery and watchmaking .... | 7    | 8    | 4    | Other ....                        | 12    | 10    | 3     |
| Metal trades—                  |      |      |      | Shipwrighting ....                | 13    | 10    | 7     |
| Boilermaking ....              | 158  | 147  | 163  |                                   |       |       |       |
| Fitting and turning ....       | 150  | 146  | 136  | Total, Commonwealth               |       |       |       |
| Fitting ....                   | 77   | 64   | 53   | awards ....                       | 102   | 73    | 42    |
| Turning ....                   | 26   | 18   | 12   | Commonwealth Government           |       |       |       |
| Motor mechanic ....            | 376  | 368  | 461  | Departments ....                  | 19    | 22    | 37    |
| Moulding ....                  | 11   | 15   | 9    |                                   |       |       |       |
| Refrigeration fitting ....     | 35   | 40   | 33   | GRAND TOTAL ....                  | 3,091 | 3,159 | 3,259 |
| Welding ....                   | 46   | 45   | 33   |                                   |       |       |       |
| Other ....                     | 72   | 49   | 51   |                                   |       |       |       |

#### INCIDENCE OF INDUSTRIAL AWARDS

The table below indicates the approximate proportions of Western Australian employees covered by awards, determinations and registered industrial agreements under Commonwealth and State jurisdictions. The proportions not so covered (including those working under unregistered industrial agreements) are also shown. The figures summarise part of the data obtained from surveys of the Australian wage structure in April 1954, May 1963 and May 1968.

The estimates shown in the table were derived from returns collected from:

- (i) a stratified random sample of most private employers subject to Pay-roll Tax;
- (ii) all public hospitals and marketing boards;
- (iii) all Commonwealth and State government departments and semi-government authorities; and
- (iv) a stratified random sample of local government bodies.

Because of coverage difficulties, certain employees were excluded from the surveys. For further information relating to the survey of May 1968 and for statistics in greater detail, the reader is referred to the annual *Labour Report* published by the Commonwealth Statistician, Canberra.

For a number of reasons, the results of the three surveys are not strictly comparable, and the statistics presented in the following table should therefore be regarded as providing only a broad indication of trends.

The term 'awards, etc.' as used in the table means awards or determinations of, and agreements registered with, Commonwealth or State industrial authorities. Changes in the proportions of employees reported as affected by Commonwealth awards and by State

awards reflect changes in industry and occupational structure, including the creation of new industries; changes in the coverage of individual Commonwealth and State awards; and the creation of new awards relating to employees not previously affected by awards.

PROPORTION OF EMPLOYEES AFFECTED BY AWARDS, ETC. (a)  
(per cent)

| Particulars                         | 1954—April |         |         | 1963—May |         |         | 1968—May |         |         |
|-------------------------------------|------------|---------|---------|----------|---------|---------|----------|---------|---------|
|                                     | Males      | Females | Persons | Males    | Females | Persons | Males    | Females | Persons |
| Employees affected by awards, etc.— |            |         |         |          |         |         |          |         |         |
| Commonwealth .....                  | 12.5       | 18.7    | 13.9    | 13.3     | 14.8    | 13.6    | 16.9     | 15.7    | 16.6    |
| State .....                         | 77.1       | 71.8    | 75.9    | 76.5     | 74.4    | 76.0    | 70.7     | 76.1    | 72.1    |
| Other employees .....               | 10.4       | 9.5     | 10.2    | 10.2     | 10.8    | 10.4    | 12.4     | 8.2     | 11.3    |
| Total .....                         | 100.0      | 100.0   | 100.0   | 100.0    | 100.0   | 100.0   | 100.0    | 100.0   | 100.0   |

(a) Awards or determinations of, and agreements registered with, Commonwealth or State industrial authorities.

### INDUSTRIAL DISPUTES

Statistics of industrial disputes are compiled by the Commonwealth Statistician from data obtained from the following sources: direct collections from employers and trade unions concerning individual disputes; reports from government departments and authorities; reports of State and Commonwealth industrial authorities; and information contained in trade journals, employer and trade union publications, and newspaper reports.

#### INDUSTRIAL DISPUTES (a)

| Year       | Number of disputes | Number of workers involved |                |       | Number of working days lost | Estimated loss in wages |
|------------|--------------------|----------------------------|----------------|-------|-----------------------------|-------------------------|
|            |                    | Directly                   | Indirectly (b) | Total |                             |                         |
| 1966 ..... | 25                 | '000                       | '000           | '000  | '000                        | \$'000                  |
| 1967 ..... | 26                 | 2.9                        | (c)            | 2.9   | 6.2                         | 64.5                    |
| 1968 ..... | 70                 | 5.0                        | (c)            | 5.1   | 6.0                         | 62.6                    |
| 1969 ..... | 104                | 18.3                       | 0.4            | 18.7  | 21.8                        | 281.8                   |
| 1970 ..... | 125                | 57.0                       | 2.1            | 59.1  | 101.4                       | 1,284.2                 |
|            |                    | 44.4                       | 2.1            | 46.5  | 141.1                       | 1,963.3                 |

(a) Excludes disputes involving cessation of work of less than 10 man-days. (b) Persons thrown out of work at the establishments where the stoppages occurred, but not themselves parties to the dispute. (c) Less than 50.

#### INDUSTRIAL DISPUTES (a)—INDUSTRY GROUPS: 1970

| Industry group                                 | Number of disputes | Number of workers involved |                |       | Number of working days lost | Estimated loss in wages |
|------------------------------------------------|--------------------|----------------------------|----------------|-------|-----------------------------|-------------------------|
|                                                |                    | Directly                   | Indirectly (b) | Total |                             |                         |
| Agriculture, grazing, etc. ....                | 16                 | '000                       | '000           | '000  | '000                        | \$'000                  |
| Coal mining .....                              | 16                 | 0.2                        | ...            | 0.2   | (c)                         | 0.3                     |
| Other mining and quarrying .....               | 16                 | 7.5                        | (c)            | 7.5   | 22.9                        | 381.8                   |
| Manufacturing—                                 |                    |                            |                |       |                             |                         |
| Engineering, metals, vehicles, etc. ....       | 18                 | 4.7                        | 0.1            | 4.8   | 32.5                        | 410.3                   |
| Textiles, clothing and footwear .....          | 14                 | 2.8                        | 0.9            | 3.7   | 38.3                        | 495.6                   |
| Food, drink and tobacco .....                  | 1                  | ...                        | ...            | ...   | (c)                         | 0.3                     |
| Sawmilling, furniture, etc. ....               | 6                  | 2.8                        | 1.0            | 3.8   | 6.4                         | 81.7                    |
| Paper, printing, etc. ....                     | 24                 | 7.4                        | ...            | 7.4   | 11.0                        | 169.4                   |
| Other manufacturing .....                      | 1                  | 0.3                        | ...            | 0.3   | 0.1                         | 1.8                     |
| Building and construction .....                | 11                 | 5.1                        | ...            | 5.1   | 14.8                        | 235.5                   |
| Railway services .....                         | 6                  | 0.7                        | (c)            | 0.7   | 0.7                         | 8.3                     |
| Road and air transport .....                   | 23                 | 10.5                       | ...            | 10.5  | 12.0                        | 146.4                   |
| Shipping .....                                 | 5                  | 2.5                        | ...            | 2.5   | 2.4                         | 31.9                    |
| Stevedoring .....                              |                    |                            |                |       |                             |                         |
| Amusement, hotels, personal service, etc. .... |                    |                            |                |       |                             |                         |
| Other industries (d) .....                     |                    |                            |                |       |                             |                         |
| Total .....                                    | 125                | 44.4                       | 2.1            | 46.5  | 141.1                       | 1,963.3                 |

(a) Excludes disputes involving cessation of work of less than 10 man-days. (b) Persons thrown out of work at the establishments where the stoppages occurred, but not themselves parties to the dispute. (c) Less than 50. (d) Includes Communication; Finance and property; Wholesale and retail trade; Public authority (n.e.i.); and Community and business services.

In the two previous tables details of industrial disputes in Western Australia during the years 1966 to 1970 are given, together with an analysis, according to industry group, of disputes which were in progress in 1970. The statistics exclude disputes involving stoppages of work of less than ten man-days in the establishment where the stoppage occurred. Effects on other establishments resulting from lack of materials, disruption of transport services, power cuts, etc. are not measured by these statistics.

Particulars of all disputes in progress during the year are included in the annual figures, whether the dispute commenced in that year or was in progress at the beginning of the year. Consequently, details of 'the number of disputes' and 'workers involved' in disputes which commenced in any year, and were still in progress during the following year, are included in the figures for both years.

Particulars of some stoppages (*e.g.* those involving a large number of establishments) may be estimated and the statistics therefore should be regarded as giving a broad measure of the extent of stoppages of work (as defined).

## INDUSTRIAL DISPUTES (a) ACCORDING TO DURATION—1970

| Duration (working days)          | Mining | Manufacturing | Building and construction | Stevedoring | Other industries | All industries |
|----------------------------------|--------|---------------|---------------------------|-------------|------------------|----------------|
| NUMBER OF DISPUTES (a)           |        |               |                           |             |                  |                |
| 1 day and less                   | 4      | 21            | 9                         | 15          | 10               | 59             |
| 2 days and more than 1 day       | 9      | 7             | 3                         | 4           | 7                | 30             |
| 3 days and more than 2 days      | 1      | 4             | 4                         | 1           | 1                | 11             |
| Over 3 days and less than 5 days | 1      | 2             | 4                         | 2           | 3                | 12             |
| 5 days and less than 10 days     | ....   | 3             | 3                         | 1           | 2                | 9              |
| 10 days and less than 20 days    | 1      | ....          | 1                         | ....        | ....             | 2              |
| 20 days and less than 40 days    | ....   | 2             | ....                      | ....        | ....             | 2              |
| 40 days and over                 | ....   | ....          | ....                      | ....        | ....             | ....           |
| Total                            | 16     | 39            | 24                        | 23          | 23               | 125            |

## WORKERS INVOLVED (b) ('000)

|                                  |         |      |      |      |      |      |
|----------------------------------|---------|------|------|------|------|------|
| 1 day and less                   | 1.7     | 5.1  | 5.0  | 7.9  | 3.3  | 23.0 |
| 2 days and more than 1 day       | 4.7     | 2.6  | 1.0  | 1.0  | 0.7  | 10.0 |
| 3 days and more than 2 days      | (c) 0.4 | 1.3  | 0.9  | 0.1  | 0.1  | 2.4  |
| Over 3 days and less than 5 days | ....    | 0.2  | 0.3  | 1.4  | 4.3  | 6.6  |
| 5 days and less than 10 days     | ....    | 0.9  | 0.2  | 0.1  | 0.1  | 1.3  |
| 10 days and less than 20 days    | 0.8     | .... | 0.1  | .... | .... | 0.9  |
| 20 days and less than 40 days    | ....    | 2.2  | .... | .... | .... | 2.2  |
| 40 days and over                 | ....    | .... | .... | .... | .... | .... |
| Total                            | 7.7     | 12.3 | 7.4  | 10.5 | 8.6  | 46.5 |

## WORKING DAYS LOST ('000 MAN-DAYS)

|                                  |      |      |      |      |      |       |
|----------------------------------|------|------|------|------|------|-------|
| 1 day and less                   | 1.4  | 2.0  | 4.3  | 4.6  | 2.0  | 14.3  |
| 2 days and more than 1 day       | 8.2  | 4.5  | 1.3  | 1.4  | 1.0  | 16.4  |
| 3 days and more than 2 days      | 0.1  | 2.9  | 1.9  | 0.2  | 0.4  | 5.5   |
| Over 3 days and less than 5 days | 1.7  | 0.9  | 1.8  | 4.7  | 14.2 | 23.3  |
| 5 days and less than 10 days     | .... | 6.1  | 1.3  | 1.1  | 0.6  | 9.0   |
| 10 days and less than 20 days    | 11.4 | .... | 0.5  | .... | .... | 11.9  |
| 20 days and less than 40 days    | .... | 60.9 | .... | .... | .... | 60.9  |
| 40 days and over                 | .... | .... | .... | .... | .... | ....  |
| Total                            | 22.9 | 77.1 | 11.0 | 12.0 | 18.0 | 141.1 |

## ESTIMATED LOSS IN WAGES (\$'000)

|                                  |       |       |       |       |       |         |
|----------------------------------|-------|-------|-------|-------|-------|---------|
| 1 day and less                   | 26.9  | 25.3  | 61.0  | 61.5  | 22.0  | 196.7   |
| 2 days and more than 1 day       | 144.0 | 55.1  | 17.7  | 15.9  | 16.4  | 249.1   |
| 3 days and more than 2 days      | 1.6   | 37.7  | 23.5  | 2.2   | 6.2   | 71.2    |
| Over 3 days and less than 5 days | 27.6  | 13.9  | 41.0  | 51.4  | 225.5 | 359.4   |
| 5 days and less than 10 days     | ....  | 89.1  | 19.5  | 15.4  | 7.4   | 131.4   |
| 10 days and less than 20 days    | 182.0 | ....  | 6.8   | ....  | ....  | 188.8   |
| 20 days and less than 40 days    | ....  | 766.8 | ....  | ....  | ....  | 766.8   |
| 40 days and over                 | ....  | ....  | ....  | ....  | ....  | ....    |
| Total                            | 382.1 | 987.9 | 169.4 | 146.4 | 277.5 | 1,963.3 |

(a) Excludes disputes involving cessation of work of less than 10 man-days. (b) Includes workers indirectly involved, *i.e.* persons thrown out of work at the establishments where the stoppages occurred, but not themselves parties to the dispute.  
(c) Less than 50.

## WAGES AND EARNINGS

**The Basic Wage**

**Commonwealth Basic Wage.** The *Western Australian Year Book*, No. 7—1968 and earlier issues contain an account of the development of the Commonwealth basic wage from its inception until it was abandoned in 1967. In a unanimous judgment given on 5 June 1967 the Commonwealth Conciliation and Arbitration Commission announced 'the elimination of basic wages and margins and the introduction of total wages'. An increase of \$1 per week was awarded to all adult employees and the judgment stated that 'total wages will be arrived at by adding an amount of \$1 per week to the weekly award wages of all adult males and females . . .' and further, that the Commission had 'on this occasion deliberately awarded the same increase to adult females and adult males'. The increase was declared to become operative from the beginning of the first pay-period commencing on or after 1 July 1967.

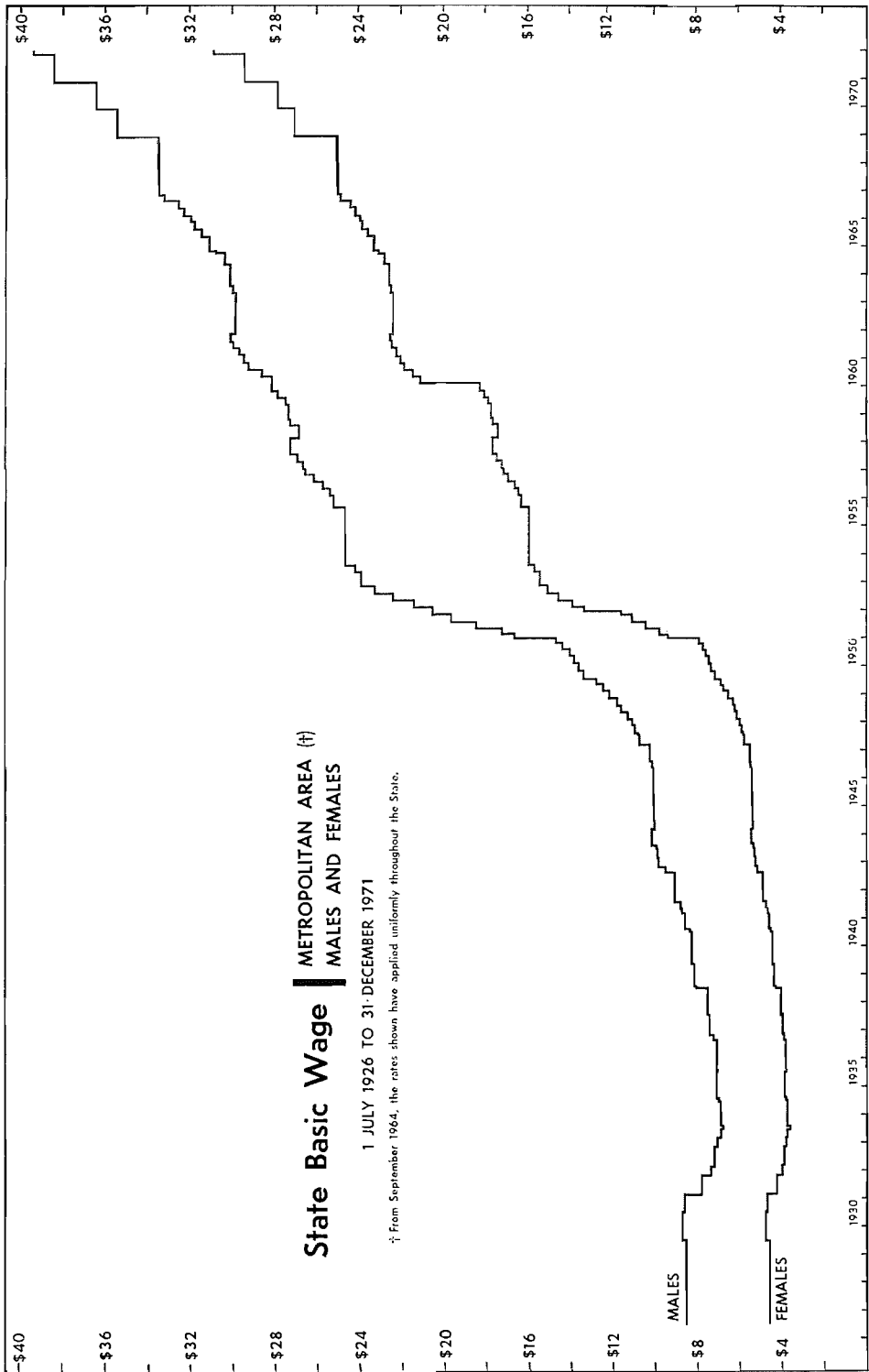
A table showing Commonwealth basic wage rates at 31 December of each year from 1923 to 1966 is given in the *Statistical Summary from 1829* appearing in the *Western Australian Year Book*, No. 9—1970 and earlier issues.

**State Basic Wage.** Reference is made in the *Western Australian Year Book*, No. 7—1968 and earlier issues to the work of the former Court of Arbitration in the field of wage determination from the declaration of the first State basic wage in 1926.

The Western Australian Industrial Commission came into operation on 1 February 1964, replacing the Court of Arbitration as the authority responsible for State basic wage determinations in Western Australia. The *Industrial Arbitration Act, 1912-1971* requires that such determinations shall be made by the Commission in Court Session. The Commission so constituted made its first adjustment to the basic wage on 27 April 1964, when it prescribed increased rates to apply on and from that date. As a result of this decision, the weekly rates payable to adult males became £15 4s. 2d. (\$30·42) in the Metropolitan Area, £15 2s. 7d. (\$30·26) in the South-West Land Division, and £14 16s. 8d. (\$29·67) in Goldfields Areas and other parts of the State. (For purposes of the basic wage, the 'Metropolitan Area' was the area comprised within a radius of fifteen miles from the General Post Office, Perth; the 'South-West Land Division' was the area so described in the Land Act, but excluding the 'Metropolitan Area'; and 'Goldfields Areas and other parts of the State' comprised the area outside the South-West Land Division. Reference to the South-West Land Division will be found on page 141.)

On 15 June 1964 the Trades and Labor Council of Western Australia, acting on behalf of registered unions, addressed to the Commission a request for an inquiry into the basic wage. A preliminary hearing was held on 3 July to consider questions of procedure, representation and related matters. The general inquiry began before the Commission in Court Session on 22 July and was completed on 14 August. Representatives of the unions and of the Western Australian Employers' Federation (Incorporated) made extensive submissions and the Crown Counsel, on behalf of the State Government, intervened in the public interest, as authorised under section 68 of the Industrial Arbitration Act. Judgment was given on 22 September. The Commission was unanimous in its conclusion that one basic wage should apply to the whole State, but was divided as to the amount of the wage. The majority view was that a weekly wage of £15 8s. (\$30·80) should be declared as appropriate to adult male workers, and an order was issued accordingly prescribing this amount for males and an amount of £11 11s. (\$23·10) for females, the rates to operate on and from 22 September 1964 and to apply uniformly throughout the State.

The *Industrial Arbitration Act Amendment Act, 1966*, which came into operation on 23 December 1966, provided that the rates which were current immediately prior to the date of commencement of the Act should remain unaltered until exceeded by the basic wage for the six capital cities as declared by the Commonwealth Conciliation and Arbitration Commission, and that subsequent alterations should be made in accordance with variations of that wage. (At 23 December 1966 the State basic wage for adult males was



\$33·50 per week and for adult females, \$25·13 per week. The corresponding Commonwealth basic wage rates for the six capital cities at the same date were \$32·80 and \$24·60.)

Reference is made in the preceding section *Commonwealth Basic Wage* to the decision given by the Commonwealth Conciliation and Arbitration Commission on 5 June 1967, when it announced the elimination of basic wages and margins from its awards, and the introduction of total wages to operate from the beginning of the first pay-period commencing on or after 1 July 1967. This decision provided also that total wages for adult males and adult females were to be increased by \$1 per week from the same date. Following this decision a number of unions in Western Australia applied to The Western Australian Industrial Commission seeking an increase of \$1 per week in margins for adult males and adult females, with proportionate increases for junior workers and apprentices. The Commission delivered its judgment on 27 June 1967. The terms of this decision were that the minimum weekly wage payable to adult male workers under certain awards be increased from \$36·55 to \$37·55; 'that the wage rates for adult workers not in receipt of the "minimum wage" be increased by 60 cents per week; and that other wage rates be adjusted as if the basic wage for males and the basic wage for females had been increased by that amount'. These increases were declared to operate from the beginning of the first pay-period commencing on or after 1 July 1967.

A further increase of \$1·35 per week for adult males and adult females was granted by the Commission in October 1968 to operate from the beginning of the first pay-period commencing on or after 25 October 1968.

The *Industrial Arbitration Act Amendment Act, 1968*, operative from 22 November 1968, restores to The Western Australian Industrial Commission the power to declare a basic wage, which had been removed by the amending Act of 1966. The 1968 amendment provides that the Commission in Court Session may at any time and from time to time, by order, '(a) determine and declare a basic wage for male workers; (b) determine and declare a basic wage for female workers; and (c) vary any basic wage for the time being in force, and any such basic wage so determined and declared or so varied shall be for all purposes, the basic wage for male workers or female workers throughout the State'.

The Act defines the term 'basic wage' as 'that wage or that part of a wage which in the opinion of the Commission, is just and reasonable for a worker to whom it applies, without regard to the circumstances pertaining to the work upon which, or the industry in which, such worker is employed'. In determining a basic wage the Commission is required by the Act to take into consideration the amount that it considers sufficient to enable the average worker to whom that basic wage shall apply to live in reasonable comfort. Although the Commission must also consider the economic capacity of industry, it may not reduce the wage to a level below that required for the maintenance of this standard of 'reasonable comfort'.

The Act prescribed basic wage rates of \$35·45 per week for adult male workers and \$27·08 per week for adult female workers, to apply on and from the date of commencement of the Act (22 November 1968). These amounts comprise the sum of the basic weekly wage rates of \$33·50 for males and \$25·13 for females, operative from 24 October 1966 (before the Commission's power to determine basic wages was removed by the 1966 amendment to the Act), and the subsequent increases of 60 cents per week granted in June 1967 and \$1·35 per week in October 1968.

The Commission is required to review the basic wage, or any variation of the wage, not later than twelve months from the date on which the wage (or variation) came into operation. It is provided by the Act that any variation shall take effect 'only after the expiration of such twelve months, unless in the opinion of the Commission there are special reasons existing in the circumstances of any particular case and it is just and equitable to otherwise determine'.

On 21 November 1969, following the annual review required under the Act, the Commission increased the basic wage for adult males by \$1 per week and for adult

females by 80 cents per week, with effect from the beginning of the first pay-period commencing on or after 24 November 1969.

On 3 August 1970, The Western Australian Industrial Commission began hearing an application by the Trades and Labor Council of Western Australia for an increase in the basic wage to \$48.35 per week for adult males and \$37.00 per week for adult females. The Council's claim was later amended to seek a basic wage of \$61.61 for males and \$47.12 for females, representing increases of \$25.16 and \$19.24 on the rates then current. The hearing of submissions and replies was completed on 7 September and the Commission announced its decision on 19 October.

As a result of the decision the basic wage for adult males became \$38.45 per week and for adult females \$29.40 per week, the new rates to operate from 26 October 1970.

The Commission also announced its intention 'to prescribe in such awards and industrial agreements as it appears proper so to do, a minimum wage for adult males of \$49.00 per week', operative from 26 October 1970.

Further, the Commission stated its intention 'to invite applications to include in such awards and industrial agreements as it may appear proper and appropriate so to do, a provision which will ensure to each employee a minimum payment 10 per cent in excess of the sum of the basic wage and margin prescribed for his particular class of work'.

The following table shows variations, from 22 September 1964, in the State basic wage rates payable to adult male and female workers employed under State industrial awards or registered agreements, or in accordance with the provisions of the Factories and Shops Act.

A similar table showing variations in the rates during the period from 29 January 1951 appears in *Statistics of Western Australia—Labour and Prices*. A table showing rates applying at 31 December of each year from 1926 is given in the *Statistical Summary from 1829* following this Chapter.

STATE BASIC WAGE—ADULT WEEKLY RATES  
(\$)

| Date of operation       | Males | Females | Date of operation          | Males | Females |
|-------------------------|-------|---------|----------------------------|-------|---------|
| 1964—22 September ..... | 30.80 | 23.10   | 1966—2 August .....        | 33.26 | 24.95   |
| 26 October .....        | 31.12 | 23.34   | 24 October (a) .....       | 33.50 | 25.13   |
| 1965—26 April .....     | 31.47 | 23.60   | 1968—22 November (b) ..... | 35.45 | 27.08   |
| 26 July .....           | 31.78 | 23.84   | 1969—24 November .....     | 36.45 | 27.88   |
| 16 November .....       | 31.96 | 23.97   | 1970—26 October .....      | 38.45 | 29.40   |
| 1966—25 January .....   | 32.38 | 24.28   | 1971—26 October .....      | 39.45 | 30.90   |
| 2 May .....             | 32.65 | 24.49   | 1972—26 June .....         | 40.45 | 32.40   |

(a) See letterpress on page 488.  
*Act, 1968.*

(b) Rates prescribed under the provisions of the *Industrial Arbitration Act Amendment*

### Equal Pay for Male and Female Workers

**State Awards.** The *Industrial Arbitration Act, 1912-1971* requires The Western Australian Industrial Commission, on application, to insert in awards provision for equal pay for male and female workers performing work of the same or a like nature and of equal value.

**Commonwealth Awards.** Two benches of the Commonwealth Conciliation and Arbitration Commission sat jointly from 25 February to 22 May 1969 to take evidence and hear argument on trade union claims for equal pay between the sexes. Both benches reached a common conclusion and on 19 June 1969 published their decision and reasons for their decision. The Commission stated it was prepared to implement the principle of equal pay for equal work by introducing into Commonwealth awards and determinations the principles contained in State Acts on equal pay. It decided that no increases should be granted to adult females without an examination of the work done and that implementation of equal pay should be spread over a period so that, as from 1 January 1970, implementation would be the same as that under South Australian, Western Australian and Tasmanian Acts.



### Minimum Wage Rates

The basic wage, as the term implies, establishes a 'base' to which additions may be made to provide rates actually payable in certain industries and occupations and in particular areas. Minimum rates, incorporating these additional payments, may be prescribed by awards of The Western Australian Industrial Commission, or may be negotiated by industrial agreement. These agreements are registered with the Commission and are binding upon the parties. The additions made to the basic wage rate take the form of 'margins' and 'loadings'. Margins are amounts awarded to particular classifications of employees for features attaching to their work, such as skill, experience, arduousness and other like factors. Loadings are amounts awarded for various kinds of disabilities associated with the performance of work, or to meet particular circumstances. They include payments such as industry loadings and other general loadings prescribed in awards, determinations or agreements for the occupation concerned.

Awards of the Commonwealth Conciliation and Arbitration Commission take cognisance of particular features or circumstances such as those mentioned above but no longer contain identifiable components in the form of basic wage, margins, and loadings (see letterpress *Commonwealth Basic Wage* on page 486).

In its decision of 8 July 1966 in the Basic Wage, Margins and Total Wages Cases of 1966, the Commonwealth Conciliation and Arbitration Commission announced that it intended to grant relief to low-wage earners by inserting a provision in awards prescribing a minimum wage. The provisions inserted in the awards state that no adult male employee shall be paid at less than the prescribed minimum rates as ordinary rates of pay in respect of the ordinary hours of work prescribed in the award. The minimum weekly wage rates prescribed were the appropriate basic wages plus \$3.75 per week. As a result of this decision the minimum weekly wage as prescribed in Commonwealth awards for adult male workers in Perth became \$36.55, with effect from the beginning of the first pay-period commencing on or after 11 July 1966.

Reference is made on pages 488 and 489 to minimum wage rates prescribed under awards of The Western Australian Industrial Commission.

The following table shows variations in the minimum weekly wage rates applicable to adult males under Commonwealth and State awards.

MINIMUM WEEKLY WAGE RATES—ADULT MALES  
COMMONWEALTH AND STATE AWARDS  
(\$)

| Commonwealth awards   |        | State awards              |        |
|-----------------------|--------|---------------------------|--------|
| Perth                 |        | Western Australia         |        |
| Date of operation (a) | Amount | Date of operation         | Amount |
| 1966—11 July ....     | 36.55  | 1967— 5 April (a) ....    | 36.55  |
| 1967— 1 July ....     | 37.55  | 1967— 1 July (a) ....     | 37.55  |
| 1968—25 October ....  | 38.90  | 1968—25 October (a) ....  | 38.90  |
| 1969—19 December .... | 42.40  | 1969—19 December (a) .... | 42.40  |
| 1971— 1 January ....  | 46.40  | 1970—26 October ....      | 49.00  |
| 1972—19 May ....      | 51.10  | 1971—26 October ....      | 51.50  |
|                       |        | 1972—26 June ....         | 53.50  |

(a) Rates operative from beginning of first pay-period commencing on or after the date shown.

The statistics shown in the following table, which refers to Western Australian experience, relate generally to wages and hours prescribed in awards or determinations of the Commonwealth and State industrial authorities or in agreements registered with them.

The minimum wage rates and index numbers shown in the table embrace a representative range of occupations and are based on the occupation and industry structures in Australia in 1954. The weekly wage rates given in the table, and used in the compilation of the indexes, represent the lowest rates payable for a full week's work (excluding overtime), as prescribed in representative industrial awards, determinations and agreements.

The hourly wage rates are obtained by relating the weekly wage rates and the weekly hours of work prescribed in awards, etc. The rural industries are excluded from the table, because of coverage difficulties.

Because the indexes are designed to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, determinations and agreements which relate solely or mainly to salary-earners are excluded.

The wage rates shown should not be regarded as actual current averages, but as indexes expressed in money terms, indicative of trends.

A more detailed description of the minimum wage rates index and more extensive tables are published by the Commonwealth Statistician in the monthly bulletin *Wage Rates and Earnings*.

A table showing minimum rates of wages payable in a selection of occupations in Western Australia at 30 June 1970 appears in *Statistics of Western Australia—Labour and Prices: 1970* (pages 5-7).

#### WEIGHTED AVERAGE MINIMUM WEEKLY AND HOURLY WAGE RATES

| Date         | Weekly wage rates |                   | Hourly wage rates |                   | Index numbers (a) |             |                   |             |
|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|-------------------|-------------|
|              | Adult males       | Adult females (b) | Adult males (c)   | Adult females (b) | Weekly wage rates |             | Hourly wage rates |             |
|              |                   |                   |                   |                   | Males             | Females (b) | Males (c)         | Females (b) |
| End of June— | \$                | \$                | cents             | cents             |                   |             |                   |             |
| 1967         | 44.03             | 31.20             | 110.45            | 78.43             | 155.9             | 156.7       | 156.1             | 156.3       |
| 1968         | 45.61             | 32.55             | 114.08            | 81.82             | 161.5             | 163.5       | 161.2             | 163.1       |
| 1969         | 48.53             | 34.66             | 121.32            | 87.12             | 171.8             | 174.1       | 171.5             | 173.6       |
| 1970         | *51.09            | 37.14             | *127.56           | 93.35             | *180.9            | 186.5       | *180.3            | 186.1       |
| 1971 (d)     | 57.98             | 41.50             | 144.99            | 104.32            | 205.3             | 208.5       | 204.9             | 207.9       |

(a) Base of series : weighted average weekly wage rate—Australia, 1954 = 100.  
and building and construction.

(c) Excludes shipping and stevedoring.

(b) Excludes mining and quarrying  
(d) Preliminary figures; subject to revision.

\*Revised.

#### Average Weekly Earnings

The statistics shown in the following table are part of a new series commencing with the September quarter 1966 and are not comparable with those published for earlier periods. A description of the method used in compiling the new series is given in the *Official Year Book of the Commonwealth of Australia: No. 57, 1971* (pages 1065-7).

Statistics of average weekly earnings are derived from information concerning employment and wages and salaries as recorded on Pay-roll Tax returns, from other direct collections, and from estimates of the unrecorded balance. The figures relate to civilians only.

Particulars of wages and salaries paid are not available separately for males and females from these sources. Average weekly earnings have therefore been calculated for each State in terms of male units, i.e. total male employees plus a proportion of female employees, the proportion being determined by the estimated ratio of female to male average earnings (49 per cent in the case of Western Australia).

#### AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT (a) AUSTRALIAN STATES

(\$)

Figures revised since previous issue

| Year    | N.S.W.<br>(b) | Vic.  | Qld   | S.A.<br>(c) | W.A.  | Tas.  | Aust. |
|---------|---------------|-------|-------|-------------|-------|-------|-------|
| 1966-67 | 63.50         | 63.90 | 57.10 | 57.60       | 59.20 | 58.40 | 61.70 |
| 1967-68 | 67.00         | 67.60 | 60.20 | 61.10       | 63.90 | 61.90 | 65.30 |
| 1968-69 | 72.70         | 72.10 | 64.30 | 65.20       | 68.70 | 65.60 | 70.20 |
| 1969-70 | 78.80         | 78.10 | 69.20 | 70.90       | 75.50 | 70.80 | 76.10 |
| 1970-71 | 87.90         | 86.20 | 77.80 | 78.40       | 84.60 | 78.70 | 84.70 |

(a) Includes salary and wage payments at award rates; earnings of employees not covered by awards; overtime earnings; over-award payments; bonus payments; and payments made in advance or retrospectively during the years specified. (b) Includes Australian Capital Territory.

(c) Includes Northern Territory.

The term 'earnings' as used in the table includes: salary and wage payments at award rates; earnings of employees not covered by awards; overtime earnings; over-award payments; bonus payments; and payments made in advance or retrospectively during the years specified. It is important to bear in mind that the figures relate to the whole civilian wage and salary earner field and therefore comprise payments to all grades of employees from junior workers to persons at the highest levels of executive and administrative activity.

Quarterly figures corresponding to those shown in the table are published by the Commonwealth Statistician in the bulletins *Average Weekly Earnings and Wage Rates and Earnings*, in the *Monthly Review of Business Statistics* and in the *Quarterly Summary of Australian Statistics*.

### SURVEY OF WEEKLY EARNINGS AND HOURS

Sample surveys in respect of most private employers subject to Pay-roll Tax (*i.e.* those paying more than \$400 per week in wages and salaries) have been conducted as at the last pay-period in October during recent years.

In addition to obtaining data for the calculation of average weekly earnings, average weekly hours paid for, and average hourly earnings, the surveys obtained information on overtime and ordinary-time earnings and hours, for full-time employees (other than managerial, etc. staff).

The results of the surveys are based on returns from stratified random samples of private employers subject to Pay-roll Tax. Employees in rural industry and in private domestic service are excluded because most employers in these industries are not subject to Pay-roll Tax. Also excluded from the surveys are employees of government and semi-government authorities, and employees of religious, benevolent and other similar organisations exempt from Pay-roll Tax.

Definitions of the terms used in the following tables may be found in the mimeographed publication *Survey of Weekly Earnings and Hours, October 1971*, published by the Commonwealth Statistician, Canberra. This publication also contains further information on the construction of the sample, and more detailed tables.

The two following tables refer to the results for Western Australia.

AVERAGE EARNINGS AND HOURS (a)—PRIVATE EMPLOYMENT  
ALL INDUSTRY GROUPS (b)

| Particulars                        | October— |       |       |       |       |
|------------------------------------|----------|-------|-------|-------|-------|
|                                    | 1967     | 1968  | 1969  | 1970  | 1971  |
| Average weekly earnings (c)—       | \$       | \$    | \$    | \$    | \$    |
| Adult males                        | 65.10    | 73.00 | 77.30 | 85.20 | 96.10 |
| Junior males                       | 28.80    | 31.20 | 34.30 | 37.90 | 39.60 |
| Adult females                      | 36.20    | 38.60 | 43.40 | 47.40 | 52.00 |
| Junior females                     | 22.70    | 23.90 | 27.30 | 30.00 | 33.70 |
| Average weekly hours paid for (c)— | hrs      | hrs   | hrs   | hrs   | hrs   |
| Adult males                        | 44.2     | 45.8  | 45.5  | 45.4  | 45.8  |
| Junior males                       | 41.1     | 41.5  | 41.8  | 41.9  | 41.9  |
| Adult females                      | 39.6     | 39.5  | 39.9  | 39.7  | 39.7  |
| Junior females                     | 39.3     | 39.4  | 39.6  | 39.0  | 38.9  |
| Average hourly earnings (c)—       | \$       | \$    | \$    | \$    | \$    |
| Adult males                        | 1.47     | 1.59  | 1.70  | 1.88  | 2.10  |
| Junior males                       | 0.70     | 0.75  | 0.82  | 0.90  | 0.94  |
| Adult females                      | 0.91     | 0.98  | 1.09  | 1.19  | 1.31  |
| Junior females                     | 0.58     | 0.61  | 0.69  | 0.77  | 0.87  |

(a) Excludes managerial, professional and higher supervisory staff. Full-time employees only are included. (b) Excludes rural industry and private domestic service. (c) Last pay-period in October. See also letterpress immediately preceding table.

The following table analyses total earnings for Western Australia to show their over-time component in October 1970 and 1971.

AVERAGE WEEKLY OVERTIME AND ORDINARY-TIME EARNINGS (a)  
PRIVATE EMPLOYMENT (b)  
(\$)

| Particulars                                | Average weekly overtime earnings (a) |       | Average weekly ordinary-time earnings (a) |       | Average weekly total earnings |        |
|--------------------------------------------|--------------------------------------|-------|-------------------------------------------|-------|-------------------------------|--------|
|                                            | October—                             |       | October—                                  |       | October—                      |        |
|                                            | 1970                                 | 1971  | 1970                                      | 1971  | 1970                          | 1971   |
| Adult males—                               |                                      |       |                                           |       |                               |        |
| Manufacturing—                             |                                      |       |                                           |       |                               |        |
| Founding, engineering, vehicles, etc. .... | 20·40                                | 20·00 | 63·60                                     | 73·70 | 84·00                         | 93·60  |
| Other ....                                 | 12·20                                | 13·20 | 64·00                                     | 70·70 | 76·20                         | 84·00  |
| Total Manufacturing ....                   | 15·60                                | 16·20 | 63·80                                     | 72·00 | 79·40                         | 88·30  |
| Non-manufacturing ....                     | 18·50                                | 22·80 | 70·20                                     | 77·70 | 88·70                         | 100·40 |
| All industry groups (c) ....               | 17·40                                | 20·50 | 67·80                                     | 75·70 | 85·20                         | 96·10  |
| Junior males—all industry groups (c) ....  | 4·00                                 | 4·10  | 33·90                                     | 35·50 | 37·90                         | 39·60  |
| Females—all industry groups (c)            |                                      |       |                                           |       |                               |        |
| Adult ....                                 | 1·90                                 | 2·10  | 45·50                                     | 49·90 | 47·40                         | 52·00  |
| Junior ....                                | 0·70                                 | 0·70  | 29·30                                     | 33·00 | 30·00                         | 33·70  |

(a) Averages for all employees represented in the survey.  
staff. Full-time employees only are included.

(b) Excludes managerial, professional and higher supervisory staff.  
(c) Excludes rural industry, and private domestic service.

## HOURS OF WORK AND LEAVE PROVISIONS

**Standard Hours of Work.** In the fixation of weekly wage rates most industrial tribunals prescribe the number of hours constituting a full week's work for the wages specified.

Following applications for the introduction of a working week of forty hours, in place of the existing general standard of forty-four hours, the Commonwealth Court of Conciliation and Arbitration began hearing evidence in October 1945. In its judgment given on 8 September 1947 the Court granted the reduction to forty hours from the beginning of the first pay-period commencing in January 1948. On 6 November 1947 the Western Australian Court of Arbitration approved that, on application, provision for a working week of forty hours could be incorporated in awards of the Court with effect from 1 January 1948.

The forty-hour week has operated in Australia generally from 1 January 1948 (in New South Wales from 1 July 1947). However, the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or between States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and agreements for a full working week, in respect of adult male workers in all industry groups except rural, and shipping and stevedoring, at 30 November 1971 were: New South Wales, 39·78; Victoria, 39·97; Queensland, 39·89; South Australia, 39·96; Western Australia, 39·85; Tasmania, 39·93; Australia, 39·87. Corresponding figures for adult female workers at 30 November 1971 were: New South Wales, 39·53; Victoria, 39·81; Queensland, 39·70; South Australia, 39·77; Western Australia, 39·78; Tasmania, 39·63; Australia, 39·67.

**Annual Leave and Public Holidays.** On 18 April 1963 the Commonwealth Conciliation and Arbitration Commission gave a judgment which had the effect of granting a general increase from two weeks to three weeks in the period of paid annual leave for employees covered by Commonwealth awards.

Following a general inquiry concerning annual leave and public holidays, the Western Australian Court of Arbitration in June 1963 adopted three weeks as the new standard for the normal period of annual leave in State awards, with four weeks for seven-day shift workers. Existing awards and agreements which already provided annual leave in excess of this standard were to be examined separately to ascertain whether special circumstances existed to justify leave greater than the normal standard.

In the inquiry the State Government sought a reduction in the number of public holidays and a review of other conditions where these were more favourable than the Court's standard. Private employers opposed any increase in annual leave but, alternatively, submitted that, if there was to be an increase, then the new standard should be two weeks and four days per annum or the number of public holidays in each year should be reduced by one. Both these submissions were rejected and the standard number of public holidays was retained at ten with the provision that, where an award provided for more than ten public holidays a year, that award, unless the union consented to a reduction to ten, would be excluded from the order amending the annual leave provisions until it was established that special circumstances justified the continuance of the greater number of holidays.

In November 1963 the Court refused an application by employers for the right to split the annual leave into two parts, since it decided to follow the decision of most other State tribunals and allow the additional leave in conformity with conditions similar to those prescribed by the Commonwealth Conciliation and Arbitration Commission. The right to split the leave would be allowed by the Court only in exceptional circumstances, unless all the parties concerned agreed to the inclusion of such a provision.

**Long Service Leave.** The *Long Service Leave Act, 1958-1964* (State) confers entitlement to long service leave with pay on employees for whom such leave is not otherwise provided. Entitlement accrues only in relation to continuous service with one employer, but continuity of service is not affected by the transfer of a business from one employer to another. Leave of thirteen weeks on ordinary pay is granted in respect of the first fifteen years of service. For each subsequent ten years the entitlement is eight and two-thirds weeks, with *pro rata* conditions applying in the case of death or termination of employment for any reason other than serious misconduct. An employee who has completed at least ten years' service but less than fifteen years is entitled to *pro rata* leave, on the basis of thirteen weeks for fifteen years, if his employment is terminated by death; by the employer for any reason other than serious misconduct; or by the employee on account of sickness, injury, or domestic or other pressing necessity. An employee forfeits his right to long service leave if he engages in alternative employment for reward during the period of leave.

## WORKERS' COMPENSATION

The *Workers' Compensation Act, 1912-1970* (State) provides compensation to workers in Western Australia for injuries suffered in the course of their employment, for death resulting from such injuries, and for disabilities due to specified industrial diseases associated with their employment. The provisions of the Act do not extend to employees of the Commonwealth Government, for whom compensation is provided by the *Compensation (Commonwealth Employees) Act 1971*.

Every employer, other than a self-insurer, is required to effect insurance with an approved insurer for the full amount of the liability to pay compensation under the Act to all workers in his employment.

The Act establishes a Workers' Compensation Board of three members, including a chairman, appointed by the Governor. The chairman must be a legal practitioner of not less than seven years' practice and standing. Of the remaining members, one is nominated by the Western Australian Employers' Federation (Incorporated), and one by the Trades and Labor Council of Western Australia. The Board has exclusive jurisdiction to inquire into, hear, and determine all questions and matters arising under the Act, and its actions and decisions are final, except that where any question of law arises in any proceedings before the Board, it may state a case for the decision of the Full Court of the Supreme Court.

It is provided by section 4 (5) of the Act that the amount of payments, allowances and benefits under the Act shall be varied in accordance with movements in the State basic wage payable to adult male workers. In the following paragraphs the amounts shown are those which were in operation at 30 June 1972.

Where total or partial incapacity for work results from the injury, the maximum weekly payment during the period of incapacity is, in the case of an adult worker whose average weekly earnings are not less than the basic wage, \$29.90 for a male and \$22.60 for a female, where there are no dependants. In the case of a worker receiving less than the basic wage and without dependants, the maximum payment is derived by applying to \$29.90 (or \$22.60 for a female) the ratio which his (or her) average weekly earnings bear to the basic wage. Where there are dependants, the maximum payment, in respect of both male and female workers, is equal to the amount of the average weekly earnings.

The total liability of the employer in respect of weekly payments, including payments for dependants, is limited to \$12,076. Additional compensation is payable up to a maximum of \$1,812 (or more, if the Board finds that, in particular circumstances, this amount is inadequate) for expenses incurred in respect of first aid and ambulance services, medicines, medical or surgical attendance, hospital treatment, and the like. In the event of the death of the worker, funeral expenses are compensable up to a maximum of \$180.

The Act provides for compensation in the form of a lump-sum payment, up to a maximum of \$12,076, in respect of specified injuries resulting in such disabilities as loss of sight, hearing or mental powers, or loss of a limb or limbs.

Where death results from the injury and the worker leaves any dependants who were wholly dependent on his earnings, the maximum amount of compensation is \$12,208, together with an additional weekly payment of \$3.90 in respect of each dependent child or step-child aged under sixteen years, or under twenty-one years if a full-time student. It is provided that if a worker leaves a widow, a mother, or a dependent child or step-child aged under sixteen years (or under twenty-one years in the case of a full-time student) wholly dependent on his earnings, the minimum payment shall be \$2,957 plus \$3.90 per week for each dependent child. If a worker dies leaving no dependants, reasonable expenses in connection with medical attendance and burial are payable to the person by whom the expenses were properly incurred.

Disability or death caused by certain specified industrial diseases due to the nature of a worker's employment is compensable at the same rates and under the same conditions as those applying in the case of injury.

## INDUSTRIAL ACCIDENTS

The collection of information required for detailed analysis of industrial accidents occurring in Western Australia commenced on 1 July 1961. From that date all insurers and self-insurers have been required to submit a report to the Workers' Compensation Board in respect of each claim for workers' compensation as soon as the claim is closed. Only accidents coming within the scope of the Workers' Compensation Act are included in the statistics, which therefore exclude industrial accidents resulting in the death of, or injury to, self-employed persons and all Commonwealth Government employees. As the statistics relate only to accidents, particulars of cases of industrial disease are excluded.

With few exceptions, an accident to an employee while travelling between his place of residence and place of employment was not compensable in Western Australia until 14 December 1964, when the *Workers' Compensation Act Amendment Act, 1964* came into operation. From that date, the compensation provisions have been extended generally to include such cases. These cases are not, however, included in the statistics which are intended to cover only those accidents occurring at the work site or in the course of the worker's normal duties. (During the year ended 30 June 1971, 334 claims were reported closed in respect of 'journey' cases involving loss of work for one week or more. The total time lost was 2,254 weeks and the cost of claims amounted to \$150,805.)

For the purpose of the statistics, each claim is regarded as a separate industrial accident and data are prepared from reports of claims closed during the year under review. The item 'cost of claims' refers to *total* payments made (principally in the form of compensation for loss of wages, medical expenses, and lump-sum settlements) in respect of claims closed during the year, and therefore does not necessarily represent amounts actually paid in that year. Similarly, 'time lost' refers to *total* time lost (*i.e.* from date of injury) in respect of claims closed during the year.

The tables in this section include particulars of industrial accidents resulting in death or absence from work of at least one week, *i.e.* a week of five working days. In respect of reopened claims, the additional time lost and additional costs are included in the tables but, to avoid duplication, such cases (of which there were 2,464 in 1970-71) have been excluded from the numbers of accidents shown.

#### INDUSTRIAL ACCIDENTS (a)—NUMBER, TIME LOST, AND COST OF CLAIMS (b)

| Particulars                          | 1966-67      | 1967-68      | 1968-69      | 1969-70      | 1970-71      |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Number of accidents—                 |              |              |              |              |              |
| Fatal .....                          | 21           | 18           | 28           | 36           | 40           |
| Non-fatal .....                      | 14,323       | 13,812       | 13,859       | 13,997       | 15,555       |
| Time lost (c)—                       |              |              |              |              |              |
| Total .....                          | 55,506       | 56,469       | 53,436       | 54,087       | 68,206       |
| Average per accident .....           | 3.9          | 4.1          | 3.9          | 3.9          | 4.4          |
| Cost of claims (b)—                  |              |              |              |              |              |
| Fatal accidents .....                | \$'000 85    | \$'000 80    | \$'000 158   | \$'000 267   | \$'000 239   |
| Non-fatal accidents .....            | \$'000 3,071 | \$'000 3,287 | \$'000 3,310 | \$'000 3,618 | \$'000 4,653 |
| Total .....                          | \$'000 3,156 | \$'000 3,367 | \$'000 3,468 | \$'000 3,884 | \$'000 4,892 |
| Average per non-fatal accident ..... | \$ 214       | \$ 238       | \$ 239       | \$ 258       | \$ 299       |

(a) Accidents resulting in absence from work of one week or more. (b) Refers to *total* payments made (principally compensation for wages lost, medical expenses, and lump-sum settlements) in respect of claims closed during the year, and therefore not necessarily to amounts actually paid in that year. (c) Total time lost (*i.e.* from date of injury) in respect of claims closed during the year.

The following table contains an analysis, according to industry group, of industrial accidents in Western Australia for the year ended 30 June 1971. Accidents have been classified according to the Classification of Industries used in the 1966 Census of Population. The table on page 503 gives an indication of the nature of the sub-groups included in the several industry groups.

#### INDUSTRIAL ACCIDENTS (a)—NUMBER, TIME LOST, AND COST OF CLAIMS (b) INDUSTRY GROUPS : 1970-71

| Industry group                                                                         | Fatal accidents |                    | Non-fatal accidents |                   |               |                    |
|----------------------------------------------------------------------------------------|-----------------|--------------------|---------------------|-------------------|---------------|--------------------|
|                                                                                        | Number          | Cost of claims (b) | Number              | Per cent of total | Time lost (c) | Cost of claims (b) |
|                                                                                        |                 | \$'000             |                     |                   | weeks         | \$'000             |
| Primary production—                                                                    |                 |                    |                     |                   |               |                    |
| Mining and quarrying .....                                                             | 5               | 42                 | 1,378               | 8.9               | 7,314         | 552                |
| Other .....                                                                            | 1               | (d)                | 927                 | 6.0               | 4,375         | 304                |
| Manufacturing .....                                                                    | 6               | 47                 | 5,319               | 34.2              | 20,223        | 1,476              |
| Electricity, gas, water and sanitary services (e) .....                                | 4               | 31                 | 528                 | 3.4               | 2,792         | 163                |
| Building and construction .....                                                        | 9               | 21                 | 3,008               | 19.3              | 14,086        | 980                |
| Transport, storage and communication .....                                             | 8               | 46                 | 1,458               | 9.4               | 7,270         | 457                |
| Finance and property .....                                                             | ...             | ...                | 29                  | 0.2               | 70            | 7                  |
| Commerce .....                                                                         | 5               | 32                 | 1,144               | 7.4               | 4,049         | 282                |
| Public authority (n.e.i.) and defence services ; community and business services ..... | 1               | 11                 | 1,100               | 7.1               | 5,212         | 275                |
| Amusement, hotels, cafes, personal service, etc. ....                                  | 1               | 9                  | 664                 | 4.3               | 2,815         | 157                |
| Other .....                                                                            | ...             | ...                | ...                 | ...               | ...           | ...                |
| Total .....                                                                            | 40              | 239                | 15,555              | 100.0             | 68,206        | 4,653              |

(a) Accidents resulting in absence from work of one week or more. (b) See note (b) to previous table. (c) See note (c) to previous table. (d) Less than \$500. (e) Production, supply and maintenance.

The following table gives a classification, according to duration of time lost, of industrial accidents in Western Australia for the year ended 30 June 1971.

## INDUSTRIAL ACCIDENTS (a)—DURATION OF TIME LOST : 1970-71

| Duration of time lost (weeks) |      |      |      |      |      | Males  |                   | Females |                   | Total  |                   |
|-------------------------------|------|------|------|------|------|--------|-------------------|---------|-------------------|--------|-------------------|
|                               |      |      |      |      |      | Number | Time lost (weeks) | Number  | Time lost (weeks) | Number | Time lost (weeks) |
| 1 and under                   | 2    | .... | .... | .... | .... | 7,072  | 9,001             | 862     | 1,089             | 7,934  | 10,091            |
| 2 "                           | 4    | .... | .... | .... | .... | 3,603  | 9,449             | 414     | 1,073             | 4,017  | 10,521            |
| 4 "                           | 6    | .... | .... | .... | .... | 1,207  | 5,710             | 134     | 640               | 1,341  | 6,350             |
| 6 "                           | 8    | .... | .... | .... | .... | 683    | 4,595             | 65      | 435               | 748    | 5,030             |
| 8 "                           | 13   | .... | .... | .... | .... | 700    | 6,973             | 66      | 643               | 766    | 7,617             |
| 13 "                          | 26   | .... | .... | .... | .... | 403    | 7,096             | 64      | 1,155             | 467    | 8,252             |
| 26 "                          | 52   | .... | .... | .... | .... | 160    | 5,597             | 24      | 889               | 184    | 6,486             |
| 52 "                          | 104  | .... | .... | .... | .... | 61     | 4,466             | 4       | 327               | 65     | 4,793             |
| 104 "                         | 156  | .... | .... | .... | .... | 21     | 2,557             | 3       | 373               | 24     | 2,930             |
| 156 and over                  | .... | .... | .... | .... | .... | 9      | 2,094             | ....    | ....              | 9      | 2,094             |
| Total                         | .... | .... | .... | .... | .... | 13,919 | 57,538            | 1,636   | 6,624             | 15,555 | 64,164            |
| Reopened claims (b)           | .... | .... | .... | .... | .... | ....   | 3,646             | ....    | 397               | ....   | 4,044             |
| Total                         | .... | .... | .... | .... | .... | 13,919 | 61,185            | 1,636   | 7,021             | 15,555 | 68,206            |

(a) Non-fatal accidents resulting in absence from work of one week or more. (b) Additional time lost which cannot be allocated to appropriate groups. The number of reopened claims reported was 2,464.

Statistics in greater detail, as well as analyses according to additional characteristics, are available in the publications, *Industrial Accidents (Series A)*, which relates to accidents resulting in death or absence from work for one day or more, and *Industrial Accidents (Series B)*, relating to accidents resulting in death or absence from work for one week or more. These publications, which are in mimeographed form, are issued annually by the Western Australian Office of the Commonwealth Bureau of Census and Statistics.



## Chapter X—continued

### Part 2—Employment

NOTE. In addition to the employment data appearing in this Part, references to the numbers of persons engaged in particular activities are to be found elsewhere in the Year Book. In Chapter V, for example, Part 1—*Education* shows numbers engaged in teaching, Part 3—*Health Services, Hospitals, Care of the Aged and Disabled* contains details of hospital staffs, and employment in building appears in Part 4—*Housing and Building*. In Chapter VIII, Part 1—*Primary Production* gives male employment on rural holdings, at mines and in fishing, and Part 2—*Secondary Production* includes tables relating wholly, or in part, to employment in factories. Chapter IX, Part 3—*Transport* shows numbers engaged in various types of transport undertakings.

*All tables in this Part which contain information compiled from census schedules exclude particulars of full-blood Aborigines, as required by section 127 (now repealed) of the Australian Constitution; see letterpress Aborigines on page 129.*

The most detailed and comprehensive statistics of employment of the population are those which are derived from the periodic Population Census. Among the most useful of the tabulations based on these enumerations are those which classify the population according to occupational status and industry.

#### THE WORK FORCE

It is customary in modern census practice to distinguish between the economically active and inactive sectors of the community on the basis of those 'In the Work Force' and those 'Not in the Work Force'.

The *work force* comprises all persons engaged in an industry, business, trade, or service, and includes persons who were not working at the time of the census. It includes employers, the self-employed (*i.e.* persons working on own account but not employing others), employees on wage or salary, and unpaid helpers (other than those usually working in such activities for less than fifteen hours per week).

Persons *not in the work force* include children not attending school; full-time students and children attending school; persons of independent means; those engaged in home duties; pensioners and annuitants; and inmates of institutions.

The comprehensive tables resulting from the census include detailed analyses of the work force according to such characteristics as age, marital status, religion, birthplace, occupational status, industry and occupation. For the purpose of this Chapter, only a selection of the tables, in condensed form, relating to occupational status, industry and occupation have been included.

At the Census of 30 June 1966 there were 246,155 males in the work force, representing 57·69 per cent of the total male population.

The number of females in the work force at the 1966 Census was 93,424, or 22·79 per cent of the female population. Of this total, 45,286, equivalent to 48·47 per cent of females in the work force, were married women, including women married but permanently separated.

The 1966 Census work force statistics are not strictly comparable with those of earlier censuses. For a detailed explanation of the new approach adopted at the 1966 Census, the reader is referred to *Census of Population and Housing, 30 June 1966—Vol. 4 Population and Dwellings in Local Government Areas: Part 5 Western Australia*, issued by the Commonwealth Statistician, Canberra. The net effect of the new definition is to include approximately 8,100 additional persons in the Western Australian work force, a proportional increase of approximately 2·4 per cent.

## Classification according to Occupational Status

POPULATION CLASSIFIED ACCORDING TO OCCUPATIONAL STATUS  
CENSUS, 30 JUNE 1966

| Occupational status                                 | Males          | Females        | Persons        | Percentage of population |               |               |
|-----------------------------------------------------|----------------|----------------|----------------|--------------------------|---------------|---------------|
|                                                     |                |                |                | Males                    | Females       | Persons       |
| <b>In work force—</b>                               |                |                |                |                          |               |               |
| Employed—                                           |                |                |                |                          |               |               |
| Employer .....                                      | 21,383         | 4,700          | 26,083         | 5·01                     | 1·15          | 3·12          |
| Self-employed .....                                 | 25,136         | 4,689          | 29,825         | 5·89                     | 1·14          | 3·56          |
| Employee (on wage or salary) .....                  | 195,704        | 79,661         | 275,365        | 45·87                    | 19·43         | 32·91         |
| Helper (not on wage or salary) .....                | 994            | 2,310          | 3,304          | 0·23                     | 0·56          | 0·39          |
| Total Employed .....                                | 243,217        | 91,360         | 334,577        | 57·00                    | 22·28         | 39·99         |
| Unemployed .....                                    | 2,938          | 2,064          | 5,002          | 0·69                     | 0·50          | 0·60          |
| Total in work force .....                           | 246,155        | 93,424         | 339,579        | 57·69                    | 22·79         | 40·59         |
| <b>Not in work force—</b>                           |                |                |                |                          |               |               |
| Child not at school .....                           | 48,732         | 46,195         | 94,927         | 11·42                    | 11·27         | 11·35         |
| Child attending school or full-time student .....   | 97,401         | 90,728         | 188,129        | 22·83                    | 22·13         | 22·49         |
| Mainly dependent on pension or superannuation ..... | 22,374         | 32,163         | 54,537         | 5·24                     | 7·84          | 6·52          |
| Of independent means .....                          | 3,626          | 3,402          | 7,028          | 0·85                     | 0·83          | 0·84          |
| Home duties .....                                   | .....          | 137,269        | 137,269        | .....                    | 33·48         | 16·41         |
| Inmates of institutions .....                       | 3,094          | 3,166          | 6,260          | 0·73                     | 0·77          | 0·75          |
| Others not in work force .....                      | 5,309          | 3,635          | 8,944          | 1·24                     | 0·89          | 1·07          |
| Total not in work force .....                       | 180,536        | 316,558        | 497,094        | 42·31                    | 77·21         | 59·41         |
| <b>GRAND TOTAL .....</b>                            | <b>426,691</b> | <b>409,982</b> | <b>836,673</b> | <b>100·00</b>            | <b>100·00</b> | <b>100·00</b> |

POPULATION ACCORDING TO OCCUPATIONAL STATUS—AUSTRALIA  
CENSUS, 30 JUNE 1966

| Occupational status                  | N.S.W.         | Vic.           | Qld            | S.A.           | W.A.           | Tas.          | N.T.         | A.C.T.        | Australia        |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------|---------------|------------------|
| <b>MALES</b>                         |                |                |                |                |                |               |              |               |                  |
| <b>In work force—</b>                |                |                |                |                |                |               |              |               |                  |
| Employed—                            |                |                |                |                |                |               |              |               |                  |
| Employer .....                       | 83,466         | 67,236         | 44,111         | 23,747         | 21,383         | 8,245         | 815          | 1,388         | 250,391          |
| Self-employed .....                  | 106,723        | 92,302         | 49,463         | 31,135         | 25,136         | 9,162         | 601          | 1,286         | 315,808          |
| Employee (on wage or salary) .....   | 1,058,213      | 777,217        | 379,207        | 259,105        | 195,704        | 87,572        | 12,796       | 27,304        | 2,797,118        |
| Helper (not on wage or salary) ..... | 4,564          | 3,333          | 2,486          | 1,167          | 994            | 432           | 26           | 46            | 13,048           |
| Total Employed .....                 | 1,252,966      | 940,088        | 475,267        | 315,154        | 243,217        | 105,411       | 14,238       | 30,024        | 3,376,365        |
| Unemployed .....                     | 18,421         | 10,139         | 7,964          | 4,464          | 2,938          | 1,147         | 162          | 214           | 45,449           |
| Total in work force .....            | 1,271,387      | 950,227        | 483,231        | 319,618        | 246,155        | 106,558       | 14,400       | 30,238        | 3,421,814        |
| <b>Not in work force .....</b>       | <b>853,075</b> | <b>663,677</b> | <b>360,666</b> | <b>228,912</b> | <b>180,536</b> | <b>80,832</b> | <b>7,108</b> | <b>19,739</b> | <b>2,394,545</b> |
| Total males .....                    | 2,124,462      | 1,613,904      | 843,897        | 548,530        | 426,691        | 187,390       | 21,508       | 49,977        | 5,816,359        |

## FEMALES

|                                      |                  |                  |                |                |                |                |               |               |                  |
|--------------------------------------|------------------|------------------|----------------|----------------|----------------|----------------|---------------|---------------|------------------|
| <b>In work force—</b>                |                  |                  |                |                |                |                |               |               |                  |
| Employed—                            |                  |                  |                |                |                |                |               |               |                  |
| Employer .....                       | 19,774           | 16,747           | 10,517         | 6,228          | 4,700          | 1,759          | 225           | 271           | 60,221           |
| Self-employed .....                  | 23,170           | 20,008           | 11,306         | 7,205          | 4,689          | 1,644          | 134           | 263           | 68,419           |
| Employee (on wage or salary) .....   | 474,185          | 374,625          | 149,378        | 111,197        | 79,661         | 35,451         | 4,171         | 12,774        | 1,241,442        |
| Helper (not on wage or salary) ..... | 12,566           | 8,191            | 5,483          | 2,613          | 2,310          | 940            | 76            | 138           | 32,317           |
| Total Employed .....                 | 529,695          | 419,571          | 176,684        | 127,243        | 91,360         | 39,794         | 4,606         | 13,446        | 1,402,399        |
| Unemployed .....                     | 13,070           | 7,250            | 4,954          | 3,563          | 2,064          | 971            | 138           | 232           | 32,242           |
| Total in work force .....            | 542,765          | 426,821          | 181,638        | 130,806        | 93,424         | 40,765         | 4,744         | 13,678        | 1,434,641        |
| <b>Not in work force .....</b>       | <b>1,566,595</b> | <b>1,178,801</b> | <b>638,150</b> | <b>412,539</b> | <b>316,558</b> | <b>143,280</b> | <b>11,181</b> | <b>32,358</b> | <b>4,299,462</b> |
| Total females .....                  | 2,109,360        | 1,605,622        | 819,788        | 543,345        | 409,982        | 184,045        | 15,925        | 46,036        | 5,734,103        |

# OCCUPATIONAL STATUS, MARITAL STATUS AND AGE—MALES CENSUS, 30 JUNE 1966

| Occupational status and marital status  | Age last birthday (years) |               |               |               |               |               |               | Total<br>(a)       |
|-----------------------------------------|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|
|                                         | 15-19                     | 20-24         | 25-34         | 35-44         | 45-54         | 55-64         | 65 and over   |                    |
| <b>Employers—</b>                       |                           |               |               |               |               |               |               |                    |
| Never married                           | 186                       | 473           | 555           | 256           | 183           | 132           | 42            | 1,827              |
| Married                                 | 6                         | 376           | 3,711         | 5,504         | 5,109         | 3,358         | 854           | 18,918             |
| Married but permanently separated       | ....                      | 2             | 33            | 69            | 72            | 51            | 19            | 246                |
| Widowed                                 | ....                      | 1             | 6             | 24            | 45            | 74            | 87            | 237                |
| Divorced                                | 1                         | ....          | 17            | 36            | 53            | 35            | 13            | 155                |
| <b>Total</b>                            | <b>193</b>                | <b>852</b>    | <b>4,322</b>  | <b>5,889</b>  | <b>5,462</b>  | <b>3,650</b>  | <b>1,015</b>  | <b>21,383</b>      |
| <b>Self-employed—</b>                   |                           |               |               |               |               |               |               |                    |
| Never married                           | 575                       | 1,234         | 1,111         | 602           | 450           | 414           | 144           | 4,530              |
| Married                                 | 11                        | 652           | 4,512         | 5,488         | 4,336         | 3,544         | 1,100         | 19,643             |
| Married but permanently separated       | ....                      | 5             | 59            | 92            | 87            | 65            | 29            | 337                |
| Widowed                                 | ....                      | 1             | 2             | 22            | 48            | 142           | 139           | 354                |
| Divorced                                | ....                      | 1             | 23            | 76            | 70            | 79            | 23            | 272                |
| <b>Total</b>                            | <b>586</b>                | <b>1,893</b>  | <b>5,707</b>  | <b>6,280</b>  | <b>4,991</b>  | <b>4,244</b>  | <b>1,435</b>  | <b>25,136</b>      |
| <b>Employees (on wage or salary)—</b>   |                           |               |               |               |               |               |               |                    |
| Never married                           | 26,456                    | 17,305        | 9,448         | 4,468         | 2,783         | 2,054         | 372           | 62,886             |
| Married                                 | 422                       | 8,127         | 31,008        | 35,293        | 27,719        | 19,600        | 2,407         | 124,576            |
| Married but permanently separated       | 3                         | 133           | 722           | 1,038         | 986           | 667           | 103           | 3,652              |
| Widowed                                 | 6                         | 15            | 59            | 230           | 534           | 983           | 325           | 2,152              |
| Divorced                                | 8                         | 28            | 302           | 660           | 765           | 607           | 68            | 2,438              |
| <b>Total</b>                            | <b>26,895</b>             | <b>25,608</b> | <b>41,539</b> | <b>41,689</b> | <b>32,787</b> | <b>23,911</b> | <b>3,275</b>  | <b>195,704</b>     |
| <b>Helpers (not on wage or salary)—</b> |                           |               |               |               |               |               |               |                    |
| Never married                           | 402                       | 150           | 42            | 11            | 12            | 25            | 27            | 669                |
| Married                                 | ....                      | 19            | 30            | 31            | 41            | 57            | 77            | 255                |
| Married but permanently separated       | ....                      | 1             | 1             | 2             | ....          | 9             | 4             | 17                 |
| Widowed                                 | ....                      | ....          | ....          | ....          | 3             | 6             | 30            | 39                 |
| Divorced                                | ....                      | ....          | 1             | 1             | 2             | 3             | 7             | 14                 |
| <b>Total</b>                            | <b>402</b>                | <b>170</b>    | <b>74</b>     | <b>45</b>     | <b>58</b>     | <b>100</b>    | <b>145</b>    | <b>994</b>         |
| <b>Total employed—</b>                  |                           |               |               |               |               |               |               |                    |
| Never married                           | 27,619                    | 19,162        | 11,156        | 5,337         | 3,428         | 2,625         | 585           | 69,912             |
| Married                                 | 439                       | 9,174         | 39,261        | 46,316        | 37,205        | 26,559        | 4,438         | 163,392            |
| Married but permanently separated       | 3                         | 141           | 815           | 1,201         | 1,145         | 792           | 155           | 4,252              |
| Widowed                                 | 6                         | 17            | 67            | 276           | 630           | 1,205         | 581           | 2,782              |
| Divorced                                | 9                         | 29            | 343           | 773           | 890           | 724           | 111           | 2,879              |
| <b>TOTAL EMPLOYED</b>                   | <b>28,076</b>             | <b>28,523</b> | <b>51,642</b> | <b>53,903</b> | <b>43,298</b> | <b>31,905</b> | <b>5,870</b>  | <b>243,217</b>     |
| <b>Unemployed—</b>                      |                           |               |               |               |               |               |               |                    |
| Never married                           | 533                       | 351           | 263           | 136           | 89            | 80            | 20            | 1,472              |
| Married                                 | 6                         | 85            | 278           | 329           | 236           | 232           | 58            | 1,224              |
| Married but permanently separated       | ....                      | 3             | 24            | 36            | 31            | 20            | 4             | 118                |
| Widowed                                 | ....                      | 3             | 1             | 6             | 14            | 21            | 9             | 54                 |
| Divorced                                | ....                      | 2             | 8             | 16            | 25            | 15            | 4             | 70                 |
| <b>Total Unemployed</b>                 | <b>539</b>                | <b>444</b>    | <b>574</b>    | <b>523</b>    | <b>395</b>    | <b>368</b>    | <b>95</b>     | <b>2,938</b>       |
| <b>Total in work force—</b>             |                           |               |               |               |               |               |               |                    |
| Never married                           | 28,152                    | 19,513        | 11,419        | 5,473         | 3,517         | 2,705         | 605           | 71,384             |
| Married                                 | 445                       | 9,259         | 39,539        | 46,645        | 37,441        | 26,791        | 4,496         | 164,616            |
| Married but permanently separated       | 3                         | 144           | 839           | 1,237         | 1,176         | 812           | 159           | 4,370              |
| Widowed                                 | 6                         | 20            | 68            | 282           | 644           | 1,226         | 590           | 2,836              |
| Divorced                                | 9                         | 31            | 351           | 789           | 915           | 739           | 115           | 2,949              |
| <b>TOTAL IN WORK FORCE</b>              | <b>28,615</b>             | <b>28,967</b> | <b>52,216</b> | <b>54,426</b> | <b>43,693</b> | <b>32,273</b> | <b>5,965</b>  | <b>246,155</b>     |
| <b>Not in work force—</b>               |                           |               |               |               |               |               |               |                    |
| Never married                           | 12,090                    | 1,920         | 873           | 572           | 586           | 1,199         | 2,564         | (a) 19,804         |
| Married                                 | 7                         | 133           | 475           | 753           | 1,086         | 3,803         | 14,366        | 20,623             |
| Married but permanently separated       | 1                         | 9             | 34            | 80            | 138           | 251           | 651           | 1,164              |
| Widowed                                 | 1                         | 1             | 5             | 19            | 58            | 354           | 4,378         | 4,816              |
| Divorced                                | ....                      | 2             | 20            | 54            | 93            | 216           | 407           | 792                |
| <b>Total not in work force</b>          | <b>12,099</b>             | <b>2,065</b>  | <b>1,407</b>  | <b>1,478</b>  | <b>1,961</b>  | <b>5,823</b>  | <b>22,366</b> | <b>(a) 47,199</b>  |
| <b>Total Males—</b>                     |                           |               |               |               |               |               |               |                    |
| Never married                           | 40,242                    | 21,433        | 12,292        | 6,045         | 4,103         | 3,904         | 3,169         | (a) 91,188         |
| Married                                 | 452                       | 9,392         | 40,014        | 47,398        | 38,527        | 30,594        | 18,862        | 185,239            |
| Married but permanently separated       | 4                         | 153           | 873           | 1,317         | 1,314         | 1,063         | 810           | 5,534              |
| Widowed                                 | 7                         | 21            | 73            | 301           | 702           | 1,580         | 4,968         | 7,652              |
| Divorced                                | 9                         | 33            | 371           | 843           | 1,008         | 955           | 522           | 3,741              |
| <b>GRAND TOTAL</b>                      | <b>40,714</b>             | <b>31,032</b> | <b>53,623</b> | <b>55,904</b> | <b>45,654</b> | <b>38,096</b> | <b>28,331</b> | <b>(a) 293,354</b> |

(a) Excludes 43,524 males aged 0-4 years, 45,791 males aged 5-9 years and 44,022 males aged 10-14 years not in the work force.

# OCCUPATIONAL STATUS, MARITAL STATUS AND AGE—FEMALES CENSUS, 30 JUNE 1966

| Occupational status and marital status  | Age last birthday (years) |               |               |               |               |               |               | Total<br>(a)       |
|-----------------------------------------|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|
|                                         | 15-19                     | 20-24         | 25-34         | 35-44         | 45-54         | 55-64         | 65 and over   |                    |
| <b>Employers—</b>                       |                           |               |               |               |               |               |               |                    |
| Never married                           | 8                         | 24            | 24            | 22            | 44            | 50            | 16            | 188                |
| Married                                 | 7                         | 122           | 869           | 1,328         | 1,122         | 497           | 58            | 4,003              |
| Married but permanently separated       | ....                      | 1             | 5             | 21            | 18            | 13            | 4             | 61                 |
| Widowed                                 | ....                      | ....          | 3             | 24            | 113           | 154           | 81            | 376                |
| Divorced                                | ....                      | ....          | 4             | 24            | 20            | 23            | 1             | 72                 |
| <b>Total</b>                            | <b>15</b>                 | <b>147</b>    | <b>905</b>    | <b>1,419</b>  | <b>1,317</b>  | <b>737</b>    | <b>160</b>    | <b>4,700</b>       |
| <b>Self-employed—</b>                   |                           |               |               |               |               |               |               |                    |
| Never married                           | 38                        | 44            | 30            | 35            | 61            | 83            | 42            | 333                |
| Married                                 | 10                        | 186           | 907           | 1,145         | 989           | 509           | 87            | 3,833              |
| Married but permanently separated       | ....                      | 3             | 13            | 23            | 30            | 21            | 2             | 92                 |
| Widowed                                 | ....                      | ....          | 5             | 35            | 79            | 132           | 95            | 346                |
| Divorced                                | ....                      | ....          | 7             | 19            | 38            | 18            | 3             | 85                 |
| <b>Total</b>                            | <b>48</b>                 | <b>233</b>    | <b>962</b>    | <b>1,257</b>  | <b>1,197</b>  | <b>763</b>    | <b>229</b>    | <b>4,689</b>       |
| <b>Employees (on wage or salary)—</b>   |                           |               |               |               |               |               |               |                    |
| Never married                           | 23,301                    | 9,117         | 3,330         | 1,594         | 1,473         | 1,249         | 339           | 40,403             |
| Married                                 | 730                       | 4,719         | 7,157         | 10,165        | 6,831         | 2,215         | 176           | 31,993             |
| Married but permanently separated       | 24                        | 195           | 507           | 748           | 705           | 277           | 29            | 2,485              |
| Widowed                                 | 6                         | 14            | 84            | 402           | 1,130         | 1,157         | 317           | 3,110              |
| Divorced                                | 2                         | 23            | 260           | 532           | 541           | 280           | 32            | 1,670              |
| <b>Total</b>                            | <b>24,063</b>             | <b>14,068</b> | <b>11,338</b> | <b>13,441</b> | <b>10,680</b> | <b>5,178</b>  | <b>893</b>    | <b>79,661</b>      |
| <b>Helpers (not on wage or salary)—</b> |                           |               |               |               |               |               |               |                    |
| Never married                           | 159                       | 55            | 29            | 17            | 10            | 11            | 5             | 286                |
| Married                                 | 15                        | 127           | 413           | 508           | 500           | 259           | 60            | 1,882              |
| Married but permanently separated       | ....                      | 3             | 12            | 10            | 4             | 4             | 37            | 77                 |
| Widowed                                 | ....                      | 1             | 3             | 2             | 12            | 33            | 4             | 85                 |
| Divorced                                | ....                      | 1             | 5             | 4             | 5             | 5             | ....          | 20                 |
| <b>Total</b>                            | <b>174</b>                | <b>187</b>    | <b>462</b>    | <b>541</b>    | <b>531</b>    | <b>312</b>    | <b>103</b>    | <b>2,310</b>       |
| <b>Total employed—</b>                  |                           |               |               |               |               |               |               |                    |
| Never married                           | 23,506                    | 9,240         | 3,413         | 1,668         | 1,588         | 1,393         | 402           | 41,210             |
| Married                                 | 762                       | 5,154         | 9,346         | 13,146        | 9,442         | 3,480         | 381           | 41,711             |
| Married but permanently separated       | 24                        | 201           | 537           | 802           | 757           | 315           | 39            | 2,675              |
| Widowed                                 | 6                         | 16            | 95            | 463           | 1,334         | 1,476         | 527           | 3,917              |
| Divorced                                | 2                         | 24            | 276           | 579           | 604           | 326           | 36            | 1,847              |
| <b>TOTAL EMPLOYED</b>                   | <b>24,300</b>             | <b>14,635</b> | <b>13,667</b> | <b>16,658</b> | <b>13,725</b> | <b>6,990</b>  | <b>1,385</b>  | <b>91,360</b>      |
| <b>Unemployed—</b>                      |                           |               |               |               |               |               |               |                    |
| Never married                           | 663                       | 228           | 82            | 18            | 16            | 15            | ....          | 1,022              |
| Married                                 | 47                        | 167           | 219           | 211           | 99            | 28            | 10            | 781                |
| Married but permanently separated       | 4                         | 17            | 21            | 36            | 33            | 8             | ....          | 119                |
| Widowed                                 | ....                      | 3             | 2             | 10            | 31            | 31            | 17            | 94                 |
| Divorced                                | ....                      | 2             | 10            | 13            | 12            | 9             | 2             | 48                 |
| <b>Total Unemployed</b>                 | <b>714</b>                | <b>417</b>    | <b>334</b>    | <b>288</b>    | <b>191</b>    | <b>91</b>     | <b>29</b>     | <b>2,064</b>       |
| <b>Total in work force—</b>             |                           |               |               |               |               |               |               |                    |
| Never married                           | 24,169                    | 9,468         | 3,495         | 1,686         | 1,604         | 1,408         | 402           | 42,232             |
| Married                                 | 809                       | 5,321         | 9,565         | 13,357        | 9,541         | 3,508         | 391           | 42,492             |
| Married but permanently separated       | 28                        | 218           | 558           | 838           | 790           | 323           | 39            | 2,794              |
| Widowed                                 | 6                         | 19            | 97            | 473           | 1,365         | 1,507         | 544           | 4,011              |
| Divorced                                | 2                         | 26            | 286           | 592           | 616           | 335           | 38            | 1,895              |
| <b>TOTAL IN WORK FORCE</b>              | <b>25,014</b>             | <b>15,052</b> | <b>14,001</b> | <b>16,946</b> | <b>13,916</b> | <b>7,081</b>  | <b>1,414</b>  | <b>93,424</b>      |
| <b>Not in work force—</b>               |                           |               |               |               |               |               |               |                    |
| Never married                           | 11,191                    | 1,099         | 724           | 557           | 625           | 1,209         | 2,555         | (a) 17,960         |
| Married                                 | 2,356                     | 12,134        | 34,202        | 32,490        | 26,989        | 20,116        | 12,274        | 140,561            |
| Married but permanently separated       | 14                        | 144           | 556           | 697           | 568           | 618           | 595           | 3,192              |
| Widowed                                 | 2                         | 22            | 179           | 531           | 1,743         | 5,043         | 18,603        | 26,123             |
| Divorced                                | 3                         | 25            | 180           | 300           | 404           | 513           | 454           | 1,879              |
| <b>Total not in work force</b>          | <b>13,566</b>             | <b>13,424</b> | <b>35,841</b> | <b>34,575</b> | <b>30,329</b> | <b>27,499</b> | <b>34,481</b> | <b>(a) 189,715</b> |
| <b>Total Females—</b>                   |                           |               |               |               |               |               |               |                    |
| Never married                           | 35,360                    | 10,567        | 4,219         | 2,243         | 2,229         | 2,617         | 2,957         | (a) 60,192         |
| Married                                 | 3,165                     | 17,455        | 43,767        | 45,847        | 36,530        | 23,624        | 12,665        | 183,053            |
| Married but permanently separated       | 42                        | 362           | 1,114         | 1,535         | 1,358         | 941           | 634           | 5,986              |
| Widowed                                 | 8                         | 41            | 276           | 1,004         | 3,108         | 6,550         | 19,147        | 30,134             |
| Divorced                                | 5                         | 51            | 466           | 892           | 1,020         | 848           | 492           | 3,774              |
| <b>GRAND TOTAL</b>                      | <b>38,580</b>             | <b>28,476</b> | <b>49,842</b> | <b>51,521</b> | <b>44,245</b> | <b>34,580</b> | <b>35,895</b> | <b>(a) 283,139</b> |

(a) Excludes 41,286 females aged 0-4 years, 43,428 females aged 5-9 years and 42,129 females aged 10-14 years not in the work force.

### Classification according to Industry

For census purposes, industry may be defined as any single *branch of productive activity, trade or service*. It is concerned with the activities of persons, firms or businesses considered as a group producing the same commodity, performing the same process or providing the same service. All persons engaged in any such branch of economic activity are classified industrially as belonging to that particular branch irrespective of their personal occupation within the industry. Examples are: Mining, which includes, in addition to miners and prospectors, such persons as laboratory technicians, transport workers and office staff employed by mining companies; Shipping, which covers staff members of shipping companies and agencies, as well as ships' crews; professional activities such as Medicine, Law and Architecture which include not only qualified practitioners but also persons employed by them as, for example, receptionists, law clerks and draftsmen.

Classification according to industry at the 1966 Census has been made on the basis of the *Classification and Classified List of Industries—Revised: June 1966*, published by the Commonwealth Statistician, Canberra. The Classification divides the work force into 14 Major Groups which, in turn, are divided into 53 Sub-groups and 342 Industry Categories.

In the following table, the work force at 30 June 1966 is classified according to the main industrial groups such as Primary Production; Mining and Quarrying; Manufacturing; and so on. It should be noted that the particulars shown under Public Authority Activities (n.e.i.) are residual figures comprising those persons in the administrative sphere of general government, local government and foreign consular services who have not been classified elsewhere. They do not, therefore, represent the total number of persons engaged in or attached to all fields of government service, Commonwealth, State or Local.

### INDUSTRY AND OCCUPATIONAL STATUS OF THE WORK FORCE CENSUS, 30 JUNE 1966

| Industry group | In work force |                   |                                       |                                         |             | Total in work force |
|----------------|---------------|-------------------|---------------------------------------|-----------------------------------------|-------------|---------------------|
|                | Employed      |                   |                                       |                                         | Un-employed |                     |
|                | Em-<br>ployer | Self-<br>employed | Employee<br>(on wage<br>or<br>salary) | Helper<br>(not on<br>wage or<br>salary) |             |                     |

|                                                          |        |        |         |      |       |         |
|----------------------------------------------------------|--------|--------|---------|------|-------|---------|
| MALES                                                    |        |        |         |      |       |         |
| Primary production                                       | 8,260  | 14,052 | 13,555  | 727  | 370   | 36,964  |
| Mining and quarrying                                     | 58     | 185    | 7,665   | 9    | 104   | 8,021   |
| Manufacturing                                            | 2,018  | 1,347  | 46,817  | 49   | 314   | 50,545  |
| Electricity, gas, water and sanitary services            | 25     | 18     | 5,437   | 2    | 26    | 5,508   |
| Building and construction                                | 2,613  | 3,024  | 27,758  | 26   | 465   | 33,886  |
| Transport and storage                                    | 758    | 2,035  | 19,168  | 12   | 145   | 22,118  |
| Communication                                            | ....   | ....   | 5,680   | 3    | 15    | 5,698   |
| Finance and property                                     | 361    | 511    | 6,460   | 9    | 10    | 7,351   |
| Commerce                                                 | 4,392  | 2,416  | 29,779  | 67   | 221   | 36,875  |
| Public authority (n.e.i.) and defence services           | ....   | ....   | 10,843  | .... | 43    | 10,886  |
| Community and business services (including professional) | 1,519  | 411    | 15,777  | 48   | 67    | 17,822  |
| Amusement, hotels, cafes, personal service, etc.         | 1,340  | 1,072  | 5,644   | 29   | 90    | 8,175   |
| Other (a)                                                | 39     | 65     | 1,121   | 13   | 1,068 | 2,305   |
| Total males in work force                                | 21,383 | 25,136 | 195,704 | 994  | 2,938 | 246,155 |

|                                                          |       |       |        |       |       |        |
|----------------------------------------------------------|-------|-------|--------|-------|-------|--------|
| FEMALES                                                  |       |       |        |       |       |        |
| Primary production                                       | 1,248 | 1,949 | 1,960  | 1,294 | 23    | 6,474  |
| Mining and quarrying                                     | 2     | 1     | 306    | 1     | ....  | 310    |
| Manufacturing                                            | 347   | 271   | 9,517  | 84    | 129   | 10,348 |
| Electricity, gas, water and sanitary services            | 4     | 4     | 334    | 3     | 1     | 346    |
| Building and construction                                | 205   | 54    | 862    | 55    | 5     | 1,181  |
| Transport and storage                                    | 114   | 139   | 1,478  | 45    | 8     | 1,784  |
| Communication                                            | ....  | ....  | 1,326  | 3     | 12    | 1,341  |
| Finance and property                                     | 51    | 78    | 4,250  | 17    | 21    | 4,417  |
| Commerce                                                 | 1,601 | 1,164 | 20,884 | 335   | 217   | 24,201 |
| Public authority (n.e.i.) and defence services           | ....  | ....  | 3,022  | ....  | 30    | 3,052  |
| Community and business services (including professional) | 189   | 347   | 23,527 | 84    | 225   | 24,372 |
| Amusement, hotels, cafes, personal service, etc.         | 909   | 608   | 10,461 | 189   | 206   | 12,373 |
| Other (a)                                                | 30    | 74    | 1,734  | 200   | 1,187 | 3,225  |
| Total females in work force                              | 4,700 | 4,689 | 79,661 | 2,310 | 2,064 | 93,424 |

(a) Comprises the groups *Other industries* and *Industry inadequately described or not stated*.

INDUSTRY OF THE POPULATION  
CENSUS, 30 JUNE 1966

| Industry group and sub-group (a)                                                 | Males   | Females | Persons |                |            |
|----------------------------------------------------------------------------------|---------|---------|---------|----------------|------------|
|                                                                                  |         |         | Number  | Percentage of— |            |
|                                                                                  |         |         |         | Work force     | Population |
| Primary production—                                                              |         |         |         |                |            |
| Rural industries .....                                                           | 34,267  | 6,375   | 40,642  | 11.97          | 4.86       |
| Other primary production (b) .....                                               | 2,697   | 99      | 2,796   | 0.82           | 0.33       |
| Total, Primary production.....                                                   | 36,964  | 6,474   | 43,438  | 12.79          | 5.19       |
| Mining and quarrying .....                                                       | 8,021   | 310     | 8,331   | 2.45           | 1.00       |
| Manufacturing—                                                                   |         |         |         |                |            |
| Cement, bricks, glass and stone .....                                            | 3,507   | 289     | 3,796   | 1.12           | 0.45       |
| Founding, engineering and metal working .....                                    | 14,795  | 1,606   | 16,401  | 4.83           | 1.96       |
| Manufacture, assembly and repair of ships, vehicles, and parts .....             | 8,337   | 369     | 8,706   | 2.56           | 1.04       |
| Food, drink and tobacco .....                                                    | 7,112   | 2,610   | 9,722   | 2.86           | 1.16       |
| Sawmilling, wood products (other than furniture) .....                           | 5,057   | 316     | 5,373   | 1.58           | 0.64       |
| Paper and paper products, printing, packaging, bookbinding and photography ..... | 3,610   | 1,396   | 5,006   | 1.47           | 0.60       |
| Other and undefined .....                                                        | 8,127   | 3,762   | 11,889  | 3.50           | 1.42       |
| Total, Manufacturing .....                                                       | 50,545  | 10,348  | 60,893  | 17.93          | 7.28       |
| Electricity, gas, water and sanitary services (c) .....                          | 5,508   | 346     | 5,854   | 1.72           | 0.70       |
| Building and construction—                                                       |         |         |         |                |            |
| Construction and repair of buildings .....                                       | 20,625  | 931     | 21,556  | 6.35           | 2.58       |
| Construction works (other than buildings) .....                                  | 13,261  | 250     | 13,511  | 3.98           | 1.61       |
| Total, Building and construction .....                                           | 33,886  | 1,181   | 35,067  | 10.33          | 4.19       |
| Transport and storage—                                                           |         |         |         |                |            |
| Road transport .....                                                             | 8,648   | 972     | 9,620   | 2.83           | 1.15       |
| Rail and air transport .....                                                     | 7,614   | 518     | 8,132   | 2.39           | 0.97       |
| Other transport; storage .....                                                   | 5,856   | 294     | 6,150   | 1.81           | 0.74       |
| Total, Transport and storage .....                                               | 22,118  | 1,784   | 23,902  | 7.04           | 2.86       |
| Communication .....                                                              | 5,698   | 1,341   | 7,039   | 2.07           | 0.84       |
| Finance and property—                                                            |         |         |         |                |            |
| Banking .....                                                                    | 3,398   | 1,674   | 5,072   | 1.49           | 0.61       |
| Insurance .....                                                                  | 2,003   | 1,413   | 3,416   | 1.01           | 0.41       |
| Other finance and property .....                                                 | 1,950   | 1,330   | 3,280   | 0.97           | 0.39       |
| Total, Finance and property .....                                                | 7,351   | 4,417   | 11,768  | 3.47           | 1.41       |
| Commerce—                                                                        |         |         |         |                |            |
| Wholesale trade .....                                                            | 13,774  | 4,612   | 18,386  | 5.41           | 2.20       |
| Livestock and primary produce dealing, etc. ....                                 | 3,365   | 727     | 4,092   | 1.21           | 0.49       |
| Retail trade .....                                                               | 19,736  | 18,862  | 38,598  | 11.37          | 4.61       |
| Total, Commerce .....                                                            | 36,875  | 24,201  | 61,076  | 17.99          | 7.30       |
| Public authority (n.e.i.) and defence services .....                             | 10,886  | 3,052   | 13,938  | 4.10           | 1.67       |
| Community and business services (including professional)—                        |         |         |         |                |            |
| Health, hospitals, etc. ....                                                     | 4,295   | 12,084  | 16,379  | 4.82           | 1.96       |
| Education .....                                                                  | 6,477   | 7,969   | 14,446  | 4.25           | 1.73       |
| Other (including professional) .....                                             | 7,050   | 4,319   | 11,369  | 3.35           | 1.36       |
| Total, Community and business services .....                                     | 17,822  | 24,372  | 42,194  | 12.43          | 5.04       |
| Amusement, hotels and other accommodation, cafes, etc. (d)—                      |         |         |         |                |            |
| Amusement, sport and recreation .....                                            | 2,737   | 1,234   | 3,971   | 1.17           | 0.47       |
| Hotels, boarding houses and other accommodation, restaurants .....               | 3,171   | 6,616   | 9,787   | 2.88           | 1.17       |
| Other personal services .....                                                    | 2,267   | 4,523   | 6,790   | 2.00           | 0.81       |
| Total, Amusement, hotels, etc. ....                                              | 8,175   | 12,373  | 20,548  | 6.05           | 2.46       |
| Other industries and industry inadequately described (e) .....                   | 2,306   | 3,225   | 5,531   | 1.63           | 0.66       |
| Grand Total—Persons in the work force .....                                      | 246,155 | 93,424  | 339,579 | 100.00         | 40.59      |
| Persons not in the work force .....                                              | 180,536 | 316,558 | 497,094 | ....           | 59.41      |
| TOTAL POPULATION .....                                                           | 426,691 | 409,982 | 836,673 | ....           | 100.00     |

(a) Only those sub-groups in which more than 1 per cent of the work force (equivalent to 3,396 persons) were recorded are shown separately. (b) Comprises *Fishing; Hunting and trapping; and Forestry*. (c) Production, supply and maintenance.

(d) Includes *Personal service and Private domestic service*. (e) Includes *Industry not stated*.

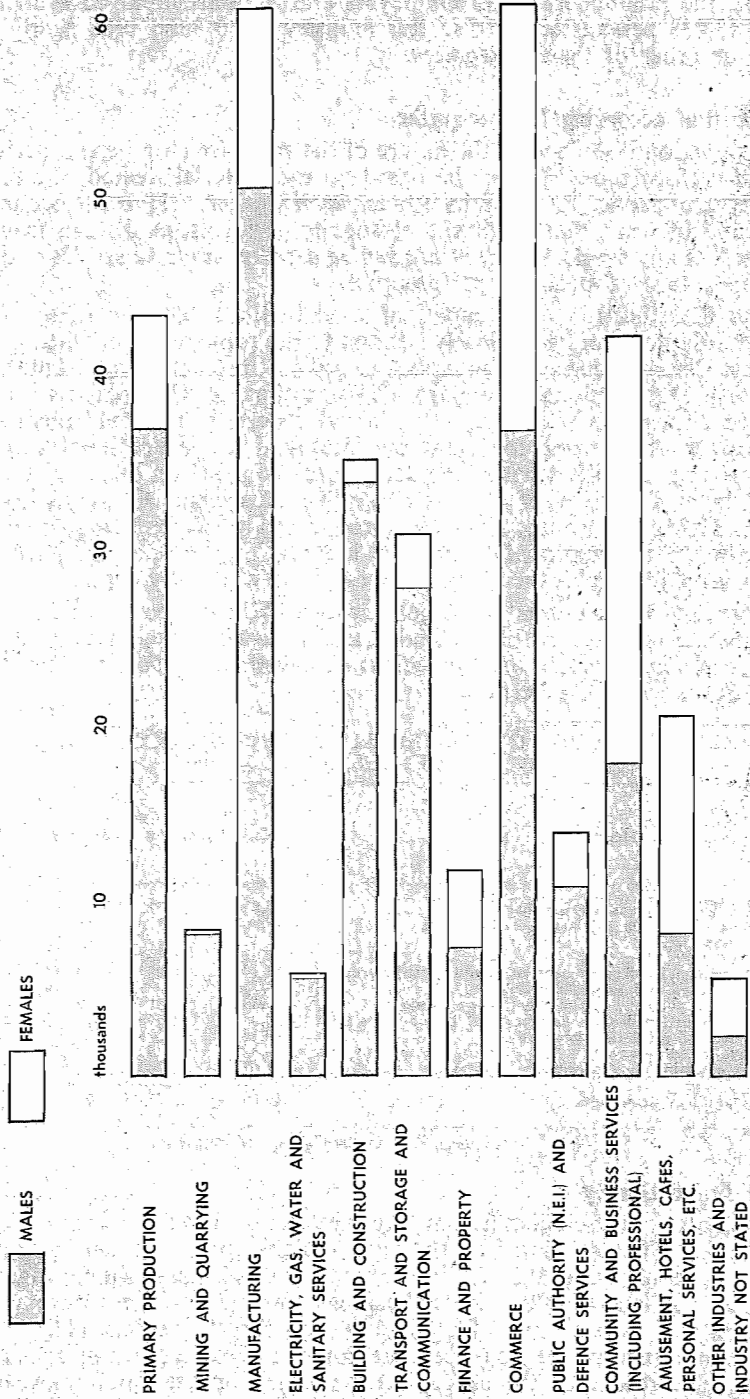
INDUSTRY OF THE WORK FORCE—CENSUS, 30 JUNE 1966  
CLASSIFICATION ACCORDING TO STATISTICAL DIVISION

| Statistical Division        | Primary<br>(including<br>mining<br>and<br>quarrying) | Manu-<br>factur-<br>ing | Build-<br>ing and<br>construc-<br>tion | Trans-<br>port,<br>storage<br>and<br>commu-<br>nication | Com-<br>merce | Com-<br>munity<br>and<br>business<br>services<br>(a) | Amuse-<br>ment,<br>hotels,<br>cafes,<br>etc.<br>(b) | Other<br>indus-<br>tries<br>(c) | Total<br>(all<br>indus-<br>tries) |
|-----------------------------|------------------------------------------------------|-------------------------|----------------------------------------|---------------------------------------------------------|---------------|------------------------------------------------------|-----------------------------------------------------|---------------------------------|-----------------------------------|
| MALES                       |                                                      |                         |                                        |                                                         |               |                                                      |                                                     |                                 |                                   |
| Perth Statistical Division  | 5,921                                                | 41,653                  | 19,959                                 | 17,973                                                  | 27,861        | 13,809                                               | 5,921                                               | 20,367                          | 153,464                           |
| Other Divisions—            |                                                      |                         |                                        |                                                         |               |                                                      |                                                     |                                 |                                   |
| South-West                  | 7,138                                                | 4,125                   | 2,430                                  | 2,011                                                   | 2,240         | 916                                                  | 557                                                 | 1,562                           | 20,979                            |
| Southern Agricultural       | 6,411                                                | 1,280                   | 1,520                                  | 1,182                                                   | 1,780         | 564                                                  | 321                                                 | 716                             | 13,774                            |
| Central Agricultural        | 8,958                                                | 1,260                   | 2,367                                  | 1,718                                                   | 2,104         | 794                                                  | 385                                                 | 1,125                           | 18,711                            |
| Northern Agricultural       | 6,330                                                | 725                     | 1,397                                  | 1,050                                                   | 1,309         | 530                                                  | 311                                                 | 659                             | 12,311                            |
| Eastern Goldfields          | 5,594                                                | 625                     | 1,314                                  | 989                                                     | 985           | 563                                                  | 321                                                 | 692                             | 11,083                            |
| Central                     | 889                                                  | 28                      | 164                                    | 106                                                     | 58            | 44                                                   | 35                                                  | 72                              | 1,396                             |
| North-West                  | 1,130                                                | 207                     | 1,686                                  | 255                                                     | 181           | 220                                                  | 146                                                 | 224                             | 4,049                             |
| Pilbara                     | 1,445                                                | 91                      | 2,247                                  | 285                                                     | 158           | 148                                                  | 101                                                 | 207                             | 4,682                             |
| Kimberley                   | 1,126                                                | 501                     | 772                                    | 410                                                     | 178           | 211                                                  | 68                                                  | 316                             | 3,582                             |
| Total                       | 39,021                                               | 8,842                   | 13,897                                 | 8,006                                                   | 8,993         | 3,990                                                | 2,245                                               | 5,573                           | 90,567                            |
| Total, all Divisions        | 44,942                                               | 50,495                  | 33,856                                 | 25,979                                                  | 36,854        | 17,799                                               | 8,166                                               | 25,940                          | 244,031                           |
| Migratory (d)               | 43                                                   | 50                      | 30                                     | 1,837                                                   | 21            | 23                                                   | 9                                                   | 111                             | 2,124                             |
| Total males in work force   | 44,985                                               | 50,545                  | 33,886                                 | 27,816                                                  | 36,875        | 17,822                                               | 8,175                                               | 26,051                          | 246,155                           |
| FEMALES                     |                                                      |                         |                                        |                                                         |               |                                                      |                                                     |                                 |                                   |
| Perth Statistical Division  | 1,249                                                | 9,234                   | 919                                    | 2,049                                                   | 18,619        | 18,918                                               | 8,269                                               | 8,814                           | 68,071                            |
| Other Divisions—            |                                                      |                         |                                        |                                                         |               |                                                      |                                                     |                                 |                                   |
| South-West                  | 1,067                                                | 379                     | 52                                     | 242                                                     | 1,524         | 1,385                                                | 914                                                 | 589                             | 6,152                             |
| Southern Agricultural       | 1,151                                                | 319                     | 40                                     | 171                                                     | 978           | 835                                                  | 626                                                 | 356                             | 4,476                             |
| Central Agricultural        | 1,643                                                | 116                     | 47                                     | 232                                                     | 1,192         | 1,134                                                | 765                                                 | 442                             | 5,571                             |
| Northern Agricultural       | 836                                                  | 102                     | 31                                     | 173                                                     | 755           | 712                                                  | 617                                                 | 303                             | 3,529                             |
| Eastern Goldfields          | 325                                                  | 75                      | 21                                     | 88                                                      | 757           | 763                                                  | 563                                                 | 294                             | 2,886                             |
| Central                     | 103                                                  | 3                       | 2                                      | 19                                                      | 46            | 86                                                   | 120                                                 | 24                              | 403                               |
| North-West                  | 208                                                  | 57                      | 32                                     | 30                                                      | 121           | 143                                                  | 196                                                 | 71                              | 858                               |
| Pilbara                     | 85                                                   | 3                       | 20                                     | 26                                                      | 79            | 117                                                  | 126                                                 | 52                              | 508                               |
| Kimberley                   | 110                                                  | 39                      | 17                                     | 62                                                      | 121           | 259                                                  | 167                                                 | 69                              | 844                               |
| Total                       | 5,528                                                | 1,093                   | 262                                    | 1,043                                                   | 5,573         | 5,434                                                | 4,094                                               | 2,200                           | 25,227                            |
| Total, all Divisions        | 6,777                                                | 10,327                  | 1,181                                  | 3,092                                                   | 24,192        | 24,352                                               | 12,363                                              | 11,014                          | 93,298                            |
| Migratory (d)               | 7                                                    | 21                      | ....                                   | 33                                                      | 9             | 20                                                   | 10                                                  | 26                              | 126                               |
| Total females in work force | 6,784                                                | 10,348                  | 1,181                                  | 3,125                                                   | 24,201        | 24,372                                               | 12,373                                              | 11,040                          | 93,424                            |
| PERSONS                     |                                                      |                         |                                        |                                                         |               |                                                      |                                                     |                                 |                                   |
| Perth Statistical Division  | 7,170                                                | 50,887                  | 20,878                                 | 20,022                                                  | 46,480        | 32,727                                               | 14,190                                              | 29,181                          | 221,535                           |
| Other Divisions—            |                                                      |                         |                                        |                                                         |               |                                                      |                                                     |                                 |                                   |
| South-West                  | 8,205                                                | 4,504                   | 2,482                                  | 2,253                                                   | 3,764         | 2,301                                                | 1,471                                               | 2,151                           | 27,131                            |
| Southern Agricultural       | 7,562                                                | 1,599                   | 1,560                                  | 1,353                                                   | 2,758         | 1,399                                                | 947                                                 | 1,072                           | 18,250                            |
| Central Agricultural        | 10,601                                               | 1,376                   | 2,414                                  | 1,950                                                   | 3,296         | 1,928                                                | 1,150                                               | 1,567                           | 24,282                            |
| Northern Agricultural       | 7,166                                                | 827                     | 1,428                                  | 1,223                                                   | 2,064         | 1,242                                                | 928                                                 | 962                             | 15,840                            |
| Eastern Goldfields          | 5,919                                                | 700                     | 1,335                                  | 1,077                                                   | 1,742         | 1,326                                                | 884                                                 | 986                             | 13,969                            |
| Central                     | 992                                                  | 31                      | 166                                    | 125                                                     | 104           | 130                                                  | 155                                                 | 96                              | 1,799                             |
| North-West                  | 1,338                                                | 264                     | 1,718                                  | 285                                                     | 302           | 363                                                  | 342                                                 | 295                             | 4,907                             |
| Pilbara                     | 1,530                                                | 94                      | 2,267                                  | 311                                                     | 237           | 265                                                  | 227                                                 | 259                             | 5,190                             |
| Kimberley                   | 1,236                                                | 540                     | 789                                    | 472                                                     | 299           | 470                                                  | 235                                                 | 385                             | 4,426                             |
| Total                       | 44,549                                               | 9,935                   | 14,159                                 | 9,049                                                   | 14,566        | 9,424                                                | 6,339                                               | 7,773                           | 115,794                           |
| Total, all Divisions        | 51,719                                               | 60,822                  | 35,037                                 | 29,071                                                  | 61,046        | 42,151                                               | 20,529                                              | 36,954                          | 337,329                           |
| Migratory (d)               | 50                                                   | 71                      | 30                                     | 1,870                                                   | 30            | 43                                                   | 19                                                  | 137                             | 2,250                             |
| Total persons in work force | 51,769                                               | 60,893                  | 35,067                                 | 30,941                                                  | 61,076        | 42,194                                               | 20,548                                              | 37,091                          | 339,579                           |

(a) Including Professional. (b) Includes Private domestic service and Other personal services. (c) Comprises Electricity, gas, water and sanitary services (production, supply and maintenance); Finance and property; Public authority (n.e.i.) and defence services; and Industry inadequately described or not stated. (d) Comprises persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left an Australian port before Census night for a next port of call in Western Australia. It includes also those who were enumerated on long-distance trains, motor coaches or aircraft.

# Industry of the Work Force

CENSUS, 30 JUNE 1966  
MALES AND FEMALES





Classification of the components of the work force according to industry, as in the table on page 502, furnishes much useful information. It is interesting to note, for example, the preponderance of employers and the self-employed in Primary Production. Of the 43,438 persons engaged in this industry at 30 June 1966 nearly 60 per cent were in one or other of these categories.

### Classification according to Occupation

Occupation is defined as the nature of the work which a person performs, and implies *personal* performance. It may be based on the material treated, the process carried out or the type of service rendered by an *individual* worker. Thus the occupation of a person is the kind of work that he or she personally performs, as distinct from industry, which is defined as any single *branch of productive activity, trade or service* and is not concerned with the nature of personal performance.

The Classification of Occupations used in the tabulation of the 1966 Census data has been adapted from and closely adheres to the principles embodied in the International Standard Classification of Occupations issued by the International Labour Office, Geneva, 1958. The International Standard Classification of Occupations was prepared after extensive discussions and research by world experts in this field to provide an adequate classification framework for countries interested in occupational classification and, at the same time, provide a basis for international comparison of occupational data obtained mainly from Censuses of Population. The Australian Classification of Occupations contains 11 Major Groups, 72 Minor Groups and 313 Occupation Categories. In accordance with the International Standard Classification, occupations have been grouped by the general similarity of the characteristics of the work they entail.

Complete descriptions of Major Groups, Minor Groups and Categories, together with a list of occupation titles included under each heading, are contained in the *Classification and Classified List of Occupations—Revised: June 1966*, published by the Commonwealth Statistician, Canberra.

### WORK FORCE CLASSIFIED ACCORDING TO OCCUPATION GROUP CENSUS, 30 JUNE 1966

| Occupation group                                                | Males   | Females | Persons | Percentage of total |         |         |
|-----------------------------------------------------------------|---------|---------|---------|---------------------|---------|---------|
|                                                                 |         |         |         | Males               | Females | Persons |
| Professional, technical and related workers .....               | 17,937  | 13,327  | 31,264  | 7.29                | 14.27   | 9.21    |
| Administrative, executive and managerial workers .....          | 17,703  | 2,115   | 19,818  | 7.19                | 2.26    | 5.84    |
| Clerical workers .....                                          | 20,307  | 27,193  | 47,500  | 8.25                | 29.11   | 13.99   |
| Sales workers .....                                             | 12,862  | 14,385  | 27,247  | 5.23                | 15.40   | 8.02    |
| Farmers, fishermen, hunters, timber getters and related workers | 38,385  | 6,081   | 44,466  | 15.59               | 6.51    | 13.09   |
| Miners, quarrymen and related workers .....                     | 4,709   | 1       | 4,710   | 1.91                | 0.00    | 1.39    |
| Workers in transport and communication occupations .....        | 20,382  | 2,315   | 22,697  | 8.28                | 2.48    | 6.68    |
| Craftsmen, production-process workers and labourers, n.e.c.     | 100,081 | 6,648   | 106,729 | 40.66               | 7.12    | 31.43   |
| Service, sport and recreation workers .....                     | 9,747   | 18,295  | 28,042  | 3.96                | 19.58   | 8.26    |
| Members of armed services .....                                 | 2,368   | 84      | 2,452   | 0.96                | 0.09    | 0.72    |
| Occupation inadequately described or not stated .....           | 1,674   | 2,980   | 4,654   | 0.68                | 3.19    | 1.37    |
| Total in work force .....                                       | 246,155 | 93,424  | 339,579 | 100.00              | 100.00  | 100.00  |

n.e.c. denotes 'not elsewhere classified'.

### Labour Force Survey

Estimates of the civilian labour force are prepared each quarter by the Commonwealth Statistician. They are based on the results of the population survey, which is carried out on a 1 per cent sample throughout Australia in February, May, August and November each year. About 40,000 private dwellings (houses, flats, etc.) are visited during each survey, as well as a sample of other dwellings (hotels, motels, etc.). The survey information is obtained by means of personal interviews carried out by specially trained enumerators. The results of the survey are published by the Commonwealth Statistician in the quarterly release *The Labour Force* and in the annual *Labour Report*. All published figures relate to Australia as a whole, and particulars for individual States are not available.

## ESTIMATES OF EMPLOYMENT

In addition to employment data provided by the census and the labour force survey, there are available monthly estimates of the number of wage and salary earners in civilian employment. The prime purpose of this series is to measure, as nearly as possible with available data, *current monthly trends* in employment in the defined field.

The figures shown in the next table are based on comprehensive data derived for the purpose from the Population Census of 30 June 1966. The statistics have been taken from publications of the Commonwealth Statistician, Canberra. These are *Employed Wage and Salary Earners: June 1966 to June 1969*, issued 24 April 1970, and *Employed Wage and Salary Earners: July 1969 to June 1971*, issued 11 January 1972. Figures for later months are available from the Commonwealth Statistician's monthly release *Employment and Unemployment*. All these publications contain detailed particulars for each of the Australian States and for Australia as a whole.

The statistics on employment obtained from the Census of 30 June 1966 are referred to as 'benchmarks'. For subsequent periods the figures, as in the table on page 508, are estimates designed to measure month-to-month changes in the sector of employment to which the benchmarks relate. These estimates are not comparable with those published for earlier periods, because of (a) the adoption of a new definition of the labour force in the 1966 Population Census (from which the benchmarks for the current series were derived), and (b) the inclusion of full-blood Aborigines.

Between population censuses the employment data are obtained from three main sources: (i) current Pay-roll Tax returns, which are lodged by all employers paying more than \$400 per week in wages, other than those specifically exempted under the Pay-roll Tax legislation; (ii) current returns from government bodies; and (iii) some other current returns of employment (*e.g.* for hospitals). The balance, *i.e.* unrecorded private employment, is estimated.

The figures relate only to civilian wage and salary earners, not to the total labour force. They therefore exclude employers, self-employed persons, unpaid helpers and members of the defence forces. Employees in agriculture and in private domestic service are not included in the estimates because the available data are inadequate.

The benchmark figures were derived from particulars recorded for individuals on population census schedules, while the estimated monthly changes are derived mainly from reports supplied by employers, relating to enterprises or establishments. Because the two sources differ in some cases in the reporting of industry, the industry dissection of the census totals has been adjusted to conform as closely as possible to an establishment reporting basis. The industry classification used in preparing the estimates is that of the Population Census of 30 June 1966.

Current data supplied by reporting enterprises or establishments generally refer to persons on the pay-roll for the last pay-period in each month. Persons who are on paid leave or who work during part of the pay-period and are unemployed or on strike during the rest of the period are generally counted as employed. Those not shown on employers' pay-rolls because they are on leave without pay, on strike or stood down for the entire period are excluded.

Particulars of employment obtained from other collections, such as the annual manufacturing census and periodic censuses and sample surveys of retail establishments, are used to check and, where desirable, to revise estimates in relevant sections. For this reason some of the figures in the table are subject to revision as the results of later censuses and surveys become available.

The table on page 508 shows the number of wage and salary earners in civilian employment in Western Australia in various industry groups and sub-groups. The figures appearing against the item 'Other' under the heading 'Other Industries' comprise employees in the Industry Sub-groups *Law, Order and Public Safety; Religion and Social Welfare; Other Community and Business Services; Amusement, Sport and Recreation; Hotels, Boarding Houses and other Accommodation, and Restaurants; and Other Personal Services.*

**WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT—INDUSTRY GROUPS**  
(Excluding defence forces and employees in agriculture and private domestic service)  
(Thousands)

| Industry group and sub-group                        | 1967         |              | 1968         |              | 1969         |              | 1970          |              | 1971         |
|-----------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|
|                                                     | June         | Dec.         | June         | Dec.         | June         | Dec.         | June          | Dec.         | June         |
| <b>MALES</b>                                        |              |              |              |              |              |              |               |              |              |
| Forestry, fishing and trapping .....                | 1.6          | 1.6          | 1.6          | 1.7          | 1.7          | 1.6          | 1.5           | 1.5          | 1.5          |
| Mining and quarrying .....                          | 7.9          | 8.3          | 8.4          | 9.1          | 9.9          | 10.8         | 11.7          | 12.6         | 13.5         |
| Manufacturing .....                                 | 50.5         | 52.5         | 53.8         | 54.7         | 55.7         | 56.5         | 56.2          | 57.0         | 57.9         |
| Electricity, gas, water and sanitary services ..... | 5.9          | 5.8          | 6.0          | 6.0          | 6.1          | 6.4          | 6.7           | 7.0          | 7.1          |
| Building and construction .....                     | 24.9         | 26.2         | 28.8         | 28.9         | 29.7         | 30.5         | 30.9          | 32.1         | 34.6         |
| Transport and storage—                              |              |              |              |              |              |              |               |              |              |
| Road transport and storage .....                    | 6.7          | 7.1          | 7.4          | 7.7          | 7.8          | 8.3          | 8.8           | 9.2          | 9.4          |
| Shipping and stevedoring .....                      | 4.5          | 4.5          | 4.6          | 4.6          | 4.7          | 4.6          | *4.6          | 4.6          | 4.5          |
| Rail and air transport .....                        | 7.9          | 8.0          | 8.1          | 8.0          | 7.9          | 7.7          | 7.8           | 7.8          | 7.7          |
| Communication .....                                 | 6.1          | 7.0          | 6.4          | 7.3          | 6.8          | 7.9          | 7.2           | 8.3          | 7.5          |
| Finance and property—                               |              |              |              |              |              |              |               |              |              |
| Banking .....                                       | 3.6          | 3.6          | 3.7          | 3.6          | 3.9          | 3.8          | 4.1           | 3.9          | 4.2          |
| Other .....                                         | 3.3          | 3.4          | 3.7          | 3.9          | 4.2          | 4.4          | 4.5           | 4.7          | 4.6          |
| Commerce—                                           |              |              |              |              |              |              |               |              |              |
| Retail trade .....                                  | 13.2         | 13.7         | 13.8         | 14.2         | 14.1         | 15.2         | 15.1          | 15.7         | 15.7         |
| Wholesale and other commerce .....                  | 16.8         | 18.3         | 17.5         | 19.0         | 17.9         | 18.8         | 18.3          | 19.4         | 18.4         |
| Public authority activities, n.e.i. ....            | 9.2          | 9.4          | 9.6          | 9.8          | 10.1         | 10.3         | 10.8          | 11.2         | 11.4         |
| Other industries—                                   |              |              |              |              |              |              |               |              |              |
| Health, hospitals, etc. ....                        | 3.5          | 3.5          | 3.6          | 3.6          | 3.7          | 3.8          | 3.8           | 4.1          | 4.2          |
| Education .....                                     | 6.6          | 6.4          | 7.2          | 6.8          | 7.3          | 7.0          | 7.7           | 7.4          | 8.1          |
| Other (a) .....                                     | 12.2         | 12.7         | 13.0         | 14.3         | 15.0         | 16.0         | 16.8          | 18.2         | 18.8         |
| <b>Total</b> .....                                  | <b>184.2</b> | <b>192.1</b> | <b>197.0</b> | <b>203.2</b> | <b>206.4</b> | <b>213.6</b> | <b>*216.5</b> | <b>224.6</b> | <b>229.1</b> |
| <b>FEMALES</b>                                      |              |              |              |              |              |              |               |              |              |
| Forestry, fishing and trapping .....                | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1           | 0.1          | 0.1          |
| Mining and quarrying .....                          | 0.4          | 0.4          | 0.5          | 0.5          | 0.6          | 0.8          | 0.9           | 1.1          | 1.2          |
| Manufacturing .....                                 | 10.5         | 11.1         | 11.4         | 11.9         | 12.3         | 12.9         | 13.2          | 13.1         | 13.0         |
| Electricity, gas, water and sanitary services ..... | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4           | 0.5          | 0.5          |
| Building and construction .....                     | 1.0          | 1.1          | 1.3          | 1.4          | 1.5          | 1.6          | 1.7           | 1.9          | 2.2          |
| Transport and storage—                              |              |              |              |              |              |              |               |              |              |
| Road transport and storage .....                    | 0.6          | 0.7          | 0.7          | 0.7          | 0.8          | 0.8          | 0.8           | 0.8          | 0.9          |
| Shipping and stevedoring .....                      | 0.3          | 0.3          | 0.3          | 0.3          | 0.3          | 0.3          | 0.3           | 0.3          | 0.3          |
| Rail and air transport .....                        | 0.6          | 0.6          | 0.6          | 0.6          | 0.6          | 0.7          | 0.7           | 0.8          | 0.8          |
| Communication .....                                 | 1.5          | 1.5          | 1.6          | 1.7          | 1.7          | 1.9          | 2.0           | 2.2          | 2.3          |
| Finance and property—                               |              |              |              |              |              |              |               |              |              |
| Banking .....                                       | 1.8          | 1.8          | 2.0          | 2.0          | 2.3          | 2.3          | 2.7           | 2.7          | 2.9          |
| Other .....                                         | 2.7          | 2.8          | 3.0          | 3.2          | 3.5          | 3.8          | 4.1           | 4.2          | 4.1          |
| Commerce—                                           |              |              |              |              |              |              |               |              |              |
| Retail trade .....                                  | 17.5         | 18.8         | 18.8         | 19.9         | 19.7         | 22.0         | 20.7          | 21.9         | 21.0         |
| Wholesale and other commerce .....                  | 5.8          | 5.9          | 6.3          | 6.5          | 6.8          | 7.0          | 7.2           | 7.3          | 7.4          |
| Public authority activities, n.e.i. ....            | 3.3          | 3.4          | 3.5          | 3.7          | 4.0          | 4.2          | 4.4           | 4.7          | 4.9          |
| Other industries—                                   |              |              |              |              |              |              |               |              |              |
| Health, hospitals, etc. ....                        | 12.7         | 12.8         | 13.4         | 13.5         | 14.7         | 15.1         | 15.8          | 16.3         | 17.2         |
| Education .....                                     | 8.6          | 6.8          | 9.2          | 7.6          | 10.2         | 8.6          | 11.7          | 9.8          | 12.9         |
| Other (a) .....                                     | 14.8         | 15.6         | 16.3         | 17.3         | 17.8         | 19.4         | 20.7          | 22.6         | 23.3         |
| <b>Total</b> .....                                  | <b>82.3</b>  | <b>84.1</b>  | <b>89.3</b>  | <b>91.2</b>  | <b>97.3</b>  | <b>101.9</b> | <b>107.5</b>  | <b>110.2</b> | <b>114.8</b> |
| <b>PERSONS</b>                                      |              |              |              |              |              |              |               |              |              |
| Forestry, fishing and trapping .....                | 1.7          | 1.7          | 1.7          | 1.8          | 1.8          | 1.7          | 1.6           | 1.6          | 1.6          |
| Mining and quarrying .....                          | 8.3          | 8.7          | 8.9          | 9.6          | 10.5         | 11.6         | 12.6          | 13.7         | 14.7         |
| Manufacturing .....                                 | 61.0         | 63.6         | 65.2         | 66.6         | 68.0         | 69.4         | 69.3          | 70.1         | 71.0         |
| Electricity, gas, water and sanitary services ..... | 6.3          | 6.2          | 6.4          | 6.4          | 6.5          | 6.8          | 7.2           | 7.5          | 7.6          |
| Building and construction .....                     | 25.9         | 27.3         | 30.1         | 30.3         | 31.2         | 32.1         | 32.6          | 34.0         | 36.8         |
| Transport and storage—                              |              |              |              |              |              |              |               |              |              |
| Road transport and storage .....                    | 7.3          | 7.8          | 8.1          | 8.4          | 8.6          | 9.0          | 9.6           | 10.0         | 10.2         |
| Shipping and stevedoring .....                      | 4.8          | 4.8          | 4.9          | 4.9          | 5.0          | 4.9          | *4.9          | 4.9          | 4.8          |
| Rail and air transport .....                        | 8.5          | 8.6          | 8.7          | 8.6          | 8.5          | 8.4          | 8.5           | 8.5          | 8.5          |
| Communication .....                                 | 7.6          | 8.5          | 8.0          | 9.0          | 8.5          | 9.9          | 9.2           | 10.5         | 9.8          |
| Finance and property—                               |              |              |              |              |              |              |               |              |              |
| Banking .....                                       | 5.4          | 5.4          | 5.7          | 5.6          | 6.2          | 6.1          | 6.8           | 6.6          | 7.1          |
| Other .....                                         | 6.0          | 6.2          | 6.7          | 7.1          | 7.7          | 8.2          | 8.6           | 8.9          | 8.7          |
| Commerce—                                           |              |              |              |              |              |              |               |              |              |
| Retail trade .....                                  | 30.7         | 32.5         | 32.6         | 34.1         | 33.8         | 37.2         | 35.9          | 37.6         | 36.7         |
| Wholesale and other commerce .....                  | 22.6         | 24.2         | 23.8         | 25.5         | 24.7         | 25.9         | 25.5          | 26.7         | 25.7         |
| Public authority activities, n.e.i. ....            | 12.5         | 12.8         | 13.1         | 13.5         | 14.1         | 14.5         | 15.3          | 15.9         | 16.2         |
| Other industries—                                   |              |              |              |              |              |              |               |              |              |
| Health, hospitals, etc. ....                        | 16.2         | 16.3         | 17.0         | 17.1         | 18.4         | 18.9         | 19.6          | 20.4         | 21.3         |
| Education .....                                     | 15.2         | 13.2         | 16.4         | 14.4         | 17.5         | 15.6         | 19.4          | 17.2         | 21.0         |
| Other (a) .....                                     | 27.0         | 28.3         | 29.3         | 31.6         | 32.8         | 35.5         | 37.5          | 40.8         | 42.1         |
| <b>Total</b> .....                                  | <b>266.5</b> | <b>276.2</b> | <b>286.3</b> | <b>294.4</b> | <b>303.7</b> | <b>315.5</b> | <b>*324.0</b> | <b>334.8</b> | <b>343.9</b> |

(a) See letterpress on page 507.

\* Revised.

Employees of government and semi-government authorities are included in the figures shown in the table on page 508. Estimates of the numbers employed by Commonwealth, State and local government authorities are available separately. They include not only those engaged in administrative activities but also employees on services such as railways, road transport, air transport, shipping, education, health, hospitals and institutions, migrant hostels, banks, post office, broadcasting and television, police, factories, electricity generation and supply, water conservation, irrigation, road and bridge construction, harbour works and other public works. In the following table, government employment so defined is shown for the months of June and December in the period from June 1966 to June 1971.

**GOVERNMENT AUTHORITIES—CIVILIAN EMPLOYEES IN WESTERN AUSTRALIA (a)**  
(Thousands)

| Month     | Commonwealth (b) |         |         | State (b) (c) |         |         | Local government (c) |         |         | Total |         |         |
|-----------|------------------|---------|---------|---------------|---------|---------|----------------------|---------|---------|-------|---------|---------|
|           | Males            | Females | Persons | Males         | Females | Persons | Males                | Females | Persons | Males | Females | Persons |
| 1966—     |                  |         |         |               |         |         |                      |         |         |       |         |         |
| June .... | 11.6             | 3.3     | 14.9    | 42.3          | 11.9    | 54.2    | 4.7                  | 0.6     | 5.3     | 58.6  | 15.8    | 74.3    |
| Dec. .... | 12.8             | 3.4     | 16.2    | 42.5          | 10.7    | 53.2    | 4.8                  | 0.6     | 5.4     | 60.1  | 14.7    | 74.9    |
| 1967—     |                  |         |         |               |         |         |                      |         |         |       |         |         |
| June .... | 12.4             | 3.5     | 15.9    | 42.6          | 12.8    | 55.3    | 4.9                  | 0.6     | 5.6     | 59.9  | 16.9    | 76.8    |
| Dec. .... | 13.4             | 3.7     | 17.1    | 42.5          | 11.6    | 54.1    | 5.1                  | 0.7     | 5.7     | 61.0  | 15.9    | 76.9    |
| 1968—     |                  |         |         |               |         |         |                      |         |         |       |         |         |
| June .... | 13.2             | 3.8     | 17.0    | 43.9          | 13.7    | 57.6    | 5.2                  | 0.8     | 5.9     | 62.3  | 18.3    | 80.6    |
| Dec. .... | 13.9             | 4.0     | 17.9    | 44.1          | 12.5    | 56.7    | 5.3                  | 0.8     | 6.1     | 63.4  | 17.3    | 80.7    |
| 1969—     |                  |         |         |               |         |         |                      |         |         |       |         |         |
| June .... | 13.6             | 4.2     | 17.9    | 45.0          | 15.3    | 60.2    | 5.4                  | 0.9     | 6.3     | 64.0  | 20.4    | 84.4    |
| Dec. .... | 14.8             | 4.5     | 19.3    | 44.8          | 14.5    | 59.3    | 5.7                  | 1.0     | 6.6     | 65.2  | 20.0    | 85.2    |
| 1970—     |                  |         |         |               |         |         |                      |         |         |       |         |         |
| June .... | 14.3             | 4.7     | 19.0    | 45.9          | 17.1    | 63.1    | 5.7                  | 1.0     | 6.7     | 65.9  | 22.8    | 88.8    |
| Dec. .... | 15.3             | 4.8     | 20.1    | 46.7          | 16.0    | 62.7    | 5.7                  | 1.0     | 6.8     | 67.7  | 21.9    | 89.6    |
| 1971—     |                  |         |         |               |         |         |                      |         |         |       |         |         |
| June .... | 14.7             | 5.1     | 19.7    | 47.7          | 18.7    | 66.5    | 5.6                  | 1.0     | 6.7     | 68.0  | 24.8    | 92.9    |

(a) Included in the figures shown in the table on page 508.  
(c) Excludes a small number of employees engaged in agriculture.

(b) Includes employees of semi-government authorities.

## UNEMPLOYMENT

A full count of unemployed persons in Western Australia is available only from population censuses. At the post-war censuses details have been obtained of all persons usually engaged in an industry, business, profession, trade or service but who were without employment at the time of the census, irrespective of whether they were actively seeking employment or not. At the 1966 Census, 2,938 males and 2,064 females were classified as being without employment. This was equivalent to 1.47 per cent of the total work force. Numbers of males and females unemployed in each of the Australian States and Territories and Australia as a whole are given in the table on page 499.

### Department of Labour and National Service

Monthly figures compiled by the Department of Labour and National Service from the operations of the Commonwealth Employment Service provide indicators of movement in the level of unemployment.

The department makes a count of the number of persons, registered with the Employment Service for employment on the Friday nearest to the end of the month, who claimed at the time of registering that they were not employed, and who were still recorded as unplaced. Included in the figures are persons who have been referred to employers and those who may have obtained employment without notifying the department. Also available from the Department of Labour and National Service is the number of vacancies, registered by employers, which were recorded as unfilled at the end of the month.

The following table gives a classification according to occupational group of unemployed persons and unfilled vacancies in Western Australia at the end of June of the years 1969 to 1971. The figures are taken from the *Monthly Review of the Employment*

*Situation*, which is published by the Department of Labour and National Service and contains similar statistics, together with additional information, for each of the Australian States and for Australia as a whole.

### UNEMPLOYED PERSONS AND UNFILLED VACANCIES CLASSIFIED ACCORDING TO OCCUPATIONAL GROUP

| Occupational group                      | At end of June (a)— |              |              |              |              |              |              |              |              |
|-----------------------------------------|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                         | 1969                |              |              | 1970         |              |              | 1971         |              |              |
|                                         | Males               | Females      | Total        | Males        | Females      | Total        | Males        | Females      | Total        |
| <b>UNEMPLOYED PERSONS (b) (c)</b>       |                     |              |              |              |              |              |              |              |              |
| Rural ....                              | 146                 | 1            | 147          | 230          | 3            | 233          | 255          | 11           | 266          |
| Professional and semi-professional .... | 7                   | 36           | 43           | 19           | 39           | 58           | 37           | 40           | 77           |
| Clerical and administrative ....        | 237                 | 981          | 1,218        | 303          | 859          | 1,162        | 473          | 1,120        | 1,593        |
| Skilled building and construction ....  | 87                  | ....         | 87           | 355          | ....         | 355          | 253          | ....         | 253          |
| Skilled metal and electrical ....       | 217                 | ....         | 217          | 228          | ....         | 228          | 287          | ....         | 287          |
| Other skilled (d) ....                  | 33                  | 5            | 38           | 64           | 8            | 72           | 86           | 17           | 103          |
| Semi-skilled ....                       | 614                 | 236          | 850          | 824          | 252          | 1,076        | 1,269        | 261          | 1,530        |
| Unskilled manual....                    | 776                 | 2            | 778          | 1,271        | 5            | 1,276        | 1,761        | 5            | 1,766        |
| Service occupations (e) ....            | 167                 | 462          | 629          | 182          | 505          | 687          | 302          | 506          | 808          |
| <b>Total</b> ....                       | <b>2,284</b>        | <b>1,723</b> | <b>4,007</b> | <b>3,476</b> | <b>1,671</b> | <b>5,147</b> | <b>4,723</b> | <b>1,960</b> | <b>6,683</b> |
| <b>UNFILLED VACANCIES (f)</b>           |                     |              |              |              |              |              |              |              |              |
| Rural ....                              | 64                  | 2            | 66           | 50           | 1            | 51           | 26           | 1            | 27           |
| Professional and semi-professional .... | 129                 | 196          | 325          | 150          | 240          | 390          | 53           | 140          | 193          |
| Clerical and administrative ....        | 289                 | 273          | 562          | 223          | 330          | 553          | 122          | 246          | 368          |
| Skilled building and construction ....  | 285                 | ....         | 285          | 101          | ....         | 101          | 96           | ....         | 96           |
| Skilled metal and electrical ....       | 620                 | 2            | 622          | 544          | 1            | 545          | 687          | 3            | 690          |
| Other skilled (d) ....                  | 273                 | 11           | 284          | 226          | 12           | 238          | 100          | 11           | 111          |
| Semi-skilled ....                       | 846                 | 130          | 976          | 602          | 165          | 767          | 393          | 91           | 484          |
| Unskilled manual....                    | 338                 | 3            | 341          | 186          | 10           | 196          | 129          | 9            | 138          |
| Service occupations (e) ....            | 111                 | 214          | 325          | 59           | 306          | 365          | 47           | 186          | 233          |
| <b>Total</b> ....                       | <b>2,955</b>        | <b>831</b>   | <b>3,786</b> | <b>2,141</b> | <b>1,065</b> | <b>3,206</b> | <b>1,653</b> | <b>687</b>   | <b>2,340</b> |

(a) At the Friday nearest to the end of June. (b) Persons who claimed when registering with the Commonwealth Employment Service that they were not employed and who were recorded as unemployed. Includes those referred to employers and those who may have obtained employment without notifying the Commonwealth Employment Service. Includes also persons receiving unemployment benefit. (c) Includes persons seeking apprenticeships, cadetships and other forms of training. (d) Includes skilled workers in mining and in the following trades: stone, glass, chemicals, leather, rubber, clothing, textiles, footwear, food, drink, tobacco, wood, furnishing, paper and printing. (e) Includes hairdressers; private domestic, hotel and guest-house workers; caretakers and cleaners; and protective service occupations. (f) Includes apprenticeships, cadetships and other forms of training.

Applications for unemployment benefit are received by the Department of Labour and National Service acting on behalf of the Department of Social Services. Persons seeking unemployment benefit must register with the Commonwealth Employment Service (see below), which is responsible for certifying that suitable employment is not available before benefits can be paid. Statistics of the number of persons receiving unemployment benefits are given on page 240.

### COMMONWEALTH EMPLOYMENT SERVICE

The Commonwealth Employment Service is established under the provisions of the *Re-establishment and Employment Act 1945-1966*. The main functions of the Service are to assist people seeking employment to obtain positions best suited to their training, experience, abilities and qualifications, and to assist employers seeking labour to obtain employees best suited to the kinds of work being offered.

Specialised facilities are provided for young people; persons with physical and mental handicaps; former members of the defence forces; migrants; rural workers; and persons with professional and technical qualifications. Vocational guidance is provided without charge by a staff of qualified psychologists. Guidance is available to any person, but is provided particularly for young people, ex-servicemen and the physically handicapped.

The Commonwealth Employment Service is responsible for placing in employment migrant workers sponsored by the Commonwealth under migration schemes. This function includes arranging for them to move to their initial employment and for their admission, if necessary, to Commonwealth migrant hostels. Experts for overseas service under technical aid programmes are recruited by the Employment Service.

In association with placement activities, regular surveys of the labour market are carried out, and detailed information is supplied to interested Commonwealth and State Government departments and instrumentalities and to the public. Employers, employees and other interested persons are advised on labour availability and employment opportunities in various occupations and areas and on other matters concerning employment.

In Western Australia at 31 December 1971 the Commonwealth Employment Service operated five offices in Perth and suburbs, and there were offices at Albany, Bunbury, Collie, Esperance, Geraldton, Kalgoorlie, Manjimup, Medina, Merredin, Northam and Port Hedland. The Service has a Professional Employment Office in Perth, which deals with the placement of the more highly qualified executive and professional applicants.

## *Chapter X—continued*

### **Part 3—Prices**

#### RETAIL PRICES AND PRICE INDEXES

Prices of a limited range of commodities are recorded in the Blue Books of Western Australia from the early years of settlement. Retail prices of food and groceries and average rentals of houses for years extending back to 1901 have been collected by the Commonwealth Statistician, but it was not until 1911 that a systematic collection of retail price statistics was begun. These statistics were used to compile the 'A' Series Index, which covered food, groceries and house rents and was first compiled in 1912 with the year 1911 as base = 1,000. Four other indexes covering a wider range of commodities and services were compiled by the Commonwealth Statistician at different times before the current Consumer Price Index was introduced in 1960 (retrospectively to the September quarter of 1948).

Retail price indexes aim to measure the changes which occur in the general level of prices in a selected field. The basic principle of a price index is to select commodities and services representative of the field to be covered, and to combine their prices at regular intervals by the use of 'weights' which represent the relative importance of the several commodities and services in the selected field taken as a whole.

Information concerning retail price indexes and their development in Australia is given in the *Official Year Book of the Commonwealth of Australia* and the *Labour Report*, published by the Commonwealth Statistician, Canberra.

**The Consumer Price Index.** The purpose of the Consumer Price Index is to measure quarterly variations in retail prices of goods and services representing a high proportion of the expenditures of wage-earner households. The weighting pattern relates to estimated aggregates of household expenditures and not to estimated expenditures of an 'average' or individual household of specified size, type, or mode of living.

The index covers a wide range of commodities and services arranged in five major groups, comprising Food; Clothing and Drapery; Housing; Household Supplies and Equipment; and Miscellaneous. With certain exceptions, the weights for individual items comprising these groups are derived from estimates of average household consumption or expenditure for the community as a whole.

The Consumer Price Index is designed essentially to measure the proportionate change in prices as combined in the individual groups, and more particularly, the total of the groups. Consumer (retail) price indexes are sometimes loosely called 'cost of living indexes' and are thought to measure changes in the 'cost of living'. While they may be used as indicating proportional variations in cost of a constant standard of living, they do not measure the absolute cost of any standard of living, nor the absolute cost of changes in the standard of living. The change in prices of goods and services is nevertheless a very important part of the change in the cost of living and this part is measured by consumer (retail) price indexes.

The incidence and frequency of changes in the pattern of household expenditure since 1950 have been such as to make it necessary to construct not one but a series of new indexes introducing additional items and changes in weighting patterns at short intervals. The Consumer Price Index therefore consists of a sequence of short-term retail price indexes linked to form one continuous series. At times of linking, the weighting pattern was altered and new items which had become significant in household expenditure were introduced. In each period between links the items and weighting remained unchanged.

The most recent link in the series was made as at the December quarter of 1968. The weighting of this sixth linked index has been derived from analyses of data from the 1966 Census of Population and Housing, from recent statistics and estimates of production and consumption, and from several special-purpose sample surveys. Weights of all items have been reviewed and are, in general, now based on the pattern of consumption of the years 1962-63 to 1966-67. Further information is contained in the mimeographed release *Consumer Price Index—March Quarter 1969* issued by the Commonwealth Statistician, Canberra.

When the latest link was effected, the reference base year of the index was changed from 1952-53 = 100.0 to 1966-67 = 100.0. All Consumer Price Index numbers which had previously been published on the 1952-53 reference base were recalculated on the new 1966-67 reference base and are available for each quarter and each year from the September quarter of 1948. Index numbers for past periods show exactly the same percentage movements on either reference base, apart from some slight differences caused by rounding.

The Consumer Price Index is compiled for each of the six State capital cities and for Canberra. The separate city indexes measure price movements within each city individually. They enable comparisons to be drawn between cities as to differences in the degree of price movement, but not as to differences in the price level.

In tables dealing with the Consumer Price Index, the figures appearing after the decimal point have little significance for general statistical purposes. They are inserted to avoid distortions that would occur in rounding off the figures to the nearest whole number.

The following table shows the several group index numbers and the 'All groups' index numbers, for Perth and for the six State capital cities combined, for selected years during the period 1948-49 to 1970-71.

CONSUMER PRICE INDEX  
(Base of each Index: Year 1966-67 = 100.0)

| Year                                  | Group index numbers |                      |         |                                  |               | Combined index<br>(All groups) |       |
|---------------------------------------|---------------------|----------------------|---------|----------------------------------|---------------|--------------------------------|-------|
|                                       | Food                | Clothing and drapery | Housing | Household supplies and equipment | Miscellaneous |                                |       |
| PERTH                                 |                     |                      |         |                                  |               |                                |       |
| 1948-49                               | ....                | 38.4                 | 50.6    | 36.1                             | 60.4          | 45.4                           | 44.0  |
| 1953-54                               | ....                | 74.0                 | 84.8    | 62.0                             | 92.7          | 66.8                           | 74.6  |
| 1958-59                               | ....                | 80.3                 | 90.8    | 75.0                             | 96.3          | 79.6                           | 83.2  |
| 1963-64                               | ....                | 87.4                 | 95.7    | 89.8                             | 95.7          | 86.2                           | 89.8  |
| 1966-67                               | ....                | 100.0                | 100.0   | 100.0                            | 100.0         | 100.0                          | 100.0 |
| 1967-68                               | ....                | 102.9                | 102.1   | 105.8                            | 100.7         | 103.2                          | 102.9 |
| 1968-69                               | ....                | 104.5                | 104.5   | 112.7                            | 102.1         | 105.6                          | 105.5 |
| 1969-70                               | ....                | 108.1                | 107.8   | 120.1                            | 103.7         | 109.8                          | 109.4 |
| 1970-71                               | ....                | 112.5                | 112.3   | 125.7                            | 107.7         | 114.8                          | 114.1 |
| SIX STATE CAPITAL CITIES COMBINED (a) |                     |                      |         |                                  |               |                                |       |
| 1948-49                               | ....                | 38.2                 | 48.9    | 40.5                             | 58.3          | 44.7                           | 43.9  |
| 1953-54                               | ....                | 73.2                 | 84.3    | 58.5                             | 88.3          | 67.1                           | 73.5  |
| 1958-59                               | ....                | 81.6                 | 90.5    | 72.9                             | 94.4          | 81.4                           | 83.6  |
| 1963-64                               | ....                | 89.0                 | 95.3    | 89.1                             | 96.4          | 87.3                           | 90.6  |
| 1966-67                               | ....                | 100.0                | 100.0   | 100.0                            | 100.0         | 100.0                          | 100.0 |
| 1967-68                               | ....                | 104.7                | 102.2   | 104.5                            | 101.2         | 102.8                          | 103.3 |
| 1968-69                               | ....                | 105.8                | 104.3   | 109.1                            | 102.9         | 107.5                          | 106.0 |
| 1969-70                               | ....                | 108.1                | 107.5   | 115.5                            | 104.1         | 111.6                          | 109.4 |
| 1970-71                               | ....                | 112.4                | 111.9   | 123.5                            | 107.4         | 117.8                          | 114.6 |

(a) Weighted average.

The following table shows the 'All groups' index numbers for the six State capital cities, separately and combined, for selected years during the period 1948-49 to 1970-71.



**CONSUMER PRICE INDEX—'ALL GROUPS' INDEX NUMBERS  
SIX STATE CAPITAL CITIES, SEPARATELY AND COMBINED**

(Base of *each* Index: Year 1966-67 = 100·0)

NOTE. The separate city indexes measure price movements within each city individually. They enable comparisons to be drawn between cities as to differences in degree of price movement, but not as to differences in price level.

| Year    | Sydney | Melbourne | Brisbane | Adelaide | Perth | Hobart | Weighted average of six State capital cities |
|---------|--------|-----------|----------|----------|-------|--------|----------------------------------------------|
| 1948-49 | 44·4   | 43·3      | 43·1     | 45·0     | 44·0  | 43·0   | 43·9                                         |
| 1953-54 | 74·5   | 72·5      | 70·9     | 74·7     | 74·6  | 74·4   | 73·5                                         |
| 1958-59 | 84·6   | 82·9      | 82·1     | 83·6     | 83·2  | 84·1   | 83·6                                         |
| 1963-64 | 91·4   | 90·4      | 89·6     | 90·2     | 89·8  | 91·7   | 90·6                                         |
| 1966-67 | 100·0  | 100·0     | 100·0    | 100·0    | 100·0 | 100·0  | 100·0                                        |
| 1967-68 | 103·2  | 103·7     | 103·3    | 102·9    | 102·9 | 104·6  | 103·3                                        |
| 1968-69 | 106·2  | 106·2     | 105·5    | 105·3    | 105·5 | 106·1  | 106·0                                        |
| 1969-70 | 110·6  | 108·7     | 108·4    | 108·2    | 109·4 | 108·5  | 109·4                                        |
| 1970-71 | 116·8  | 113·1     | 114·2    | 112·5    | 114·1 | 112·6  | 114·6                                        |

**Retail Price Index Numbers, 1901 to 1971.** The index numbers shown in the following table are presented as a continuous series, but they give only a broad indication of long-term trends in retail price levels. They are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are: from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946-47, the 'C' Series Retail Price Index; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; from 1948-49 onwards, the Consumer Price Index.

**RETAIL PRICE INDEX NUMBERS, 1901 TO 1971  
SIX STATE CAPITAL CITIES COMBINED  
(Base: Year 1911 = 100)**

| Year     | Index number | Year | Index number | Year | Index number |
|----------|--------------|------|--------------|------|--------------|
| 1901     | 88           | 1925 | 165          | 1949 | 240          |
| 1902     | 93           | 1926 | 168          | 1950 | 262          |
| 1903     | 91           | 1927 | 166          | 1951 | 313          |
| 1904     | 86           | 1928 | 167          | 1952 | 367          |
| 1905     | 90           | 1929 | 171          | 1953 | 383          |
| 1906     | 90           | 1930 | 162          | 1954 | 386          |
| 1907     | 90           | 1931 | 145          | 1955 | 394          |
| 1908     | 95           | 1932 | 138          | 1956 | 419          |
| 1909     | 95           | 1933 | 133          | 1957 | 429          |
| 1910     | 97           | 1934 | 136          | 1958 | 435          |
| 1911     | 100          | 1935 | 138          | 1959 | 443          |
| 1912     | 110          | 1936 | 141          | 1960 | 459          |
| 1913     | 110          | 1937 | 145          | 1961 | 471          |
| 1914 (a) | 114          | 1938 | 149          | 1962 | 469          |
| 1915 (a) | 130          | 1939 | 153          | 1963 | 472          |
| 1916 (a) | 132          | 1940 | 159          | 1964 | 483          |
| 1917 (a) | 141          | 1941 | 167          | 1965 | 502          |
| 1918 (a) | 150          | 1942 | 181          | 1966 | 517          |
| 1919 (a) | 170          | 1943 | 188          | 1967 | 534          |
| 1920 (a) | 193          | 1944 | 187          | 1968 | 548          |
| 1921 (a) | 168          | 1945 | 187          | 1969 | 564          |
| 1922 (a) | 162          | 1946 | 190          | 1970 | 586          |
| 1923     | 166          | 1947 | 198          | 1971 | 621          |
| 1924     | 164          | 1948 | 218          |      |              |

(a) November.

**Retail Prices.** The average retail prices of selected items of food and groceries in Perth are shown in the following table.

**AVERAGE RETAIL PRICES OF FOOD AND GROCERIES—PERTH**  
(Cents)

| Commodity                        | Unit                  | 1967 | 1968 | 1969  | 1970  | 1971  |
|----------------------------------|-----------------------|------|------|-------|-------|-------|
| <b>GROCERIES</b>                 |                       |      |      |       |       |       |
| Bread, ordinary white, delivered | 2 lb                  | 18.1 | 19.0 | 19.8  | 21.0  | 21.4  |
| Flour, plain                     | 2 lb pkt              | 14.1 | 15.3 | 16.0  | 16.1  | 16.8  |
| " self-raising                   | "                     | 18.3 | 18.6 | 19.6  | 19.4  | 20.5  |
| Tea                              | $\frac{1}{2}$ lb pkt  | 30.7 | 30.6 | 29.5  | 28.7  | 30.4  |
| Sugar                            | 4 lb pkt              | 37.8 | 40.7 | 40.4  | 40.5  | 40.0  |
| Rice                             | 1 lb pkt              | 13.8 | 14.5 | 15.0  | 15.2  | 15.6  |
| Jam, plum                        | $1\frac{1}{2}$ lb     | 28.0 | 29.4 | 30.9  | n.a.  | n.a.  |
| " apricot                        | "                     | n.a. | n.a. | n.a.  | 36.0  | 38.2  |
| Oats, rolled                     | $1\frac{1}{2}$ lb pkt | 23.4 | 24.1 | 27.2  | 27.7  | 29.7  |
| Peaches, canned                  | 29 oz                 | 31.1 | 32.5 | 33.9  | 35.4  | 36.4  |
| Pears, canned                    | "                     | 31.5 | 32.5 | 33.8  | 35.4  | 35.8  |
| Potatoes                         | 7 lb                  | 42.1 | 42.6 | 42.1  | 47.2  | 51.3  |
| Onions, brown                    | lb                    | 8.7  | 11.1 | 8.0   | 10.7  | 12.1  |
| Soap, laundry                    | 20 oz pkt             | 31.4 | 31.9 | 32.7  | 34.6  | 35.8  |
| <b>DAIRY PRODUCE</b>             |                       |      |      |       |       |       |
| Butter                           | lb                    | 50.0 | 49.9 | 52.2  | 53.2  | 54.3  |
| Cheese, processed                | 8 oz pkt              | 24.7 | 24.9 | 24.8  | 24.5  | 25.7  |
| Eggs, 24 oz                      | dozen                 | 65.5 | 65.3 | 66.1  | 66.1  | 66.0  |
| Bacon, rashers, prepacked        | $\frac{1}{2}$ lb      | 41.4 | 43.7 | 44.2  | 44.1  | 45.0  |
| Milk, condensed                  | 14 oz tin             | 20.6 | 21.3 | n.a.  | n.a.  | n.a.  |
| " evaporated                     | 14 oz tin             | n.a. | n.a. | 17.1  | 17.5  | 18.0  |
| " fresh, bottled, delivered      | quart (a)             | 20.0 | 20.0 | 20.0  | 20.0  | 21.8  |
| <b>MEAT</b>                      |                       |      |      |       |       |       |
| Beef (fresh)—                    |                       |      |      |       |       |       |
| Sirloin                          | lb                    | 59.8 | 61.2 | n.a.  | n.a.  | n.a.  |
| Rib (without bone)               | "                     | 53.4 | 54.0 | 54.2  | 57.0  | 57.2  |
| Steak, rump                      | "                     | 92.1 | 96.8 | 101.2 | 113.4 | 119.5 |
| " T-bone, without fillet         | "                     | n.a. | n.a. | 81.6  | 89.7  | 95.9  |
| " chuck                          | "                     | 54.3 | 56.0 | 57.3  | 62.2  | 63.7  |
| Sausages                         | "                     | 24.8 | 24.3 | 24.8  | 26.2  | 26.9  |
| Beef (corned)—                   |                       |      |      |       |       |       |
| Silverside                       | "                     | 55.4 | 56.8 | 58.8  | 63.5  | 66.6  |
| Brisket                          | "                     | 42.3 | 44.6 | 44.6  | 47.6  | 46.8  |
| Mutton (fresh)—                  |                       |      |      |       |       |       |
| Leg                              | "                     | 33.3 | 32.6 | 31.9  | 33.6  | 32.8  |
| Forequarter                      | "                     | 21.4 | 20.2 | n.a.  | n.a.  | n.a.  |
| Chops, loin                      | "                     | 30.7 | 28.5 | 27.1  | 28.9  | 27.7  |
| " leg                            | "                     | 31.6 | 31.1 | 28.9  | 30.1  | 29.5  |
| " forequarter                    | "                     | n.a. | n.a. | 23.0  | 24.4  | 23.6  |
| Lamb (fresh)—                    |                       |      |      |       |       |       |
| Leg                              | "                     | 50.2 | 48.4 | 49.8  | 52.1  | 49.2  |
| Forequarter                      | "                     | 33.6 | 30.5 | n.a.  | n.a.  | n.a.  |
| Chops, loin                      | "                     | 51.3 | 48.3 | 50.1  | 52.7  | 47.6  |
| " leg                            | "                     | 51.5 | 49.0 | 50.6  | 53.8  | 50.3  |
| " forequarter                    | "                     | n.a. | n.a. | 42.9  | 45.1  | 41.4  |
| Pork (fresh)—                    |                       |      |      |       |       |       |
| Leg                              | "                     | 60.2 | 63.8 | 64.1  | 65.3  | 66.9  |
| Loin                             | "                     | 61.1 | 64.4 | 64.8  | 65.7  | 67.4  |
| Chops                            | "                     | 61.2 | 64.3 | 64.7  | 65.5  | 68.1  |

n.a. denotes 'not available'.

(a) Price for two 1-pint bottles.

## WHOLESALE PRICE INDEXES OF MATERIALS USED IN BUILDING

**House Building.** The Wholesale Price Index of Materials used in House Building is compiled by the Commonwealth Statistician and was first published in November 1970 (retrospectively to July 1966). Index numbers are produced monthly for each State capital city and for the six State capital cities combined.

The index measures changes in prices of selected materials used in the construction of houses. Its composition is in accordance with the usage of materials in actual houses which were selected as representative for the purpose. The index does not purport to represent buildings of any kind other than houses. The house building construction types included are those which use brick, brick veneer, timber, or asbestos-cement sheeting as the principal material for the outer walls.

The following numbers of items are included in the lists for the respective State capital cities: Melbourne, Adelaide and Hobart, 50; Sydney, 50 (but vinyl floor tiles are not included in the item elsewhere described as 'Ceramic and vinyl floor tiles'); Brisbane,

49 (heating systems not included); and Perth, 51 (building stone and silica-lime bricks included but plaster board not included). In all cases the selection of materials was based on local usage. Items are combined in eleven groups in addition to the 'All groups' index. Some items carry the weight of similar items not directly priced. They are described in terms of fixed specifications with the aim of recording price changes for representative materials of constant quality.

The reference base of the index is the year 1966-67 = 100.0, the same as that used for the Wholesale Price Index of Materials used in Building other than House Building (see below). The index is a fixed-weights index and is calculated by the method known as 'the weighted arithmetic mean of price relatives'. The items and weights were derived from reported values of each material used in selected representative houses constructed in or about the year 1968-69 in each State capital city. The selection took account, within the four major construction types, of a range of characteristics of these houses, e.g. internal partitions, windows, roofing, etc., as well as whether such things as paths and fences were included in the job.

Data obtained in each State capital city were used to construct for that city its own list of items and its individual weighting pattern. The weighting pattern derived for the weighted average of the six State capital cities is an aggregation of the individual city patterns, the weight given to each item being proportional to its estimated importance in materials usage in houses of the specified types completed in the six capital cities in 1968-69. In that year the four major construction types (i.e. brick, brick veneer, timber, asbestos-cement sheeting) constituted more than 99 per cent of all house building (in the six State capital cities) for which indexes have been prepared.

Price series used in the index relate to specified standards of each commodity and are obtained in all State capital cities from representative suppliers of materials used in house building. In the main they are collected as at the mid-point of the month to which the index refers.

The index has been compiled for each month from July 1966 and for the financial years from 1966-67. Figures are published to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number.

The separate city indexes measure price movements in each State capital city individually. They enable comparisons to be drawn between capitals as to differences in degree of price movement from period to period, but not as to differences in price level.

Further information concerning the method of compiling the index, as well as detailed group index numbers for each State capital city, is given in the annual *Labour Report* and the monthly publication, *Wholesale Price Indexes—Price Index of Materials used in House Building*, both of which are issued by the Commonwealth Statistician, Canberra.

The next two tables show the separate group index numbers and the 'All groups' index numbers, for Perth and for the six State capital cities combined, for the years 1966-67 to 1970-71.

WHOLESALE PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING  
GROUP INDEX NUMBERS—PERTH  
(Base of each Index: Year 1966-67 = 100.0)

| Group                                  | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|----------------------------------------|---------|---------|---------|---------|---------|
| Concrete mix, cement and sand ....     | 100.0   | 102.3   | 102.8   | 105.3   | 110.6   |
| Cement products ....                   | 100.0   | 104.5   | 106.5   | 109.1   | 113.8   |
| Clay bricks, tiles, etc. ....          | 100.0   | 103.5   | 106.2   | 111.4   | 118.5   |
| Timber, board and joinery ....         | 100.0   | 105.8   | 107.5   | 111.1   | 115.5   |
| Steel products ....                    | 100.0   | 101.6   | 106.2   | 110.8   | 115.5   |
| Other metal products ....              | 100.0   | 105.3   | 107.5   | 118.4   | 115.4   |
| Plumbing fixtures, etc. ....           | 100.0   | 101.3   | 102.7   | 108.1   | 109.0   |
| Electrical installation materials .... | 100.0   | 103.3   | 105.2   | 115.1   | 115.5   |
| Installed appliances ....              | 100.0   | 101.4   | 101.1   | 102.6   | 102.8   |
| Plaster and plaster products ....      | 100.0   | 103.0   | 107.1   | 109.4   | 109.8   |
| Miscellaneous materials ....           | 100.0   | 103.5   | 104.7   | 107.7   | 110.2   |
| All groups ....                        | 100.0   | 104.0   | 105.9   | 110.3   | 113.9   |

**WHOLESALE PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING**  
**GROUP INDEX NUMBERS—SIX STATE CAPITAL CITIES COMBINED (a)**  
 (Base of each Index: Year 1966-67 = 100·0)

| Group                                   | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|-----------------------------------------|---------|---------|---------|---------|---------|
| Concrete mix, cement and sand .....     | 100·0   | 101·6   | 103·8   | 107·1   | 113·4   |
| Cement products .....                   | 100·0   | 102·8   | 107·0   | 112·6   | 121·8   |
| Clay bricks, tiles, etc. ....           | 100·0   | 103·6   | 107·8   | 112·4   | 118·0   |
| Timber, board and joinery .....         | 100·0   | 103·0   | 108·6   | 113·5   | 118·5   |
| Steel products .....                    | 100·0   | 101·9   | 104·8   | 110·0   | 115·0   |
| Other metal products .....              | 100·0   | 103·9   | 106·3   | 111·8   | 112·4   |
| Plumbing fixtures, etc. ....            | 100·0   | 101·7   | 102·0   | 108·7   | 113·6   |
| Electrical installation materials ..... | 100·0   | 103·3   | 105·2   | 115·8   | 115·0   |
| Installed appliances .....              | 100·0   | 100·0   | 99·7    | 102·2   | 103·8   |
| Plaster and plaster products .....      | 100·0   | 101·7   | 103·0   | 105·1   | 109·4   |
| Miscellaneous materials .....           | 100·0   | 102·9   | 104·5   | 107·4   | 111·0   |
| All groups .....                        | 100·0   | 102·7   | 106·3   | 110·9   | 115·7   |

(a) Weighted average.

**WHOLESALE PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING**  
**'ALL GROUPS' INDEX NUMBERS**  
 (Base of each Index: Year 1966-67 = 100·0)

NOTE. The separate city indexes measure price movements within each city individually. They enable comparisons to be drawn between cities as to differences in degree of price movement, but not as to differences in price level.

| City                                               | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|----------------------------------------------------|---------|---------|---------|---------|---------|
| Sydney .....                                       | 100·0   | 103·4   | 109·3   | 115·2   | 119·8   |
| Melbourne .....                                    | 100·0   | 101·3   | 103·6   | 107·2   | 112·3   |
| Brisbane .....                                     | 100·0   | 103·4   | 105·6   | 109·4   | 115·2   |
| Adelaide .....                                     | 100·0   | 102·1   | 107·0   | 112·4   | 116·7   |
| Perth .....                                        | 100·0   | 104·0   | 105·9   | 110·3   | 113·9   |
| Hobart .....                                       | 100·0   | 101·8   | 104·1   | 107·7   | 114·3   |
| Weighted average of six State capital cities ..... | 100·0   | 102·7   | 106·3   | 110·9   | 115·7   |

**Other Building.** The Wholesale Price Index of Materials used in Building other than House Building is compiled by the Commonwealth Statistician and was first published in April 1969 (retrospectively to July 1966). Index numbers are produced monthly for each State capital city and for the six State capital cities combined.

The index measures changes in prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (in general, those up to three storeys). Its composition is in accordance with the materials usage in actual building projects which were selected as representative for the purpose. The building 'use-types' (e.g. office building, factory, etc.) directly represented are 'high-rise' flats (in general, those of more than three storeys); offices; factories; health buildings (i.e. hospitals, nurses' quarters, clinics, etc.); education buildings (i.e. schools, universities, kindergartens, etc.); and commercial premises including hotels, hostels, etc., shops, and other business premises. The index includes seventy-two items, which are combined in eleven groups as shown in the next table.

Although the selected materials (or many of them) are also used in house (and low-rise flat) building, in building repair, maintenance and alteration work, and in 'engineering construction' work (e.g. projects such as roads, dams, bridges and the like), the weighting pattern of the index, being designed for the specific purpose mentioned earlier, is not applicable to these other activities of the Construction industry. In addition, since the weights are based on an average materials usage over the stated range of building use-types, the index is not necessarily applicable to any specific building or any of the separate use-types.

The reference base of the index is the year 1966-67 = 100·0. The index is a fixed-weights index and is calculated by the method known as 'the weighted arithmetic mean of price relatives'. The items and weights were derived from reported values of each

material used in selected representative buildings constructed in or about the year 1966-67. The selection took account of building use-type and construction characteristics (*e.g.* type of frame, wall, floor, etc.) within use-types.

A single weighting pattern, relating to the whole of Australia, is applied (with minor exceptions) to local price measures in calculating indexes for each State capital city. The index for the six State capital cities combined is a weighted average of individual city indexes. The relative weighting of the capitals is in proportion to the estimated value on completion of building other than house building in the separate States during the three years ended June 1967.

Price series used in the index relate to specified standards of each commodity and are obtained in all State capital cities from representative suppliers of materials used in building. In the main they are collected as at the mid-point of the month to which the index refers.

The index has been compiled for each month from July 1966 and for the financial years from 1966-67. Figures are published to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number.

The separate city indexes measure price movements in each State capital city individually. They enable comparisons to be drawn between capitals as to differences in degree of price movement from period to period, but not as to differences in price level.

Further information concerning the method of compiling the index, as well as detailed group index numbers for each State capital city, is given in the annual *Labour Report* and the monthly publication, *Wholesale Price Indexes—Price Index of Materials used in Building other than House Building*, both of which are issued by the Commonwealth Statistician, Canberra.

# WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING—GROUP INDEX NUMBERS (Base of each Index: Year 1966-67 = 100·0)

| Group                                      | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|--------------------------------------------|---------|---------|---------|---------|---------|
| PERTH                                      |         |         |         |         |         |
| Concrete mix, cement, sand etc. ....       | 100·0   | 100·6   | 101·4   | 102·8   | 107·0   |
| Cement products ....                       | 100·0   | 104·3   | 108·1   | 111·3   | 118·3   |
| Bricks, stone, etc. ....                   | 100·0   | 103·0   | 106·2   | 111·4   | 119·0   |
| Timber, board and joinery ....             | 100·0   | 104·1   | 108·0   | 111·3   | 115·4   |
| Steel and iron products ....               | 100·0   | 101·7   | 104·2   | 107·1   | 112·9   |
| Aluminium products ....                    | 100·0   | 99·7    | 101·8   | 102·6   | 105·8   |
| Other metal products ....                  | 100·0   | 105·7   | 106·4   | 127·0   | 117·4   |
| Plumbing fixtures ....                     | 100·0   | 101·7   | 103·4   | 110·8   | 112·7   |
| Miscellaneous materials ....               | 100·0   | 102·7   | 103·9   | 107·8   | 111·8   |
| Electrical installation materials (a) .... | 100·0   | 100·9   | 102·1   | 112·2   | 110·9   |
| Mechanical services components (b) ....    | 100·0   | 101·4   | 107·5   | 111·5   | 118·7   |
| All groups ....                            | 100·0   | 102·0   | 104·7   | 108·9   | 113·3   |

## SIX STATE CAPITAL CITIES COMBINED (c)

|                                            |       |       |       |       |       |
|--------------------------------------------|-------|-------|-------|-------|-------|
| Concrete mix, cement, sand, etc. ....      | 100·0 | 101·5 | 103·5 | 106·9 | 113·0 |
| Cement products ....                       | 100·0 | 102·2 | 106·8 | 111·7 | 118·0 |
| Bricks, stone, etc. ....                   | 100·0 | 103·7 | 108·2 | 112·6 | 118·6 |
| Timber, board and joinery ....             | 100·0 | 103·0 | 107·2 | 111·2 | 117·0 |
| Steel and iron products ....               | 100·0 | 102·3 | 106·1 | 110·1 | 115·8 |
| Aluminium products ....                    | 100·0 | 101·4 | 103·9 | 107·4 | 113·0 |
| Other metal products ....                  | 100·0 | 105·9 | 106·8 | 126·3 | 121·4 |
| Plumbing fixtures ....                     | 100·0 | 102·8 | 103·3 | 113·7 | 121·3 |
| Miscellaneous materials ....               | 100·0 | 102·3 | 103·2 | 105·8 | 110·3 |
| Electrical installation materials (a) .... | 100·0 | 100·9 | 102·1 | 112·2 | 110·9 |
| Mechanical services components (b) ....    | 100·0 | 101·4 | 107·7 | 111·8 | 119·0 |
| All groups ....                            | 100·0 | 102·2 | 105·6 | 110·5 | 115·5 |

(a) Based on Sydney and Melbourne prices; see letterpress *Electrical Installation Materials* on page 519. (b) In the main based on Sydney and Melbourne prices. (c) Weighted average.

# WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING—'ALL GROUPS' INDEX NUMBERS

(Base of *each* Index: Year 1966-67 = 100·0)

NOTE. The separate city indexes measure price movements within each city individually. They enable comparisons to be drawn between cities as to differences in degree of price movement, but not as to differences in price level.

| City                                         | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
|----------------------------------------------|---------|---------|---------|---------|---------|
| Sydney ....                                  | 100·0   | 102·6   | 106·5   | 111·7   | 116·4   |
| Melbourne ....                               | 100·0   | 101·7   | 105·0   | 109·8   | 115·1   |
| Brisbane ....                                | 100·0   | 102·2   | 105·1   | 110·3   | 116·4   |
| Adelaide ....                                | 100·0   | 101·8   | 105·0   | 109·4   | 113·9   |
| Perth ....                                   | 100·0   | 102·0   | 104·7   | 108·9   | 113·3   |
| Hobart ....                                  | 100·0   | 102·3   | 105·1   | 109·7   | 115·0   |
| Weighted average of six State capital cities | 100·0   | 102·2   | 105·6   | 110·5   | 115·5   |

**Electrical Installation Materials.** The Wholesale Price Index of Electrical Installation Materials is compiled by the Commonwealth Statistician and was first published in November 1964 (retrospectively to 1959-60).

The index measures changes in the aggregate cost of electrical installation materials used in building other than house building. Items in the index have been selected as representative of materials used in buildings such as hospitals, schools, factories and multi-storeyed commercial buildings and flats. These items are divided into three main groups for which separate indexes are compiled, in addition to an 'All groups' index.

The basis of pricing is the price to electrical contractors, delivered on site or into store in the metropolitan areas of Sydney and Melbourne. The price series used relate to specified standards of each commodity and are collected as at the mid-point of the month to which the index relates.

The reference base of the Wholesale Price Index of Electrical Installation Materials is the year 1959-60 = 100·0. In general, the weights used in compiling the index were derived from information relating to the values of materials used in selected representative projects in Sydney and Melbourne during the three years 1960-61 to 1962-63. Figures are published to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number.

Index numbers are issued monthly by the Commonwealth Statistician, Canberra in the publication *Wholesale Price Indexes—Price Index of Electrical Installation Materials*.

Annual index numbers for each group of items and for 'All groups' are given in the following table.

## WHOLESALE PRICE INDEX OF ELECTRICAL INSTALLATION MATERIALS GROUP INDEX NUMBERS

(Base of *each* Index: Year 1959-60 = 100·0)

| Year         | Group      |                         |                                       | All groups |
|--------------|------------|-------------------------|---------------------------------------|------------|
|              | Conductors | Conduit and accessories | Switch-board and switch-gear material |            |
| 1959-60 .... | 100·0      | 100·0                   | 100·0                                 | 100·0      |
| 1960-61 .... | 99·5       | 102·3                   | 100·9                                 | 100·7      |
| 1961-62 .... | 98·7       | 102·8                   | 99·8                                  | 100·1      |
| 1962-63 .... | 96·8       | 103·6                   | 100·5                                 | 99·8       |
| 1963-64 .... | 93·2       | 103·7                   | 100·8                                 | 98·5       |
| 1964-65 .... | 110·6      | 104·6                   | 105·2                                 | 107·2      |
| 1965-66 .... | 105·8      | 104·2                   | 106·6                                 | 105·7      |
| 1966-67 .... | 120·2      | 105·8                   | 109·2                                 | 112·8      |
| 1967-68 .... | 119·9      | 106·0                   | 112·5                                 | 113·8      |
| 1968-69 .... | 119·5      | 107·3                   | 115·3                                 | 115·0      |
| 1969-70 .... | 142·1      | 109·6                   | 120·1                                 | 126·2      |
| 1970-71 .... | 128·4      | 112·8                   | 129·2                                 | 124·8      |

## STATISTICAL SUMMARY FROM 1829

In the next nineteen pages, a historical summary of some of the more important statistics relating to Western Australia is shown. This is intended to present a general picture of the development of the State, with details being given (wherever they are available) for the year 1829, for every tenth year in the period 1830-1910, and for each single year from 1911. Figures for the period 1901-1909 have been omitted from the tables in several instances owing to insufficient space. In these cases, the figures are available, if required, from the *Western Australian Year Book*, No. 7—1968 and earlier issues, and the *Statistical Register of Western Australia*.

## ESTIMATED POPULATION, NATURAL INCREASE AND MIGRATION (a)

NOTE. A line drawn across a column indicates a break in continuity in the series. Figures above the line exclude full-blood Aborigines; those below the line refer to total population, including Aborigines. See also NOTE on page 128.

| Year      | Population at 31 December |         |           | Population increase           |                             |                    |              | Mean population |             | Population of Perth Statistical Division (f) |
|-----------|---------------------------|---------|-----------|-------------------------------|-----------------------------|--------------------|--------------|-----------------|-------------|----------------------------------------------|
|           | Males                     | Females | Persons   | Recorded natural increase (b) | Estimated net migration (c) | Total increase (d) |              | Year ended—     |             |                                              |
|           |                           |         |           |                               |                             | Number             | Per cent (e) | 30 June         | 31 December |                                              |
| (‘000)    |                           |         |           |                               |                             |                    |              |                 |             |                                              |
| 1829 .... | 769                       | 234     | 1,003     | (g)                           | (g)                         | (g)                | (g)          |                 | (g)         |                                              |
| 1830 .... | 877                       | 295     | 1,172     | (g)                           |                             | 169                | 16.85        |                 | (g)         |                                              |
| 1840 .... | 1,434                     | 877     | 2,311     | 34                            | 123                         | 157                | 7.29         |                 | (g)         |                                              |
| 1850 .... | 3,576                     | 2,310   | 5,886     | 132                           | 1,109                       | 1,241              | 26.72        |                 | (g)         |                                              |
| 1860 .... | 9,597                     | 5,749   | 15,346    | 379                           | 130                         | 509                | 3.43         | (g)             | 15,092      | (g)                                          |
| 1870 .... | 15,511                    | 9,624   | 25,135    | 475                           | 7                           | 482                | 1.96         |                 | 24,894      |                                              |
| 1880 .... | 16,985                    | 12,576  | 29,561    | 551                           | 129                         | 422                | 1.45         |                 | 29,350      |                                              |
| 1890 .... | 28,854                    | 19,648  | 48,502    | 1,021                         | 1,821                       | 2,842              | 6.22         |                 | 47,081      | 20                                           |
| 1900 .... | 110,088                   | 69,879  | 179,967   | 3,214                         | 6,495                       | 9,709              | 5.70         |                 | 175,113     | 73                                           |
| 1910 .... | 157,971                   | 118,861 | 276,832   | 4,845                         | 6,312                       | 11,157             | 4.20         | 266,686         | 271,019     | 115.7                                        |
| 1911 .... | 167,993                   | 125,930 | 293,923   | 5,168                         | 11,923                      | 17,091             | 6.17         | 278,043         | 286,712     | 121.4                                        |
| 1912 .... | 173,897                   | 131,724 | 305,621   | 5,354                         | 6,344                       | 11,698             | 3.98         | 294,364         | 301,040     | 126.5                                        |
| 1913 .... | 180,534                   | 139,401 | 319,935   | 6,284                         | 8,030                       | 14,314             | 4.68         | 307,145         | 313,383     | 132.9                                        |
| 1914 .... | 178,978                   | 143,111 | 322,089   | 6,161                         | 4,007                       | 2,154              | 0.67         | 319,014         | 322,668     | 133.7                                        |
| 1915 .... | 170,890                   | 145,773 | 316,663   | 6,025                         | 11,451                      | 5,426              | 1.68         | 322,996         | 321,247     | 133.3                                        |
| 1916 .... | 159,237                   | 147,643 | 306,880   | 5,478                         | 15,261                      | 9,783              | 3.09         | 317,867         | 313,066     | 135.6                                        |
| 1917 .... | 157,532                   | 149,306 | 306,838   | 5,113                         | 5,155                       | 42                 | 0.01         | 308,756         | 306,339     | 142.3                                        |
| 1918 .... | 159,865                   | 150,318 | 310,183   | 4,273                         | 928                         | 3,345              | 1.09         | 306,804         | 308,198     | 145.6                                        |
| 1919 .... | 174,981                   | 152,879 | 327,860   | 3,347                         | 14,330                      | 17,677             | 5.70         | 311,835         | 319,955     | 155.7                                        |
| 1920 .... | 176,895                   | 154,428 | 331,323   | 4,761                         | 1,298                       | 3,463              | 1.06         | 327,152         | 330,023     | 167.0                                        |
| 1921 .... | 178,968                   | 157,580 | 336,548   | 4,327                         | 898                         | 5,225              | 1.58         | 331,973         | 334,084     | 171.0                                        |
| 1922 .... | 184,471                   | 161,073 | 345,544   | 4,964                         | 4,032                       | 8,996              | 2.67         | 337,269         | 341,375     | 178.1                                        |
| 1923 .... | 191,131                   | 165,728 | 356,859   | 4,924                         | 6,391                       | 11,315             | 3.27         | 345,891         | 350,772     | 191.8                                        |
| 1924 .... | 197,676                   | 170,648 | 368,324   | 5,038                         | 6,427                       | 11,465             | 3.21         | 356,751         | 363,152     | 199.9                                        |
| 1925 .... | 202,554                   | 174,973 | 377,527   | 4,870                         | 4,333                       | 9,203              | 2.50         | 368,525         | 372,970     | 203.0                                        |
| 1926 .... | 206,797                   | 178,436 | 385,233   | 4,951                         | 2,755                       | 7,706              | 2.04         | 376,933         | 380,930     | 208.4                                        |
| 1927 .... | 215,851                   | 184,046 | 399,897   | 5,089                         | 9,575                       | 14,664             | 3.81         | 385,780         | 392,071     | 216.2                                        |
| 1928 .... | 225,072                   | 189,549 | 414,621   | 5,064                         | 9,660                       | 14,724             | 3.68         | 399,777         | 407,576     | 222.4                                        |
| 1929 .... | 231,361                   | 195,276 | 426,637   | 5,121                         | 6,895                       | 12,016             | 2.90         | 414,489         | 420,756     | 229.0                                        |
| 1930 .... | 232,868                   | 198,742 | 431,610   | 5,426                         | 453                         | 4,973              | 1.17         | 425,785         | 429,079     | 235.1                                        |
| 1931 .... | 232,397                   | 201,289 | 433,686   | 4,868                         | 2,792                       | 2,076              | 0.48         | 431,022         | 432,347     | 239.9                                        |
| 1932 .... | 233,049                   | 203,271 | 436,320   | 4,250                         | 1,616                       | 2,634              | 0.61         | 433,596         | 435,041     | 238.9                                        |
| 1933 .... | 234,744                   | 205,898 | 440,642   | 4,084                         | 238                         | 4,322              | 0.99         | 436,798         | 438,780     | 232.1                                        |
| 1934 .... | 236,140                   | 207,589 | 443,729   | 3,725                         | 638                         | 3,087              | 0.70         | 440,736         | 442,354     | 234.3                                        |
| 1935 .... | 238,739                   | 210,884 | 449,623   | 4,001                         | 1,893                       | 5,894              | 1.33         | 444,275         | 446,874     | 237.7                                        |
| 1936 .... | 240,827                   | 213,373 | 454,200   | 4,249                         | 328                         | 4,577              | 1.02         | 449,728         | 452,294     | 241.0                                        |
| 1937 .... | 244,050                   | 216,492 | 460,542   | 4,544                         | 1,798                       | 6,342              | 1.40         | 454,532         | 457,328     | 244.4                                        |
| 1938 .... | 246,943                   | 219,741 | 466,684   | 4,907                         | 1,235                       | 6,142              | 1.33         | 460,642         | 463,808     | 247.7                                        |
| 1939 .... | 249,065                   | 223,315 | 472,380   | 4,696                         | 1,000                       | 5,696              | 1.22         | 466,896         | 469,780     | 252.2                                        |
| 1940 .... | 248,734                   | 225,342 | 474,076   | 4,598                         | 2,902                       | 1,696              | 0.36         | 472,060         | 473,397     | 255.5                                        |
| 1941 .... | 246,842                   | 226,371 | 473,213   | 4,906                         | 5,769                       | 863                | 0.18         | 474,180         | 473,988     | 260.0                                        |
| 1942 .... | 246,816                   | 229,839 | 476,655   | 3,791                         | 349                         | 3,442              | 0.73         | 474,833         | 476,619     | 265.6                                        |
| 1943 .... | 246,389                   | 231,875 | 478,264   | 5,137                         | 3,528                       | 1,609              | 0.34         | 476,989         | 476,745     | 272.3                                        |
| 1944 .... | 249,301                   | 235,474 | 484,775   | 5,857                         | 654                         | 6,511              | 1.36         | 478,271         | 481,498     | 281.2                                        |
| 1945 .... | 251,590                   | 238,498 | 490,088   | 5,418                         | 105                         | 5,313              | 1.10         | 484,720         | 487,510     | 289.0                                        |
| 1946 .... | 255,310                   | 241,663 | 496,973   | 7,277                         | 392                         | 6,885              | 1.40         | 489,982         | 492,771     | 297.9                                        |
| 1947 .... | 261,653                   | 247,109 | 508,762   | 8,119                         | 3,670                       | 11,789             | 2.37         | 497,006         | 502,951     | 307.3                                        |
| 1948 .... | 268,304                   | 253,695 | 521,999   | 8,246                         | 4,991                       | 13,237             | 2.60         | 508,747         | 514,621     | 315.8                                        |
| 1949 .... | 280,273                   | 263,911 | 544,184   | 8,721                         | 13,464                      | 22,185             | 4.25         | 521,932         | 532,603     | 331.4                                        |
| 1950 .... | 294,758                   | 277,891 | 572,649   | 9,170                         | 19,295                      | 28,465             | 5.23         | 545,134         | 557,878     | 351.7                                        |
| 1951 .... | 304,454                   | 285,885 | 590,339   | 9,506                         | 8,184                       | 17,690             | 3.09         | 570,346         | 580,317     | 362.8                                        |
| 1952 .... | 316,700                   | 296,235 | 612,935   | 10,204                        | 12,392                      | 22,596             | 3.83         | 589,887         | 600,615     | 378.1                                        |
| 1953 .... | 326,372                   | 305,371 | 631,743   | 10,790                        | 8,018                       | 18,808             | 3.07         | 611,191         | 621,034     | 390.1                                        |
| 1954 .... | 334,342                   | 314,365 | 648,707   | 10,564                        | 6,400                       | 16,964             | 2.69         | 630,705         | 639,963     | 402.2                                        |
| 1955 .... | 343,838                   | 324,771 | 668,609   | 11,244                        | 8,658                       | 19,902             | 3.07         | 648,222         | 657,323     | 416.8                                        |
| 1956 .... | 350,333                   | 330,935 | 681,268   | 11,344                        | 1,315                       | 12,659             | 1.89         | 666,898         | 674,459     | 427.4                                        |
| 1957 .... | 356,195                   | 339,039 | 695,234   | 11,627                        | 2,339                       | 13,966             | 2.05         | 680,949         | 687,448     | 438.9                                        |
| 1958 .... | 361,441                   | 345,755 | 707,196   | 11,177                        | 785                         | 11,962             | 1.72         | 693,568         | 699,915     | 449.3                                        |
| 1959 .... | 366,253                   | 352,438 | 718,691   | 11,614                        | 119                         | 11,495             | 1.63         | 705,869         | 711,737     | 459.5                                        |
| 1960 .... | 372,665                   | 358,368 | 731,033   | 11,229                        | 1,113                       | 12,342             | 1.72         | 717,316         | 722,900     | 470.3                                        |
| 1961 .... | 384,773                   | 370,440 | 755,213   | 11,349                        | 2,571                       | 13,920             | 1.90         | 729,770         | 737,596     | 482.7                                        |
| 1962 .... | 395,891                   | 381,357 | 777,248   | 11,254                        | 10,499                      | 22,035             | 2.92         | 755,770         | 766,205     | 500.3                                        |
| 1963 .... | 407,024                   | 391,871 | 798,895   | 11,314                        | 10,068                      | 21,647             | 2.79         | 777,413         | 788,457     | 517.8                                        |
| 1964 .... | 417,023                   | 401,098 | 818,121   | 10,256                        | 8,705                       | 19,226             | 2.41         | 798,824         | 808,300     | 534.0                                        |
| 1965 .... | 427,330                   | 410,918 | 838,248   | 9,912                         | 9,963                       | 20,127             | 2.46         | 817,157         | 826,481     | 550.9                                        |
| 1966 .... | 440,728                   | 423,055 | 863,783   | 10,292                        | 15,243                      | 25,535             | 3.05         | 837,290         | 849,112     | 571.6                                        |
| 1967 .... | 457,882                   | 438,174 | 896,056   | 11,244                        | 21,029                      | 32,273             | 3.74         | 863,228         | 879,193     | 597.2                                        |
| 1968 .... | 479,012                   | 457,236 | 936,248   | 12,073                        | 28,119                      | 40,192             | 4.49         | 895,832         | 914,515     | 628.3                                        |
| 1969 .... | 499,083                   | 475,366 | 974,449   | 13,404                        | 24,797                      | 38,201             | 4.08         | 934,432         | 953,796     | 658.4                                        |
| 1970 .... | 518,509                   | 492,754 | 1,011,263 | 14,075                        | 22,739                      | 36,814             | 3.78         | 972,891         | 991,720     | 680.8                                        |
| 1971 .... | 535,909                   | 509,846 | 1,045,755 | 16,433                        | 18,059                      | 34,492             | 3.41         | 1,010,668       | 1,028,586   | 714.0                                        |

(a) Estimates for 1965 and earlier have been adjusted to conform to final census results; those for later years have been revised in accordance with the preliminary results of the 1971 Census. (b) Excess of births over deaths, including deaths of defence personnel, whether in Australia or overseas, between September 1939 and June 1947. (c) Interstate and overseas. (d) Minus sign (—) denotes decrease. (e) The rates represent total increase in population during the year expressed as a proportion per cent of the population at the end of the previous year. (f) At 31 December. (g) Not available.



## VITAL STATISTICS

See NOTE at head of previous table.

| Year      | Marriages registered | Live births registered | Deaths registered (b) | Natural increase (c) | Rate per 1,000 of mean population (a) |        |            |                      | Infant mortality |          |
|-----------|----------------------|------------------------|-----------------------|----------------------|---------------------------------------|--------|------------|----------------------|------------------|----------|
|           |                      |                        |                       |                      | Marriages                             | Births | Deaths (b) | Natural increase (c) | Number (d)       | Rate (e) |
| 1840 .... | 25                   | 54                     | 20                    | 34                   | (f)                                   | (f)    | (f)        | (f)                  | (f)              | (f)      |
| 1850 .... | 37                   | 186                    | 54                    | 132                  | (f)                                   | (f)    | (f)        | (f)                  | (f)              | (f)      |
| 1860 .... | 151                  | 588                    | 209                   | 379                  | 10.01                                 | 38.96  | 13.85      | 25.11                | (f)              | (f)      |
| 1870 .... | 153                  | 853                    | 378                   | 475                  | 6.15                                  | 34.27  | 15.18      | 19.08                | 100              | 117.2    |
| 1880 .... | 214                  | 933                    | 382                   | 551                  | 7.29                                  | 31.79  | 13.02      | 18.77                | 72               | 77.2     |
| 1890 .... | 278                  | 1,561                  | 540                   | 1,021                | 5.90                                  | 33.16  | 11.47      | 21.69                | 140              | 89.7     |
| 1900 .... | 1,781                | 5,454                  | 2,240                 | 3,214                | 10.17                                 | 31.15  | 12.79      | 18.35                | 688              | 126.2    |
| 1910 .... | 2,107                | 7,585                  | 2,740                 | 4,845                | 7.77                                  | 27.99  | 10.11      | 17.88                | 593              | 78.2     |
| 1911 .... | 2,421                | 8,091                  | 2,923                 | 5,168                | 8.44                                  | 28.22  | 10.19      | 18.03                | 615              | 76.0     |
| 1912 .... | 2,524                | 8,689                  | 3,335                 | 5,354                | 8.38                                  | 28.86  | 11.08      | 17.78                | 713              | 82.1     |
| 1913 .... | 2,572                | 9,218                  | 2,934                 | 6,284                | 8.21                                  | 29.41  | 9.36       | 20.05                | 648              | 70.3     |
| 1914 .... | 2,660                | 9,204                  | 3,043                 | 6,161                | 8.24                                  | 28.52  | 9.43       | 19.09                | 627              | 68.1     |
| 1915 .... | 2,581                | 9,017                  | 2,992                 | 6,025                | 8.03                                  | 28.07  | 9.31       | 18.76                | 600              | 66.5     |
| 1916 .... | 2,365                | 8,563                  | 3,085                 | 5,478                | 7.55                                  | 27.35  | 9.85       | 17.50                | 567              | 66.2     |
| 1917 .... | 1,621                | 7,882                  | 2,769                 | 5,113                | 5.29                                  | 25.73  | 9.04       | 16.69                | 450              | 57.1     |
| 1918 .... | 1,612                | 7,106                  | 2,833                 | 4,273                | 5.23                                  | 23.06  | 9.19       | 13.87                | 406              | 57.1     |
| 1919 .... | 2,194                | 6,937                  | 3,590                 | 3,347                | 6.86                                  | 21.68  | 11.22      | 10.46                | 424              | 61.1     |
| 1920 .... | 2,932                | 8,149                  | 3,388                 | 4,761                | 8.88                                  | 24.69  | 10.27      | 14.42                | 538              | 66.0     |
| 1921 .... | 2,656                | 8,807                  | 3,480                 | 4,327                | 7.95                                  | 23.37  | 10.42      | 12.95                | 611              | 78.3     |
| 1922 .... | 2,446                | 8,131                  | 3,167                 | 4,964                | 7.17                                  | 23.82  | 9.28       | 14.54                | 452              | 55.6     |
| 1923 .... | 2,376                | 7,854                  | 2,930                 | 4,924                | 6.77                                  | 22.39  | 8.35       | 14.04                | 442              | 56.3     |
| 1924 .... | 2,596                | 8,301                  | 3,263                 | 5,038                | 7.15                                  | 22.86  | 8.99       | 13.87                | 414              | 49.9     |
| 1925 .... | 2,746                | 8,185                  | 3,315                 | 4,870                | 7.36                                  | 21.95  | 8.89       | 13.06                | 463              | 56.6     |
| 1926 .... | 2,844                | 8,301                  | 3,350                 | 4,951                | 7.47                                  | 21.79  | 8.79       | 13.00                | 409              | 49.3     |
| 1927 .... | 3,108                | 8,482                  | 3,393                 | 5,089                | 7.93                                  | 21.63  | 8.65       | 12.98                | 389              | 45.9     |
| 1928 .... | 3,109                | 8,704                  | 3,640                 | 5,064                | 8.12                                  | 21.36  | 8.93       | 12.43                | 419              | 48.1     |
| 1929 .... | 3,367                | 9,051                  | 3,930                 | 5,121                | 8.00                                  | 21.51  | 9.34       | 12.17                | 508              | 56.1     |
| 1930 .... | 3,205                | 9,200                  | 3,774                 | 5,426                | 7.47                                  | 21.44  | 8.80       | 12.64                | 430              | 46.7     |
| 1931 .... | 2,741                | 8,549                  | 3,681                 | 4,868                | 6.34                                  | 19.77  | 8.51       | 11.26                | 355              | 41.5     |
| 1932 .... | 2,904                | 7,965                  | 3,715                 | 4,250                | 6.68                                  | 18.31  | 8.54       | 9.77                 | 355              | 44.6     |
| 1933 .... | 3,374                | 7,874                  | 3,790                 | 4,084                | 7.69                                  | 17.95  | 8.64       | 9.31                 | 290              | 36.8     |
| 1934 .... | 3,682                | 7,801                  | 4,076                 | 3,725                | 8.32                                  | 17.64  | 9.21       | 8.42                 | 319              | 40.9     |
| 1935 .... | 3,940                | 8,119                  | 4,118                 | 4,001                | 8.82                                  | 18.17  | 9.22       | 8.95                 | 326              | 40.2     |
| 1936 .... | 4,242                | 8,479                  | 4,230                 | 4,249                | 9.38                                  | 18.75  | 9.35       | 9.39                 | 358              | 42.2     |
| 1937 .... | 4,169                | 8,609                  | 4,065                 | 4,544                | 9.12                                  | 18.82  | 8.89       | 9.94                 | 323              | 37.5     |
| 1938 .... | 4,153                | 9,141                  | 4,234                 | 4,907                | 8.95                                  | 19.71  | 9.13       | 10.58                | 309              | 33.8     |
| 1939 .... | 4,195                | 9,036                  | 4,336                 | 4,700                | 8.93                                  | 19.23  | 9.23       | 10.00                | 369              | 40.8     |
| 1940 .... | 5,234                | 9,121                  | 4,486                 | 4,635                | 11.06                                 | 19.27  | 9.48       | 9.79                 | 403              | 44.2     |
| 1941 .... | 5,077                | 10,118                 | 4,769                 | 5,349                | 10.71                                 | 21.35  | 10.06      | 11.29                | 357              | 35.3     |
| 1942 .... | 5,441                | 9,901                  | 5,076                 | 4,825                | 11.42                                 | 20.77  | 10.65      | 10.12                | 365              | 36.9     |
| 1943 .... | 4,528                | 10,481                 | 4,587                 | 5,894                | 9.50                                  | 21.98  | 9.62       | 12.36                | 342              | 32.6     |
| 1944 .... | 4,506                | 10,870                 | 4,478                 | 6,392                | 9.36                                  | 22.58  | 9.30       | 13.28                | 354              | 32.6     |
| 1945 .... | 3,788                | 10,672                 | 4,712                 | 5,960                | 7.77                                  | 21.89  | 9.67       | 12.23                | 315              | 29.5     |
| 1946 .... | 5,171                | 12,105                 | 4,753                 | 7,352                | 10.49                                 | 24.57  | 9.65       | 14.92                | 376              | 31.1     |
| 1947 .... | 5,282                | 12,874                 | 4,723                 | 8,151                | 10.50                                 | 25.60  | 9.39       | 16.21                | 398              | 30.9     |
| 1948 .... | 5,186                | 12,931                 | 4,685                 | 8,246                | 10.08                                 | 25.13  | 9.10       | 16.02                | 331              | 25.6     |
| 1949 .... | 4,951                | 13,511                 | 4,790                 | 8,721                | 9.30                                  | 25.37  | 8.99       | 16.37                | 357              | 26.4     |
| 1950 .... | 5,434                | 14,228                 | 5,058                 | 9,170                | 9.74                                  | 25.50  | 9.07       | 16.44                | 386              | 27.1     |
| 1951 .... | 5,390                | 14,794                 | 5,288                 | 9,506                | 9.29                                  | 25.49  | 9.11       | 16.38                | 425              | 28.7     |
| 1952 .... | 5,389                | 15,413                 | 5,209                 | 10,204               | 8.97                                  | 25.66  | 8.67       | 16.99                | 384              | 24.9     |
| 1953 .... | 5,032                | 15,862                 | 5,072                 | 10,790               | 8.10                                  | 25.54  | 8.17       | 17.37                | 378              | 23.8     |
| 1954 .... | 5,204                | 15,928                 | 5,364                 | 10,564               | 8.13                                  | 24.89  | 8.38       | 16.51                | 359              | 22.5     |
| 1955 .... | 5,145                | 16,623                 | 5,379                 | 11,244               | 7.83                                  | 25.29  | 8.18       | 17.11                | 373              | 22.4     |
| 1956 .... | 5,080                | 16,916                 | 5,572                 | 11,344               | 7.53                                  | 25.08  | 8.26       | 16.82                | 384              | 22.7     |
| 1957 .... | 4,897                | 16,924                 | 5,297                 | 11,627               | 7.12                                  | 24.62  | 7.71       | 16.91                | 357              | 21.1     |
| 1958 .... | 5,038                | 16,731                 | 5,554                 | 11,177               | 7.20                                  | 23.90  | 7.94       | 15.97                | 360              | 21.5     |
| 1959 .... | 5,387                | 17,111                 | 5,497                 | 11,614               | 7.57                                  | 24.04  | 7.72       | 16.32                | 345              | 20.2     |
| 1960 .... | 5,323                | 16,926                 | 5,697                 | 11,229               | 7.36                                  | 23.41  | 7.88       | 15.53                | 366              | 21.6     |
| 1961 .... | 5,150                | 17,078                 | 5,729                 | 11,349               | 6.98                                  | 23.15  | 7.77       | 15.39                | 336              | 19.7     |
| 1962 .... | 5,466                | 17,064                 | 5,810                 | 11,254               | 7.23                                  | 22.58  | 7.69       | 14.89                | 380              | 22.3     |
| 1963 .... | 5,755                | 17,290                 | 5,976                 | 11,314               | 7.40                                  | 22.23  | 7.68       | 14.55                | 353              | 20.4     |
| 1964 .... | 6,023                | 16,685                 | 6,429                 | 10,256               | 7.55                                  | 20.93  | 8.06       | 12.86                | 328              | 19.7     |
| 1965 .... | 6,448                | 16,186                 | 6,274                 | 9,912                | 7.91                                  | 19.85  | 7.70       | 12.16                | 351              | 21.7     |
| 1966 .... | 7,002                | 17,194                 | 6,902                 | 10,292               | 8.25                                  | 20.25  | 8.13       | 12.12                | 343              | 19.9     |
| 1967 .... | 7,430                | 18,023                 | 6,779                 | 11,244               | 8.45                                  | 20.50  | 7.71       | 12.79                | 314              | 17.4     |
| 1968 .... | 8,086                | 19,541                 | 7,468                 | 12,073               | 8.84                                  | 21.37  | 8.17       | 13.20                | 398              | 20.4     |
| 1969 .... | 8,993                | 20,754                 | 7,350                 | 13,404               | 9.43                                  | 21.76  | 7.71       | 14.05                | 453              | 21.8     |
| 1970 .... | 9,227                | 21,618                 | 7,543                 | 14,075               | 9.30                                  | 21.80  | 7.61       | 14.19                | 459              | 21.2     |
| 1971 .... | 9,382                | 24,239                 | 7,806                 | 16,433               | 9.12                                  | 23.57  | 7.59       | 15.98                | 464              | 19.1     |

(a) Rates for 1965 and earlier have been adjusted to conform to final census results; those for later years have been revised in accordance with the preliminary results of the 1971 Census. (b) Excludes deaths of defence personnel, whether in Australia or overseas, between September 1939 and June 1947. (c) Excess of *Live births registered* over *Deaths registered*; see also note (b). (d) Deaths under one year of age; included in *Deaths registered*. (e) Per 1,000 live births. (f) Not available.

PUBLIC REVENUE AND EXPENDITURE: CONSOLIDATED REVENUE FUND  
(\$'000)

| Year (a) | Revenue             |                  |                  |          |                 | Total revenue | Expenditure      |                           |              |        |         | Total expenditure |
|----------|---------------------|------------------|------------------|----------|-----------------|---------------|------------------|---------------------------|--------------|--------|---------|-------------------|
|          | Common-wealth funds | Public utilities | Departmental (b) | Taxation | Territorial (c) |               | Public utilities | Interest and sinking fund | Departmental |        |         |                   |
|          |                     |                  |                  |          |                 |               |                  |                           | Educa-tion   | Health | Other   |                   |
| 1840     | ....                | ....             | ....             | ....     | 5               | 34            | ....             | ....                      | n.a.         | ....   | ....    | 30                |
| 1850     | ....                | ....             | ....             | ....     | 4               | 38            | ....             | n.a.                      | n.a.         | ....   | ....    | 33                |
| 1860     | ....                | ....             | ....             | ....     | 35              | 140           | ....             | ....                      | 3            | ....   | ....    | 123               |
| 1870     | n.a.                | n.a.             | n.a.             | n.a.     | 40              | 196           | n.a.             | ....                      | 7            | n.a.   | n.a.    | 226               |
| 1880     | ....                | ....             | ....             | ....     | 72              | 360           | ....             | 40                        | 19           | ....   | ....    | 409               |
| 1890     | ....                | ....             | ....             | ....     | 217             | 829           | ....             | 144                       | 23           | ....   | ....    | 803               |
| 1900     | ....                | 2,612            | 182              | 244      | 380             | 5,751         | 1,863            | 880                       | 138          | 198    | 2,049   | 5,231             |
| 1910     | 1,407               | 3,916            | 551              | 673      | 649             | 7,315         | 2,440            | 2,006                     | 367          | 328    | 1,533   | 6,895             |
| 1911     | 1,139               | 4,417            | 573              | 650      | 802             | 7,701         | 2,704            | 2,092                     | 404          | 315    | 1,713   | 7,469             |
| 1912     | 1,277               | 4,477            | 574              | 705      | 772             | 7,933         | 2,903            | 2,203                     | 477          | 367    | 1,960   | 8,202             |
| 1913     | 1,271               | 5,339            | 712              | 787      | 776             | 9,193         | 3,594            | 2,416                     | 553          | 412    | 2,047   | 9,574             |
| 1914     | 1,282               | 5,991            | 986              | 772      | 808             | 10,411        | 4,004            | 2,768                     | 608          | 449    | 1,895   | 10,682            |
| 1915     | 1,263               | 5,513            | 753              | 744      | 793             | 10,281        | 3,814            | 3,093                     | 625          | 492    | 1,559   | 11,413            |
| 1916     | 1,232               | 5,738            | 854              | 816      | 783             | 10,714        | 3,951            | 3,328                     | 635          | 531    | 1,397   | 11,410            |
| 1917     | 1,189               | 5,279            | 931              | 805      | 660             | 9,154         | 3,913            | 3,532                     | 668          | 561    | 1,561   | 10,554            |
| 1918     | 1,198               | 5,255            | 883              | 899      | 632             | 9,245         | 3,869            | 3,750                     | 708          | 444    | 1,503   | 10,657            |
| 1919     | 1,171               | 5,362            | 962              | 1,258    | 690             | 9,890         | 4,131            | 3,946                     | 732          | 482    | 1,602   | 11,194            |
| 1920     | 1,197               | 6,364            | 1,188            | 1,688    | 818             | 11,727        | 5,156            | 4,124                     | 829          | 642    | 1,931   | 13,063            |
| 1921     | 1,188               | 7,517            | 1,618            | 1,911    | 875             | 13,579        | 6,290            | 4,459                     | 980          | 590    | 2,231   | 14,953            |
| 1922     | 1,168               | 7,787            | 1,822            | 1,762    | 870             | 13,814        | 6,120            | 4,875                     | 1,112        | 540    | 2,172   | 15,278            |
| 1923     | 1,166               | 8,000            | 2,092            | 1,975    | 807             | 14,415        | 5,847            | 5,150                     | 1,126        | 538    | 2,100   | 15,226            |
| 1924     | 1,171               | 8,776            | 2,173            | 2,347    | 925             | 15,731        | 6,065            | 5,668                     | 1,161        | 544    | 2,229   | 16,190            |
| 1925     | 1,176               | 9,154            | 2,576            | 2,448    | 1,004           | 16,763        | 6,195            | 6,193                     | 1,171        | 587    | 2,191   | 16,880            |
| 1926     | 1,177               | 9,280            | 2,831            | 2,836    | 1,083           | 17,616        | 6,577            | 6,596                     | 1,010        | 610    | 2,400   | 17,815            |
| 1927     | 2,306               | 9,941            | 3,274            | 2,423    | 1,102           | 19,502        | 6,958            | 6,590                     | 1,294        | 604    | 3,351   | 19,445            |
| 1928     | 1,618               | 10,589           | 3,205            | 2,593    | 1,222           | 19,616        | 7,467            | 6,358                     | 1,337        | 606    | 3,246   | 19,669            |
| 1929     | 1,623               | 10,772           | 3,312            | 2,740    | 1,029           | 19,896        | 7,885            | 6,671                     | 1,358        | 634    | 3,278   | 20,448            |
| 1930     | 1,547               | 10,596           | 3,134            | 2,906    | 950             | 19,501        | 8,073            | 6,891                     | 1,385        | 649    | 2,872   | 20,537            |
| 1931     | 1,547               | 9,228            | 3,279            | 2,269    | 678             | 17,374        | 6,654            | 7,243                     | 1,346        | 486    | 3,950   | 20,215            |
| 1932     | 1,547               | 8,818            | 2,766            | 2,014    | 585             | 16,071        | 5,724            | 7,015                     | 1,098        | 328    | 4,543   | 19,186            |
| 1933     | 1,947               | 8,873            | 2,701            | 2,257    | 558             | 16,664        | 5,682            | 7,009                     | 1,108        | 333    | 3,761   | 18,392            |
| 1934     | 2,147               | 8,867            | 2,240            | 2,737    | 626             | 16,963        | 5,870            | 7,095                     | 1,153        | 309    | 3,560   | 18,541            |
| 1935     | 2,413               | 9,837            | 1,562            | 3,804    | 812             | 18,663        | 6,391            | 7,100                     | 1,225        | 326    | 3,342   | 18,997            |
| 1936     | 2,617               | 10,366           | 1,677            | 4,372    | 767             | 20,067        | 6,756            | 7,135                     | 1,331        | 341    | 3,595   | 19,891            |
| 1937     | 2,013               | 10,633           | 1,727            | 4,807    | 773             | 20,371        | 7,247            | 7,237                     | 1,432        | 381    | 4,024   | 21,113            |
| 1938     | 2,097               | 11,148           | 1,980            | 5,190    | 749             | 21,638        | 7,249            | 7,579                     | 1,474        | 380    | 4,158   | 21,659            |
| 1939     | 2,087               | 11,159           | 1,786            | 5,728    | 634             | 21,899        | 7,857            | 7,779                     | 1,514        | 401    | 3,992   | 22,340            |
| 1940     | 2,137               | 11,102           | 1,942            | 5,992    | 632             | 22,240        | 7,662            | 8,021                     | 1,545        | 416    | 4,070   | 22,534            |
| 1941     | 2,247               | 11,366           | 1,916            | 6,255    | 638             | 22,864        | 7,534            | 8,114                     | 1,568        | 421    | 4,262   | 22,842            |
| 1942     | 2,207               | 12,133           | 2,204            | 6,222    | 620             | 23,880        | 8,282            | 8,204                     | 1,662        | 436    | 4,293   | 23,877            |
| 1943     | 7,852               | 13,518           | 2,497            | 1,330    | 634             | 26,303        | 9,377            | 8,183                     | 1,627        | 458    | 5,564   | 26,254            |
| 1944     | 7,935               | 13,626           | 2,868            | 1,553    | 700             | 27,178        | 9,870            | 8,185                     | 1,747        | 506    | 5,780   | 27,102            |
| 1945     | 8,044               | 13,618           | 3,402            | 1,715    | 697             | 27,908        | 10,064           | 8,251                     | 1,778        | 485    | 6,261   | 27,899            |
| 1946     | 9,960               | 13,303           | 2,519            | 1,936    | 709             | 28,815        | 10,825           | 8,168                     | 2,005        | 1,010  | 5,621   | 28,815            |
| 1947     | 11,461              | 11,769           | 3,105            | 2,138    | 1,053           | 29,962        | 10,866           | 8,012                     | 2,447        | 1,369  | 5,910   | 30,057            |
| 1948     | 14,515              | 13,242           | 3,575            | 2,354    | 1,202           | 35,421        | 13,996           | 8,089                     | 3,298        | 1,841  | 7,280   | 36,125            |
| 1949     | 17,136              | 15,032           | 4,564            | 2,683    | 1,106           | 41,121        | 16,720           | 8,215                     | 3,519        | 2,613  | 9,942   | 42,756            |
| 1950     | 22,975              | 17,792           | 5,733            | 3,240    | 1,225           | 51,622        | 20,237           | 8,508                     | 4,160        | 3,633  | 13,096  | 51,574            |
| 1951     | 25,343              | 19,085           | 5,911            | 3,912    | 1,230           | 56,312        | 21,974           | 8,994                     | 5,269        | 4,465  | 13,180  | 55,994            |
| 1952     | 29,923              | 24,335           | 6,863            | 4,633    | 1,300           | 67,910        | 27,490           | 9,741                     | 7,262        | 6,269  | 15,696  | 69,094            |
| 1953     | 39,056              | 22,385           | 8,557            | 5,247    | 1,513           | 77,768        | 32,044           | 10,611                    | 8,686        | 6,926  | 17,639  | 78,784            |
| 1954     | 38,342              | 29,860           | 8,738            | 6,468    | 1,929           | 86,292        | 35,234           | 12,147                    | 9,503        | 7,675  | 18,797  | 86,497            |
| 1955     | 38,759              | 32,645           | 9,433            | 7,258    | 2,014           | 91,440        | 36,089           | 13,857                    | 11,217       | 8,026  | 19,838  | 92,408            |
| 1956     | 43,373              | 33,969           | 9,779            | 8,036    | 2,498           | 99,225        | 39,184           | 15,451                    | 12,482       | 9,344  | 21,501  | 102,886           |
| 1957     | 46,759              | 37,133           | 12,548           | 9,027    | 2,433           | 108,662       | 42,022           | 17,043                    | 13,636       | 10,067 | 23,645  | 112,487           |
| 1958     | 51,808              | 34,525           | 13,640           | 10,729   | 2,516           | 114,108       | 40,103           | 19,303                    | 15,172       | 11,026 | 25,572  | 116,355           |
| 1959     | 55,496              | 36,080           | 14,522           | 10,368   | 2,783           | 120,136       | 40,317           | 20,844                    | 15,819       | 11,967 | 29,244  | 123,506           |
| 1960     | 58,871              | 38,575           | 15,696           | 11,834   | 2,878           | 128,776       | 42,418           | 23,053                    | 17,282       | 13,565 | 29,861  | 131,587           |
| 1961     | 65,519              | 40,830           | 16,372           | 12,079   | 2,797           | 138,665       | 41,072           | 24,628                    | 19,541       | 15,018 | 35,160  | 141,075           |
| 1962     | 73,430              | 42,456           | 16,549           | 12,926   | 3,283           | 149,852       | 42,097           | 27,250                    | 21,417       | 14,935 | 40,131  | 151,780           |
| 1963     | 75,847              | 43,559           | 18,134           | 14,762   | 3,501           | 157,182       | 42,267           | 29,980                    | 22,850       | 16,073 | 41,254  | 158,687           |
| 1964     | 78,988              | 45,376           | 20,948           | 17,604   | 3,751           | 167,888       | 44,247           | 31,771                    | 25,880       | 18,705 | 43,430  | 170,681           |
| 1965     | 88,565              | 39,778           | 26,712           | 19,512   | 4,107           | 180,143       | 43,360           | 34,669                    | 29,133       | 21,160 | 49,401  | 184,840           |
| 1966     | 103,459             | 45,683           | 28,753           | 22,574   | 4,598           | 206,655       | 47,106           | 37,926                    | 34,016       | 23,086 | 56,869  | 206,665           |
| 1967     | 106,748             | 52,787           | 31,461           | 27,536   | 7,655           | 228,146       | 53,182           | 41,662                    | 36,746       | 26,429 | 61,512  | 228,174           |
| 1968     | 112,617             | 56,226           | 33,135           | 34,916   | 11,845          | 250,738       | 60,728           | 43,864                    | 41,224       | 29,294 | 65,362  | 249,909           |
| 1969     | 126,621             | 54,407           | 33,035           | 41,602   | 17,301          | 275,081       | 64,016           | 47,083                    | 46,441       | 33,613 | 74,822  | 276,137           |
| 1970     | 141,326             | 62,921           | 36,905           | 50,865   | 23,633          | 318,189       | 71,166           | 51,427                    | 55,839       | 41,343 | 87,660  | 318,901           |
| 1971     | 170,396             | 68,350           | 45,583           | 48,434   | 32,187          | 367,252       | 79,717           | 54,178                    | 66,341       | 52,575 | 107,129 | 371,620           |

n.a. denotes 'not applicable' or 'not available'.

(a) From 1900, year ended 30 June. (b) Reimbursements, fees, etc. (c) Revenue from sales, leases, licences and royalties relating to land, mining and timber.

# NET EXPENDITURE FROM LOAN FUNDS; PUBLIC DEBT (\$'000)

| Year<br>(a) | Net expenditure from loan funds on public works<br>and services (b) |                       |                                                   |                                                                  |                     |         |           | Public debt<br>(at end of year)     |                 |
|-------------|---------------------------------------------------------------------|-----------------------|---------------------------------------------------|------------------------------------------------------------------|---------------------|---------|-----------|-------------------------------------|-----------------|
|             | Railways,<br>tramways<br>and<br>omnibuses                           | Electricity<br>supply | Harbours,<br>rivers,<br>light-<br>houses,<br>etc. | Water<br>supplies,<br>sewerage,<br>drainage<br>and<br>irrigation | Public<br>buildings | Other   | Total     | Gross<br>amount<br>outstand-<br>ing | Sinking<br>fund |
| 1860        | ....                                                                | ....                  | ....                                              | ....                                                             | ....                | ....    | ....      | 4                                   | ....            |
| 1870        | ....                                                                | ....                  | ....                                              | ....                                                             | ....                | ....    | ....      | ....                                | ....            |
| 1880        | (c) 549                                                             | ....                  | (d) 38                                            | ....                                                             | ....                | (e) 802 | ....      | 722                                 | (e) 170         |
| 1890        | 3                                                                   | ....                  | 6                                                 | 2                                                                | (f) 76              | (e) 32  | ....      | 2,735                               | 754             |
| 1900        | 302                                                                 | ....                  | 395                                               | 949                                                              | ....                | 110     | 1,757     | 23,349                              | 5,139           |
| 1910        | 908                                                                 | ....                  | 174                                               | 199                                                              | 152                 | 626     | 2,058     | 46,575                              | 13,656          |
| 1911        | (g) 1,818                                                           | ....                  | (g) 67                                            | (g) 307                                                          | (g) 106             | (g) 816 | (g) 3,114 | 47,408                              | 5,090           |
| 1912        | 2,641                                                               | ....                  | 372                                               | 250                                                              | 262                 | *1,163  | *4,688    | 52,567                              | 5,837           |
| 1913        | 3,988                                                               | ....                  | 301                                               | 790                                                              | 140                 | *1,627  | *6,846    | 60,553                              | 6,619           |
| 1914        | 2,333                                                               | ....                  | 180                                               | 664                                                              | 88                  | *2,501  | *5,766    | 68,840                              | 7,384           |
| 1915        | 1,386                                                               | ....                  | 331                                               | 496                                                              | 162                 | *2,635  | *5,010    | 74,045                              | 8,138           |
| 1916        | 895                                                                 | ....                  | 218                                               | 331                                                              | 81                  | 1,643   | 3,169     | 78,279                              | 9,057           |
| 1917        | 675                                                                 | ....                  | 244                                               | 153                                                              | 47                  | 592     | 1,710     | 81,830                              | 10,072          |
| 1918        | 416                                                                 | ....                  | 170                                               | 136                                                              | 35                  | 1,351   | 2,108     | 84,608                              | 11,142          |
| 1919        | 375                                                                 | ....                  | 140                                               | 93                                                               | 43                  | 1,448   | 2,099     | 87,274                              | 12,278          |
| 1920        | 242                                                                 | ....                  | 204                                               | 94                                                               | 21                  | 4,765   | 5,327     | 93,644                              | 13,656          |
| 1921        | 398                                                                 | ....                  | 237                                               | 427                                                              | 50                  | 4,061   | 5,173     | 98,079                              | 15,283          |
| 1922        | 1,207                                                               | ....                  | 183                                               | 435                                                              | 89                  | 2,996   | 4,910     | 109,920                             | 16,740          |
| 1923        | 1,359                                                               | ....                  | 240                                               | 402                                                              | 37                  | 4,740   | 6,779     | 116,972                             | 17,562          |
| 1924        | 1,303                                                               | ....                  | 278                                               | 871                                                              | 177                 | 5,244   | 7,874     | 125,532                             | 18,747          |
| 1925        | 1,243                                                               | ....                  | 362                                               | 1,301                                                            | 182                 | 5,110   | 8,198     | 128,987                             | 19,970          |
| 1926        | 1,540                                                               | ....                  | 439                                               | 1,357                                                            | 156                 | 4,667   | 8,157     | 140,022                             | 21,309          |
| 1927        | 1,559                                                               | ....                  | 382                                               | 884                                                              | 235                 | 4,901   | 7,960     | 141,212                             | 17,514          |
| 1928        | 1,902                                                               | ....                  | 530                                               | 1,132                                                            | 256                 | 4,577   | 8,397     | 152,856                             | 17,798          |
| 1929        | 1,825                                                               | ....                  | 528                                               | 1,092                                                            | 182                 | 4,255   | 7,882     | (h) 138,711                         | (h) 1,983       |
| 1930        | 1,819                                                               | ....                  | 529                                               | 610                                                              | 108                 | 4,226   | 7,291     | 142,389                             | 2,081           |
| 1931        | 878                                                                 | ....                  | 257                                               | 420                                                              | Cr. (i)             | 1,457   | 3,012     | 153,130                             | 2,621           |
| 1932        | 263                                                                 | ....                  | 155                                               | 1,152                                                            | ....                | 1,055   | 2,624     | 159,416                             | 2,618           |
| 1933        | 374                                                                 | ....                  | 485                                               | 1,355                                                            | 69                  | 1,838   | 4,121     | 167,029                             | 2,693           |
| 1934        | 659                                                                 | ....                  | 492                                               | 1,606                                                            | 196                 | 2,344   | 5,297     | 171,696                             | 743             |
| 1935        | 997                                                                 | ....                  | 610                                               | 2,155                                                            | 213                 | 1,103   | 5,076     | 177,180                             | 1,048           |
| 1936        | 946                                                                 | ....                  | 602                                               | 2,487                                                            | 169                 | 700     | 4,903     | 180,688                             | 1,138           |
| 1937        | 491                                                                 | ....                  | 352                                               | 2,303                                                            | 178                 | 741     | 4,064     | 184,666                             | 1,292           |
| 1938        | 950                                                                 | ....                  | 201                                               | 1,843                                                            | 183                 | 1,144   | 4,321     | 187,424                             | 614             |
| 1939        | 441                                                                 | ....                  | 184                                               | 1,777                                                            | 230                 | 640     | 3,272     | 190,945                             | 719             |
| 1940        | 200                                                                 | ....                  | 104                                               | 1,615                                                            | 732                 | 974     | 3,624     | 192,461                             | 608             |
| 1941        | 214                                                                 | 18                    | 152                                               | 1,649                                                            | 306                 | 480     | 2,819     | 195,583                             | 1,147           |
| 1942        | 110                                                                 | 25                    | 111                                               | 605                                                              | 70                  | 437     | 1,359     | 194,718                             | 535             |
| 1943        | 157                                                                 | 92                    | 133                                               | 100                                                              | 55                  | 217     | 754       | 193,976                             | 347             |
| 1944        | 49                                                                  | 31                    | Cr. 143                                           | 75                                                               | 166                 | 34      | 212       | 192,957                             | 140             |
| 1945        | 140                                                                 | 11                    | 61                                                | 150                                                              | 241                 | 492     | 1,094     | 191,790                             | 254             |
| 1946        | 142                                                                 | 208                   | 75                                                | 473                                                              | 451                 | 276     | 1,625     | 193,852                             | 1,008           |
| 1947        | 535                                                                 | 332                   | 173                                               | 1,453                                                            | 772                 | 821     | 4,087     | 198,005                             | 1,091           |
| 1948        | 676                                                                 | 1,471                 | 316                                               | 1,388                                                            | 1,097               | 125     | 5,074     | 200,549                             | 309             |
| 1949        | 913                                                                 | 2,131                 | 449                                               | 1,626                                                            | 1,099               | 942     | 7,161     | 207,377                             | 126             |
| 1950        | 4,496                                                               | 4,691                 | 804                                               | 2,002                                                            | 1,357               | 2,859   | 16,209    | 219,100                             | 142             |
| 1951        | 3,723                                                               | 6,591                 | 1,164                                             | 4,091                                                            | 2,003               | 3,081   | 20,653    | 246,374                             | 17              |
| 1952        | 15,198                                                              | 6,684                 | 2,694                                             | 4,803                                                            | 2,729               | 3,409   | 35,517    | 276,577                             | 647             |
| 1953        | 13,533                                                              | 179                   | 2,422                                             | 4,858                                                            | 5,432               | 8,787   | 35,213    | 306,144                             | 1,861           |
| 1954        | 11,295                                                              | 1,406                 | 2,328                                             | 3,939                                                            | 3,144               | 6,276   | 28,388    | 331,565                             | 822             |
| 1955        | 9,752                                                               | 1,410                 | 1,920                                             | 5,661                                                            | 3,993               | 6,726   | 29,462    | 355,763                             | 442             |
| 1956        | 6,139                                                               | 2,049                 | 1,638                                             | 5,516                                                            | 4,187               | 7,098   | 26,629    | 377,465                             | 245             |
| 1957        | 5,519                                                               | 4,200                 | 950                                               | 7,119                                                            | 5,599               | 9,169   | 32,556    | 410,290                             | 112             |
| 1958        | 4,209                                                               | 2,480                 | 1,398                                             | 7,694                                                            | 5,891               | 6,599   | 28,272    | 436,857                             | 147             |
| 1959        | 5,711                                                               | 2,200                 | 1,428                                             | 8,395                                                            | 7,410               | 7,199   | 32,342    | 464,237                             | 173             |
| 1960        | 4,953                                                               | 1,553                 | 1,373                                             | 9,547                                                            | 8,723               | 6,355   | 32,504    | 493,575                             | 171             |
| 1961        | 4,221                                                               | 400                   | 1,966                                             | 10,314                                                           | 10,479              | 8,037   | 35,418    | 523,070                             | 94              |
| 1962        | 5,432                                                               | 300                   | 2,587                                             | 10,952                                                           | 12,032              | 6,449   | 37,751    | 555,130                             | 222             |
| 1963        | 6,204                                                               | 500                   | 2,438                                             | 10,770                                                           | 13,420              | 5,563   | 38,894    | 587,336                             | 485             |
| 1964        | 7,496                                                               | ....                  | 3,028                                             | 10,537                                                           | 15,630              | 6,409   | 43,100    | 626,045                             | 442             |
| 1965        | 6,800                                                               | 794                   | 2,822                                             | 10,957                                                           | 19,948              | 5,457   | 46,779    | 665,620                             | 473             |
| 1966        | 7,628                                                               | 1,434                 | 2,583                                             | 12,667                                                           | 19,908              | 3,580   | 47,800    | 705,514                             | 267             |
| 1967        | 9,068                                                               | 2,427                 | 1,746                                             | 13,642                                                           | 18,230              | 5,902   | 51,015    | 748,601                             | 216             |
| 1968        | 7,750                                                               | 4,542                 | 2,402                                             | 14,552                                                           | 18,816              | 5,115   | 53,177    | 792,699                             | 408             |
| 1969        | 10,547                                                              | 5,679                 | 1,190                                             | 12,560                                                           | 20,116              | 4,765   | 54,859    | 840,343                             | 3,015           |
| 1970        | 6,331                                                               | 4,566                 | 2,055                                             | 13,330                                                           | 24,627              | 8,594   | 59,504    | 886,778                             | 182             |
| 1971        | 7,194                                                               | 27                    | 2,202                                             | 15,176                                                           | 25,549              | 13,492  | 63,640    | 924,111                             | 582             |

(a) From 1900, year ended 30 June. Sinking fund at 31 March from 1900 to 1928. (b) From 1928 includes expenditure from Loan Suspense Account. (c) Total amount for the years 1877 to 1881. (d) Total amount for the years 1872 to 1881. (e) Not available. (f) Includes expenditure prior to 1890. (g) Including readjustments for previous years. (h) Reduction due to operation of Financial Agreement Act of 1928. (i) Less than \$500. \* Revised.

## BANKING AND INSURANCE

| Year | Trading banks             |                                                                                                                  |                                          | Savings banks (c)                 |                                     | Insurance                                              |            |                 |         |
|------|---------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------------------------------|-------------------------------------|--------------------------------------------------------|------------|-----------------|---------|
|      | De-positors' balances (a) | Loans (other than loans to authorised dealers in the short-term money market), advances and bills discounted (a) | Weekly debits to customers' accounts (b) | Operative accounts at end of year | Depositors' balances at end of year | Life                                                   |            | General (e) (f) |         |
|      |                           |                                                                                                                  |                                          |                                   |                                     | Sum insured under policies existing at end of year (d) |            | Premiums        | Claims  |
|      |                           |                                                                                                                  |                                          |                                   |                                     | Ordinary (including super-annuation)                   | Industrial |                 |         |
|      | \$'000                    | \$'000                                                                                                           | \$m                                      |                                   | \$'000                              | \$'000                                                 | \$'000     | \$'000          | \$'000  |
| 1870 |                           | (g)                                                                                                              |                                          | 895                               | 27                                  | (g)                                                    |            |                 |         |
| 1880 |                           | (g)                                                                                                              |                                          | 1,299                             | 45                                  | (g)                                                    |            |                 |         |
| 1890 | 1,904                     | 2,809                                                                                                            |                                          | 3,014                             | 69                                  | (g)                                                    |            |                 |         |
| 1900 | 8,781                     | 5,514                                                                                                            |                                          | 33,646                            | 2,598                               | 6,916                                                  | 439        |                 |         |
| 1910 | 12,627                    | 12,228                                                                                                           |                                          | 84,262                            | 6,955                               | 12,717                                                 | 1,170      |                 |         |
| 1911 | 14,331                    | 15,000                                                                                                           |                                          | 97,147                            | 8,178                               | 13,996                                                 | 1,369      | (g)             | (g)     |
| 1912 | 13,395                    | 16,824                                                                                                           |                                          | 108,622                           | 8,801                               | 14,925                                                 | 1,662      |                 |         |
| 1913 | 12,841                    | 16,353                                                                                                           |                                          | 121,201                           | 9,350                               | 15,277                                                 | 2,017      |                 |         |
| 1914 | 13,787                    | 16,633                                                                                                           |                                          | 134,510                           | 9,851                               | 15,842                                                 | 2,267      |                 |         |
| 1915 | 15,229                    | 17,418                                                                                                           |                                          | 144,777                           | 10,285                              | 16,058                                                 | 2,451      |                 |         |
| 1916 | 16,099                    | 18,635                                                                                                           |                                          | 156,458                           | 10,667                              | 16,660                                                 | 2,731      |                 |         |
| 1917 | 17,178                    | 18,285                                                                                                           |                                          | 171,207                           | 11,683                              | 17,239                                                 | 3,042      | 721             | 196     |
| 1918 | 19,374                    | 19,170                                                                                                           |                                          | 182,140                           | 12,580                              | 18,103                                                 | 3,456      | 783             | 303     |
| 1919 | 21,606                    | 20,829                                                                                                           |                                          | 196,584                           | 14,005                              | 19,851                                                 | 3,907      | 803             | 295     |
| 1920 | 24,742                    | 21,594                                                                                                           |                                          | 211,415                           | 14,516                              | 21,640                                                 | 4,089      | 1,080           | 368     |
| 1921 | 24,004                    | 21,833                                                                                                           |                                          | 226,468                           | 15,433                              | 24,183                                                 | 4,699      | 1,112           | 684     |
| 1922 | 24,519                    | 21,531                                                                                                           | (g)                                      | 237,505                           | 15,519                              | 25,586                                                 | 5,189      | 1,195           | 658     |
| 1923 | 25,349                    | 22,796                                                                                                           |                                          | 250,214                           | 16,067                              | 27,544                                                 | 5,707      | 1,242           | 435     |
| 1924 | 26,245                    | 23,313                                                                                                           |                                          | 264,842                           | 16,436                              | 29,310                                                 | 6,360      | 1,528           | 543     |
| 1925 | 27,200                    | 24,095                                                                                                           |                                          | 277,701                           | 16,608                              | 31,739                                                 | 6,811      | 1,669           | 724     |
| 1926 | (h) 28,887                | (h) 25,745                                                                                                       |                                          | 292,353                           | 17,940                              | 33,970                                                 | 7,317      | 1,832           | 901     |
| 1927 | 29,301                    | 29,233                                                                                                           |                                          | 309,176                           | 13,389                              | 36,279                                                 | 8,042      | (h) 831         | (h) 432 |
| 1928 | 31,025                    | 30,592                                                                                                           |                                          | 330,284                           | 21,291                              | 38,926                                                 | 8,750      | 2,111           | 1,200   |
| 1929 | 26,811                    | 34,480                                                                                                           |                                          | 350,046                           | 23,218                              | 41,268                                                 | 9,366      | 2,391           | 1,205   |
| 1930 | 25,524                    | 41,773                                                                                                           |                                          | 367,665                           | 23,457                              | 41,656                                                 | 9,003      | 2,452           | 1,163   |
| 1931 | 24,455                    | 41,635                                                                                                           |                                          | 371,662                           | 21,735                              | 39,906                                                 | 8,353      | 1,914           | 971     |
| 1932 | 28,563                    | 39,292                                                                                                           |                                          | 206,997                           | 20,435                              | 39,181                                                 | 8,585      | 1,693           | 655     |
| 1933 | 29,785                    | 38,433                                                                                                           |                                          | 194,095                           | 20,129                              | 39,447                                                 | 8,918      | 1,786           | 796     |
| 1934 | 32,853                    | 38,742                                                                                                           |                                          | 192,915                           | 20,798                              | 40,631                                                 | 9,394      | 1,746           | 801     |
| 1935 | 36,206                    | 41,061                                                                                                           |                                          | 197,611                           | 21,858                              | 42,899                                                 | 9,945      | 1,929           | 910     |
| 1936 | 38,731                    | 43,232                                                                                                           |                                          | 208,990                           | 23,034                              | 45,608                                                 | 10,688     | 2,176           | 1,015   |
| 1937 | 39,463                    | 44,532                                                                                                           |                                          | 217,247                           | 23,670                              | 48,857                                                 | 11,373     | 2,410           | 1,366   |
| 1938 | 41,230                    | 45,141                                                                                                           |                                          | 225,118                           | 24,075                              | 51,653                                                 | 11,944     | 2,641           | 1,526   |
| 1939 | 41,181                    | 47,774                                                                                                           |                                          | 232,564                           | 24,792                              | 53,853                                                 | 12,609     | 2,746           | 1,462   |
| 1940 | 42,219                    | 47,529                                                                                                           |                                          | 233,649                           | 23,720                              | 54,708                                                 | 13,086     | 2,884           | 1,460   |
| 1941 | 47,099                    | 45,617                                                                                                           |                                          | 238,820                           | 25,042                              | 55,842                                                 | 13,875     | 2,792           | 1,236   |
| 1942 | 51,918                    | 43,638                                                                                                           |                                          | 250,153                           | 27,642                              | 55,881                                                 | 15,311     | 2,806           | 1,245   |
| 1943 | 61,135                    | 37,827                                                                                                           |                                          | 279,469                           | 37,769                              | 57,865                                                 | 16,656     | 2,347           | 1,014   |
| 1944 | 71,529                    | 33,462                                                                                                           |                                          | 301,225                           | 51,581                              | 61,380                                                 | 17,962     | 2,369           | 897     |
| 1945 | 74,846                    | 31,504                                                                                                           |                                          | 316,565                           | 63,526                              | 66,254                                                 | 19,024     | 2,565           | 1,154   |
| 1946 | (i) 66,652                | (i) 33,726                                                                                                       | (j) 11.6                                 | 340,737                           | 76,578                              | 77,608                                                 | 21,036     | 2,890           | 1,223   |
| 1947 | 72,490                    | 45,388                                                                                                           | 14.2                                     | 349,091                           | 73,250                              | 88,016                                                 | 23,054     | 3,503           | 1,737   |
| 1948 | 82,032                    | 48,754                                                                                                           | 17.4                                     | 358,709                           | 72,365                              | 98,891                                                 | 25,139     | 4,188           | 2,089   |
| 1949 | 100,971                   | 49,904                                                                                                           | 21.4                                     | 365,130                           | 75,070                              | 111,213                                                | 27,127     | 5,071           | 2,053   |
| 1950 | 116,458                   | 55,301                                                                                                           | 27.4                                     | 378,670                           | 79,225                              | 126,332                                                | 29,503     | 5,913           | 2,440   |
| 1951 | 149,244                   | 66,680                                                                                                           | 38.6                                     | 392,790                           | 89,345                              | 148,724                                                | 32,460     | 7,360           | 3,341   |
| 1952 | 170,923                   | 83,353                                                                                                           | 43.6                                     | 403,678                           | 94,342                              | 171,007                                                | 35,257     | 9,358           | 5,261   |
| 1953 | 170,234                   | 87,353                                                                                                           | 44.2                                     | 414,288                           | 99,589                              | 195,499                                                | 38,110     | 10,736          | 5,453   |
| 1954 | 181,863                   | 106,429                                                                                                          | 50.8                                     | 422,480                           | 105,229                             | 221,568                                                | 40,240     | 11,427          | 5,276   |
| 1955 | 180,895                   | 137,830                                                                                                          | 52.4                                     | 426,637                           | 107,258                             | 251,543                                                | 41,487     | 12,563          | 6,281   |
| 1956 | 174,070                   | 142,156                                                                                                          | 53.9                                     | 446,419                           | 115,868                             | 282,139                                                | 42,114     | 13,546          | 7,126   |
| 1957 | 185,576                   | 135,074                                                                                                          | 57.1                                     | 473,548                           | 125,386                             | 317,264                                                | 42,535     | 13,792          | 8,202   |
| 1958 | 186,478                   | 141,198                                                                                                          | 60.4                                     | 497,690                           | 131,896                             | 352,360                                                | 43,003     | 15,601          | 7,807   |
| 1959 | 180,300                   | 147,106                                                                                                          | 61.5                                     | 527,079                           | 142,998                             | 396,322                                                | 43,279     | 17,169          | 9,165   |
| 1960 | 192,076                   | 142,064                                                                                                          | 69.7                                     | 550,966                           | 157,246                             | 459,740                                                | 44,325     | 19,951          | 10,671  |
| 1961 | 190,094                   | 146,244                                                                                                          | 75.7                                     | 577,619                           | 161,424                             | 523,636                                                | 44,745     | 21,607          | 12,770  |
| 1962 | 209,274                   | 139,204                                                                                                          | 80.4                                     | 625,070                           | 181,056                             | 597,892                                                | 46,754     | 22,914          | 12,255  |
| 1963 | 219,952                   | 153,528                                                                                                          | 88.2                                     | 683,417                           | 208,812                             | 679,161                                                | 47,983     | 24,761          | 14,723  |
| 1964 | 242,268                   | 164,878                                                                                                          | 96.4                                     | 736,009                           | 239,766                             | 774,550                                                | 50,588     | 26,285          | 15,629  |
| 1965 | 272,430                   | 186,000                                                                                                          | 106.3                                    | 786,340                           | 261,654                             | 881,652                                                | 53,565     | 28,224          | 16,108  |
| 1966 | 310,432                   | 195,190                                                                                                          | 122.4                                    | 848,562                           | 292,871                             | 1,005,119                                              | 57,916     | 32,385          | 18,247  |
| 1967 | 355,899                   | 212,023                                                                                                          | 138.6                                    | 905,349                           | 330,807                             | 1,164,613                                              | 63,960     | 36,535          | 20,995  |
| 1968 | 398,837                   | 252,627                                                                                                          | 169.1                                    | 970,120                           | 373,602                             | 1,383,330                                              | 69,961     | 41,724          | 24,218  |
| 1969 | 462,559                   | 280,147                                                                                                          | 209.0                                    | 1,036,180                         | 412,984                             | 1,651,918                                              | 75,605     | 47,566          | 28,769  |
| 1970 | 558,017                   | 323,824                                                                                                          | 246.4                                    | 1,096,466                         | 431,877                             | 1,948,690                                              | 83,255     | 55,641          | 31,237  |
| 1971 | 544,732                   | 351,110                                                                                                          | 295.3                                    | 1,153,420                         | 464,611                             | (k)                                                    | (k)        | 63,873          | 35,793  |

(a) Average based on amounts as at close of business each week. From 1927, year ended 30 June. (b) Weekly average for year ended 30 June. Excludes debits to Australian Government accounts at city branches. From 1946-47 includes The Rural and Industries Bank of Western Australia (Rural Department). (c) From 1900, year ended 30 June. (d) Actual date varies according to the financial year of individual insurance companies. (e) From 1927, year ended 30 June. (f) Excludes transactions of The Motor Vehicle Insurance Trust, which became the sole insurer in respect of motor vehicle (third party) insurance from 1 July 1949. (g) Not available. (h) Six months ended 30 June. (i) Average for nine months to 30 June. (j) Ten months ended June 1946. (k) Not available at time of publication.

## TRANSPORT ; CUSTOMS AND EXCISE

| Year      | State Government railways (a)  |                       |                        |                                        | Private railways                   | Customs and excise revenue (e) |        |         | Shipping (e) (f)                      |           |
|-----------|--------------------------------|-----------------------|------------------------|----------------------------------------|------------------------------------|--------------------------------|--------|---------|---------------------------------------|-----------|
|           | Route miles at end of year (b) | Operating revenue (c) | Operating expenses (c) | Paying goods and livestock carried (c) | Route miles at end of year (d) (e) | Customs                        | Excise | Total   | Clearances to ports outside the State |           |
|           |                                |                       |                        |                                        |                                    |                                |        |         | Number                                | Net tons  |
|           |                                | \$'000                | \$'000                 | '000 tons                              |                                    | \$'000                         | \$'000 | \$'000  |                                       | '000      |
| 1870 .... | ....                           | ....                  | ....                   | ....                                   | ....                               | 81                             | ....   | 81      | 131                                   | 68        |
| 1880 .... | 34                             | 5                     | 8                      | 2                                      | 38                                 | 186                            | ....   | 186     | 168                                   | 126       |
| 1890 .... | 188                            | 90                    | 103                    | 61                                     | 385                                | 356                            | ....   | 356     | 267                                   | 420       |
| 1900 .... | 1,355                          | 2,519                 | 1,723                  | 1,384                                  | 623                                | 1,889                          | 63     | 1,952   | 747                                   | 1,606     |
| 1910 .... | 2,145                          | 3,275                 | 2,194                  | 2,242                                  | 902                                | 1,543                          | 213    | 1,756   | 726                                   | 2,372     |
| 1911 .... | 2,376                          | 3,689                 | 2,433                  | 2,489                                  | 948                                | 1,593                          | 239    | 1,832   | 781                                   | 2,566     |
| 1912 .... | 2,598                          | 3,769                 | 2,688                  | 2,542                                  | 981                                | 1,878                          | 229    | 2,107   | 765                                   | 2,614     |
| 1913 .... | 2,854                          | 4,076                 | 3,013                  | 2,866                                  | 952                                | 1,803                          | 193    | 1,996   | 873                                   | 3,023     |
| 1914 .... | 2,967                          | 4,514                 | 3,144                  | 3,170                                  | 960                                | (g) 865                        | (g) 83 | (g) 948 | (g) 527                               | (g) 1,795 |
| 1915 .... | 3,332                          | 4,116                 | 2,996                  | 2,524                                  | 976                                | 1,529                          | 234    | 1,763   | 655                                   | 2,384     |
| 1916 .... | 3,332                          | 4,176                 | 3,023                  | 2,555                                  | 993                                | 1,513                          | 298    | 1,811   | 689                                   | 2,493     |
| 1917 .... | 3,425                          | 3,755                 | 2,897                  | 2,400                                  | 1,010                              | 1,334                          | 284    | 1,618   | 731                                   | 2,558     |
| 1918 .... | 3,491                          | 3,633                 | 2,903                  | 2,259                                  | 983                                | 794                            | 341    | 1,135   | 315                                   | 1,102     |
| 1919 .... | 3,539                          | 3,746                 | 3,135                  | 2,379                                  | 898                                | 801                            | 549    | 1,350   | 636                                   | 2,112     |
| 1920 .... | 3,539                          | 4,584                 | 4,001                  | 2,614                                  | 918                                | 1,311                          | 799    | 2,110   | 729                                   | 2,659     |
| 1921 .... | 3,539                          | 5,440                 | 4,844                  | 2,604                                  | 895                                | 2,018                          | 1,176  | 3,194   | 789                                   | 2,826     |
| 1922 .... | 3,539                          | 5,656                 | 4,658                  | 2,548                                  | 878                                | 1,550                          | 1,148  | 2,698   | 874                                   | 3,231     |
| 1923 .... | 3,555                          | 5,832                 | 4,421                  | 2,624                                  | 865                                | 2,005                          | 1,145  | 3,150   | 709                                   | 3,088     |
| 1924 .... | 3,629                          | 6,455                 | 4,596                  | 3,023                                  | 812                                | 2,377                          | 1,190  | 3,567   | 673                                   | 3,101     |
| 1925 .... | 3,733                          | 6,719                 | 4,710                  | 3,285                                  | 854                                | 2,707                          | 1,177  | 3,884   | 805                                   | 3,658     |
| 1926 .... | 3,865                          | 6,675                 | 5,018                  | 3,237                                  | 884                                | 2,791                          | 1,249  | 4,040   | 685                                   | 3,256     |
| 1927 .... | 3,918                          | 7,216                 | 5,371                  | 3,439                                  | 872                                | 3,356                          | 1,332  | 4,688   | 799                                   | 3,797     |
| 1928 .... | 3,977                          | 7,716                 | 5,822                  | 3,698                                  | 838                                | 3,454                          | 1,429  | 4,883   | 812                                   | 3,806     |
| 1929 .... | 4,079                          | 7,600                 | 6,111                  | 3,670                                  | 842                                | 3,788                          | 1,431  | 5,219   | 808                                   | 3,674     |
| 1930 .... | 4,111                          | 7,318                 | 6,226                  | 3,530                                  | 847                                | 3,882                          | 1,527  | 5,409   | 794                                   | 3,932     |
| 1931 .... | 4,181                          | 6,398                 | 5,222                  | 3,154                                  | 826                                | 2,166                          | 1,304  | 3,470   | 742                                   | 3,686     |
| 1932 .... | 4,235                          | 5,845                 | 4,247                  | 2,848                                  | 830                                | 2,117                          | 1,327  | 3,444   | 694                                   | 3,530     |
| 1933 .... | 4,338                          | 5,864                 | 4,223                  | 2,840                                  | 845                                | 2,430                          | 1,719  | 4,149   | 691                                   | 3,564     |
| 1934 .... | 4,360                          | 5,839                 | 4,373                  | 2,652                                  | 854                                | 2,574                          | 1,628  | 4,202   | 683                                   | 3,568     |
| 1935 .... | 4,359                          | 6,624                 | 4,765                  | 2,903                                  | 869                                | 2,766                          | 1,736  | 4,502   | 730                                   | 3,775     |
| 1936 .... | 4,358                          | 6,892                 | 4,976                  | 2,887                                  | 880                                | 3,239                          | 1,830  | 5,069   | 725                                   | 3,831     |
| 1937 .... | 4,357                          | 6,924                 | 5,240                  | 2,798                                  | 873                                | 3,504                          | 1,926  | 5,430   | 761                                   | 3,754     |
| 1938 .... | 4,376                          | 7,356                 | 5,420                  | 3,062                                  | 854                                | 3,710                          | 1,955  | 5,665   | 866                                   | 4,111     |
| 1939 .... | 4,378                          | 7,198                 | 5,823                  | 2,859                                  | 844                                | 3,381                          | 2,218  | 5,599   | 930                                   | 4,327     |
| 1940 .... | 4,381                          | 7,112                 | 5,657                  | 2,659                                  | 831                                | 3,769                          | 2,395  | 6,164   | 805                                   | 3,751     |
| 1941 .... | 4,381                          | 7,144                 | 5,516                  | 2,604                                  | 815                                | 2,934                          | 3,149  | 6,083   | 556                                   | 3,087     |
| 1942 .... | 4,381                          | 7,993                 | 6,052                  | 2,638                                  | 818                                | 2,273                          | 3,757  | 6,030   | 492                                   | 2,508     |
| 1943 .... | 4,381                          | 8,836                 | 6,895                  | 2,505                                  | 849                                | 1,646                          | 5,569  | 7,215   | 312                                   | 1,467     |
| 1944 .... | 4,381                          | 8,773                 | 7,592                  | 2,560                                  | 829                                | 1,661                          | 6,225  | 7,886   | 385                                   | 1,580     |
| 1945 .... | 4,381                          | 8,552                 | 7,529                  | 2,904                                  | 798                                | 1,783                          | 5,705  | 7,488   | 382                                   | 1,528     |
| 1946 .... | 4,381                          | 8,213                 | 8,053                  | 2,728                                  | 706                                | 2,707                          | 6,508  | 9,215   | 490                                   | 2,473     |
| 1947 .... | 4,348                          | 8,092                 | 8,848                  | 2,577                                  | 759                                | 4,377                          | 6,894  | 11,271  | 572                                   | 2,646     |
| 1948 .... | 4,348                          | 9,198                 | 11,140                 | 2,858                                  | 739                                | 5,784                          | 9,264  | 15,048  | 752                                   | 3,431     |
| 1949 .... | 4,321                          | 10,430                | 13,405                 | 2,737                                  | 734                                | 6,987                          | 10,254 | 17,241  | 950                                   | 4,678     |
| 1950 .... | 4,252                          | 12,944                | 15,003                 | 2,843                                  | 774                                | 10,166                         | 10,943 | 21,109  | 1,006                                 | 5,272     |
| 1951 .... | 4,228                          | 14,392                | 17,238                 | 3,033                                  | 752                                | 10,839                         | 11,973 | 22,812  | 1,060                                 | 5,552     |
| 1952 .... | 4,113                          | 18,327                | 21,331                 | 3,063                                  | 752                                | 14,045                         | 16,312 | 30,357  | 1,045                                 | 5,524     |
| 1953 .... | 4,108                          | 15,945                | 24,175                 | 2,619                                  | 724                                | 9,908                          | 18,395 | 28,303  | 1,025                                 | 5,407     |
| 1954 .... | 4,111                          | 22,749                | 27,512                 | 3,206                                  | 758                                | 12,241                         | 19,447 | 31,688  | 1,005                                 | 5,320     |
| 1955 .... | 4,111                          | 25,061                | 27,871                 | 3,407                                  | 748                                | 12,196                         | 21,812 | 34,008  | 1,136                                 | 6,144     |
| 1956 .... | 4,119                          | 26,548                | 29,986                 | 3,793                                  | 726                                | 8,473                          | 24,092 | 32,565  | 1,268                                 | 6,776     |
| 1957 .... | 4,117                          | 28,088                | 32,023                 | 4,223                                  | 706                                | 5,504                          | 30,078 | 35,582  | 1,244                                 | 6,531     |
| 1958 .... | 4,117                          | 25,950                | 29,685                 | 3,589                                  | 575                                | 5,476                          | 32,547 | 38,023  | 1,219                                 | 6,499     |
| 1959 .... | 4,117                          | 27,400                | 29,865                 | 3,913                                  | 575                                | 4,800                          | 32,398 | 37,198  | 1,282                                 | 6,607     |
| 1960 .... | 4,120                          | 30,077                | 30,816                 | 4,533                                  | 517                                | 5,614                          | 33,634 | 39,248  | 1,403                                 | 7,234     |
| 1961 .... | 4,123                          | 33,076                | 31,103                 | 4,833                                  | 469                                | 7,470                          | 33,835 | 41,305  | 1,598                                 | 8,547     |
| 1962 .... | (h) 3,851                      | 35,608                | 31,527                 | 5,342                                  | (i) 558                            | 7,156                          | 35,705 | 42,861  | 1,687                                 | 8,962     |
| 1963 .... | (h) 3,797                      | 33,429                | 31,150                 | 4,793                                  | 552                                | 8,996                          | 35,944 | 44,940  | 1,528                                 | 8,252     |
| 1964 .... | (h) 3,677                      | 35,190                | 32,250                 | 5,187                                  | 413                                | 10,369                         | 37,839 | 48,208  | 1,580                                 | 8,627     |
| 1965 .... | 3,733                          | 36,686                | 32,920                 | 5,229                                  | (j) 21                             | 10,692                         | 43,349 | 54,041  | 1,560                                 | 8,593     |
| 1966 .... | 3,747                          | 43,669                | 35,985                 | 6,384                                  | (k) 286                            | 15,251                         | 53,536 | 68,787  | 1,711                                 | 9,528     |
| 1967 .... | 3,815                          | 49,120                | 40,170                 | 7,873                                  | 283                                | 13,569                         | 58,176 | 71,745  | 1,690                                 | 10,977    |
| 1968 .... | 3,815                          | 52,773                | 42,623                 | 8,910                                  | 283                                | 19,468                         | 62,903 | 82,371  | 1,770                                 | 12,916    |
| 1969 .... | 3,826                          | 50,558                | 44,503                 | 8,934                                  | (l) 548                            | 21,202                         | 69,289 | 90,490  | 1,848                                 | 15,372    |
| 1970 .... | 3,828                          | 57,240                | 48,550                 | 10,665                                 | 549                                | 24,649                         | 76,637 | 101,286 | 2,165                                 | 21,005    |
| 1971 .... | 3,837                          | 61,917                | 53,205                 | 13,244                                 | 549                                | 32,262                         | 88,978 | 121,240 | 2,499                                 | 27,765    |

(a) From 1900, year ended 30 June. (b) Open for general and passenger traffic. (c) From 1942 includes operations of Railway Road Services, which began in November 1941. (d) From 1900 to 1964 includes 277 miles of line open for general and passenger traffic. (e) From 1915, year ended 30 June. (f) From 1966-67 excludes vessels of 200 net tons and under. (g) Six months ended 30 June. (h) Decrease due to proclamations of closure issued by authority of the *Railways (Cue-Big Bell and other Railways) Discontinuance Act, 1960*. (i) Increase due to the transfer of all government-operated timber railways to private control. (j) Decrease due to transfer of Midland Railway Company to Western Australian Government Railways, and to closure of timber and mining railways. (k) Increase due to opening of Goldsworthy-Port Hedland, Tom Price-Dampier and Westmine-Tilley iron-ore railways. (l) Increase due to opening of Newman-Port Hedland iron-ore railway.

## MOTOR VEHICLE REGISTRATIONS; EXPORTS OF WHEAT

| Year      | New motor vehicles registered (a) |                                       |                  |        | Motor vehicles on register (b) |                                       |                  |         | Wheat exports (c)       |                |
|-----------|-----------------------------------|---------------------------------------|------------------|--------|--------------------------------|---------------------------------------|------------------|---------|-------------------------|----------------|
|           | Motor cars (d)                    | Utilities, vans, trucks and omnibuses | Motor cycles (e) | Total  | Motor cars (f)                 | Utilities, vans, trucks and omnibuses | Motor cycles (e) | Total   | Quantity ('000 bushels) | Value (\$'000) |
| 1860 .... |                                   |                                       |                  |        |                                |                                       |                  |         | (g)                     | (g)            |
| 1870 .... |                                   |                                       |                  |        |                                |                                       |                  |         | ....                    | ....           |
| 1880 .... |                                   |                                       |                  |        |                                |                                       |                  |         | 15                      | 8              |
| 1890 .... |                                   |                                       |                  |        |                                |                                       |                  |         | ....                    | ....           |
| 1900 .... |                                   |                                       |                  |        |                                |                                       |                  |         | 1                       | (g)            |
| 1910 .... |                                   |                                       |                  |        |                                |                                       |                  |         | 2,015                   | 813            |
| 1911 .... |                                   |                                       |                  |        |                                |                                       |                  |         | 2,231                   | 774            |
| 1912 .... |                                   |                                       |                  |        |                                |                                       |                  |         | 502                     | 200            |
| 1913 .... |                                   |                                       |                  |        | n.a.                           | n.a.                                  | n.a.             | n.a.    | 4,106                   | 1,528          |
| 1914 .... |                                   |                                       |                  |        |                                |                                       |                  |         | (h) 7,286               | (h) 2,688      |
| 1915 .... |                                   |                                       |                  |        |                                |                                       |                  |         | (g)                     | (g)            |
| 1916 .... |                                   |                                       |                  |        |                                |                                       |                  |         | 3,931                   | 2,047          |
| 1917 .... | n.a.                              | n.a.                                  | n.a.             | n.a.   |                                |                                       |                  |         | 7,036                   | 3,239          |
| 1918 .... |                                   |                                       |                  |        | 2,538                          |                                       |                  |         | 1,694                   | 875            |
| 1919 .... |                                   |                                       |                  |        | 2,938                          |                                       |                  |         | 1,651                   | 800            |
| 1920 .... |                                   |                                       |                  |        | 3,404                          |                                       |                  |         | 9,151                   | 5,083          |
| 1921 .... |                                   |                                       |                  |        | 4,181                          |                                       |                  |         | 6,576                   | 5,860          |
| 1922 .... |                                   |                                       |                  |        | 4,403                          |                                       |                  |         | 10,357                  | 6,076          |
| 1923 .... |                                   |                                       |                  |        | 7,280                          |                                       |                  |         | 5,363                   | 2,942          |
| 1924 .... |                                   |                                       |                  |        | 11,162                         |                                       |                  |         | 10,925                  | 5,085          |
| 1925 .... |                                   |                                       |                  |        | 15,261                         |                                       |                  |         | 14,986                  | 10,316         |
| 1926 .... |                                   |                                       |                  |        | 20,011                         |                                       |                  |         | 13,175                  | 8,373          |
| 1927 .... |                                   |                                       |                  |        | 19,451                         | 5,819                                 |                  |         | 16,330                  | 9,334          |
| 1928 .... |                                   |                                       |                  |        | 24,205                         | 8,104                                 |                  |         | 26,194                  | 13,989         |
| 1929 .... |                                   |                                       |                  |        | 27,174                         | 9,767                                 |                  |         | 26,091                  | 13,384         |
| 1930 .... |                                   |                                       |                  |        | 31,130                         | 11,358                                | 7,707            | 50,195  | 24,953                  | 12,258         |
| 1931 .... |                                   |                                       |                  |        | 27,741                         | 10,880                                | 6,777            | 45,398  | 42,440                  | 10,577         |
| 1932 .... |                                   |                                       |                  |        | 28,698                         | 12,094                                | 6,700            | 47,402  | 36,868                  | 10,647         |
| 1933 .... |                                   |                                       |                  |        | 27,969                         | 12,626                                | 6,700            | 47,295  | 30,695                  | 9,323          |
| 1934 .... |                                   |                                       |                  |        | 28,761                         | 13,937                                | 6,284            | 48,982  | 23,360                  | 6,834          |
| 1935 .... |                                   |                                       |                  |        | 30,578                         | 15,530                                | 6,597            | 52,705  | 24,936                  | 7,844          |
| 1936 .... |                                   |                                       |                  |        | 32,329                         | 17,362                                | 6,861            | 56,552  | 14,897                  | 5,607          |
| 1937 .... |                                   |                                       |                  |        | 34,180                         | 19,919                                | 6,977            | 61,076  | 13,780                  | 7,255          |
| 1938 .... |                                   |                                       |                  |        | 36,386                         | 22,596                                | 7,079            | 66,061  | 22,038                  | 9,667          |
| 1939 .... | 3,297                             | 1,814                                 | 568              | 5,679  | 38,039                         | 24,441                                | 7,199            | 69,679  | 22,614                  | 6,055          |
| 1940 .... | 2,871                             | 1,517                                 | 399              | 4,787  | 38,907                         | 25,026                                | 6,789            | 70,722  | 15,330                  | 4,669          |
| 1941 .... | 1,015                             | 632                                   | 200              | 1,847  | 36,995                         | 24,788                                | 6,704            | 68,487  | 14,856                  | 5,858          |
| 1942 .... | 250                               | 353                                   | 74               | 677    | 29,022                         | 21,625                                | 4,057            | 54,704  | 9,774                   | 4,021          |
| 1943 .... | 218                               | 151                                   | 57               | 426    | 29,750                         | 21,189                                | 3,935            | 54,874  | 5,138                   | 2,111          |
| 1944 .... | 19                                | 1,102                                 | 109              | 1,230  | 30,295                         | 22,459                                | 4,324            | 57,078  | 12,057                  | 5,813          |
| 1945 .... | 40                                | 597                                   | 192              | 829    | 30,635                         | 23,943                                | 4,501            | 59,079  | 23,590                  | 14,955         |
| 1946 .... | 101                               | 456                                   | 271              | 828    | 31,408                         | 28,904                                | 6,799            | 67,111  | 13,510                  | 11,696         |
| 1947 .... | 1,354                             | 1,126                                 | 678              | 3,158  | 32,879                         | 32,097                                | 8,199            | 73,175  | 6,802                   | 8,964          |
| 1948 .... | 2,963                             | 1,975                                 | 1,059            | 5,997  | 35,596                         | 35,285                                | 8,877            | 79,758  | 19,312                  | 33,809         |
| 1949 .... | 4,684                             | 3,122                                 | 1,769            | 9,575  | 40,119                         | 38,901                                | 10,974           | 89,994  | 18,401                  | 28,100         |
| 1950 .... | 8,926                             | 4,707                                 | 2,346            | 15,979 | 48,632                         | 43,206                                | 12,897           | 104,735 | 21,510                  | 33,384         |
| 1951 .... | 8,201                             | 6,610                                 | 2,802            | 17,613 | 56,235                         | 47,908                                | 14,535           | 118,678 | 30,510                  | 51,688         |
| 1952 .... | 8,836                             | 5,750                                 | 2,740            | 17,326 | 64,277                         | 52,627                                | 16,047           | 132,951 | 26,823                  | 45,728         |
| 1953 .... | 6,879                             | 4,881                                 | 1,416            | 13,176 | 69,917                         | 56,445                                | 15,565           | 141,927 | 23,319                  | 40,347         |
| 1954 .... | 9,926                             | 5,601                                 | 1,258            | 16,785 | 78,312                         | 60,362                                | 15,243           | 153,917 | 6,800                   | 11,272         |
| 1955 .... | 12,394                            | 5,993                                 | 1,202            | 19,589 | 90,255                         | 63,870                                | 14,662           | 168,787 | 19,335                  | 27,478         |
| 1956 .... | 10,100                            | 5,203                                 | 1,089            | 16,392 | 99,206                         | 62,809                                | 12,959           | 174,974 | 22,773                  | 28,860         |
| 1957 .... | 9,321                             | 4,418                                 | 1,192            | 14,931 | 104,506                        | 63,315                                | 12,731           | 180,552 | 46,796                  | 61,291         |
| 1958 .... | 10,140                            | 5,562                                 | 1,702            | 17,404 | 111,825                        | 63,598                                | 12,631           | 188,054 | 26,644                  | 40,861         |
| 1959 .... | 10,389                            | 5,140                                 | 2,071            | 17,600 | 119,957                        | 65,588                                | 12,814           | 198,359 | 23,503                  | 33,113         |
| 1960 .... | 13,492                            | 5,695                                 | 1,949            | 21,136 | 130,476                        | 68,702                                | 12,876           | 212,054 | 36,713                  | 49,442         |
| 1961 .... | 15,161                            | 5,542                                 | 1,080            | 21,783 | 141,612                        | 70,974                                | 12,589           | 225,175 | 52,480                  | 71,280         |
| 1962 .... | 17,082                            | 5,833                                 | 902              | 23,817 | 155,447                        | 74,224                                | 12,390           | 242,061 | 73,883                  | 104,356        |
| 1963 .... | 23,175                            | 6,367                                 | 754              | 30,296 | 170,781                        | 75,748                                | 11,649           | 258,178 | 50,720                  | 72,197         |
| 1964 .... | 24,958                            | 7,013                                 | 628              | 32,599 | 189,251                        | 78,239                                | 10,449           | 277,939 | 55,022                  | 77,881         |
| 1965 .... | 23,304                            | 6,897                                 | 553              | 30,754 | 202,914                        | 79,316                                | 9,244            | 291,474 | 40,507                  | 56,955         |
| 1966 .... | 23,418                            | 9,170                                 | 706              | 33,294 | 219,816                        | 84,423                                | 8,777            | 313,016 | 69,372                  | 96,515         |
| 1967 .... | 27,922                            | 9,404                                 | 1,158            | 38,484 | 240,519                        | 87,661                                | 8,881            | 337,061 | 84,980                  | 126,918        |
| 1968 .... | 33,368                            | 10,448                                | 1,525            | 45,341 | 263,552                        | 92,563                                | 9,632            | 365,747 | 87,200                  | 121,764        |
| 1969 .... | 35,379                            | 11,018                                | 1,539            | 47,936 | 288,731                        | 96,624                                | 10,427           | 395,782 | 55,901                  | 77,987         |
| 1970 .... | 37,764                            | 11,138                                | 1,945            | 50,847 | 316,401                        | 102,291                               | 11,677           | 430,369 | 66,682                  | 86,593         |
| 1971 .... | 37,769                            | 10,872                                | 2,718            | 51,359 | 346,040                        | 107,616                               | 13,166           | 466,822 | 98,138                  | 130,564        |

n.a. denotes 'not applicable' or 'not available'.

(a) Year ended 30 June. (b) From 1929, at 30 June; for earlier years, at various dates. For years before 1946, excludes Commonwealth-owned vehicles; from 1946, includes Commonwealth-owned vehicles other than those of defence services. From 1956, new series based on the results of the periodic Census of Motor Vehicles. (c) From 1915, year ended 30 June. (d) From 1959, includes station wagons previously included with utilities, vans, trucks and omnibuses. (e) Including motor scooters. (f) From June 1956, includes station wagons previously included with utilities, vans, trucks and omnibuses. (g) Less than 500. (h) Six months ended 30 June.

## EXPORTS OF CERTAIN COMMODITIES—continued

| Year<br>(a) | Wool       |         |           |        | Meats—Fresh, chilled or frozen |        |                 |        |          |        |
|-------------|------------|---------|-----------|--------|--------------------------------|--------|-----------------|--------|----------|--------|
|             | Greasy (b) |         | Degreased |        | Beef and veal                  |        | Mutton and lamb |        | Pigmeat  |        |
|             | Quantity   | Value   | Quantity  | Value  | Quantity                       | Value  | Quantity        | Value  | Quantity | Value  |
|             | '000 lb    | \$'000  | '000 lb   | \$'000 | '000 lb                        | \$'000 | '000 lb         | \$'000 | '000 lb  | \$'000 |
| 1840 ....   | 50         | 5       | —         | —      | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1850 ....   | 310        | 31      | —         | —      | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1860 ....   | 657        | 99      | (c)       | (c)    | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1870 ....   | 1,788      | 179     | —         | —      | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1880 ....   | 4,343      | 543     | —         | —      | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1890 ....   | 6,969      | 523     | —         | —      | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1900 ....   | 8,658      | 505     | 436       | 36     | (d)                            | (d)    | (d)             | (d)    | (d)      | (d)    |
| 1910 ....   | 25,777     | 1,894   | 420       | 40     | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1911 ....   | 24,981     | 1,835   | 176       | 16     | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1912 ....   | 27,902     | 2,052   | 225       | 19     | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1913 ....   | 25,505     | 1,933   | 227       | 21     | ....                           | ....   | ....            | ....   | (e)      | ....   |
| 1914 (f)    | 4,846      | 361     | 35        | 3      | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1915 ....   | 23,906     | 1,626   | 99        | 10     | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1916 ....   | 28,869     | 2,517   | 235       | 29     | 4,311                          | 176    | 41              | 2      | ....     | ....   |
| 1917 ....   | 24,327     | 2,831   | 78        | 10     | ....                           | ....   | ....            | ....   | ....     | ....   |
| 1918 ....   | 10,519     | 1,056   | 113       | 15     | 1,188                          | 36     | 115             | 4      | 324      | 15     |
| 1919 ....   | 29,022     | 3,775   | 623       | 129    | 239                            | 6      | 138             | 4      | 133      | 6      |
| 1920 ....   | 56,284     | 7,218   | 3,316     | 657    | 662                            | 33     | ....            | ....   | ....     | ....   |
| 1921 ....   | 42,048     | 4,593   | 1,084     | 183    | 5,762                          | 248    | 118             | 7      | 45       | 5      |
| 1922 ....   | 54,512     | 5,673   | 4,181     | 731    | 2,479                          | 79     | ....            | ....   | ....     | ....   |
| 1923 ....   | 39,275     | 5,986   | 2,651     | 479    | 9,955                          | 305    | 866             | 55     | 1        | (e)    |
| 1924 ....   | 42,359     | 8,028   | 1,516     | 446    | 10,647                         | 272    | 446             | 26     | ....     | ....   |
| 1925 ....   | 33,722     | 7,030   | 1,293     | 443    | 7,106                          | 198    | ....            | ....   | ....     | ....   |
| 1926 ....   | 48,024     | 6,703   | 1,666     | 353    | 8,119                          | 240    | ....            | ....   | ....     | ....   |
| 1927 ....   | 52,131     | 6,694   | 1,657     | 342    | 6,697                          | 198    | ....            | ....   | ....     | ....   |
| 1928 ....   | 60,402     | 9,734   | 839       | 192    | 11,026                         | 272    | 227             | 15     | ....     | ....   |
| 1929 ....   | 56,202     | 7,615   | 843       | 207    | 9,313                          | 226    | ....            | ....   | ....     | ....   |
| 1930 ....   | 61,777     | 5,422   | 1,025     | 136    | 11,381                         | 272    | ....            | ....   | ....     | ....   |
| 1931 ....   | 69,397     | 4,652   | 1,386     | 121    | 11,315                         | 244    | 855             | 35     | 209      | 7      |
| 1932 ....   | 64,591     | 4,540   | 1,966     | 151    | 11,240                         | 235    | 2,113           | 103    | 1,221    | 53     |
| 1933 ....   | 68,192     | 4,871   | 2,695     | 236    | 14,406                         | 276    | 384             | 15     | 949      | 37     |
| 1934 ....   | 69,998     | 9,131   | 2,728     | 491    | 12,602                         | 234    | 1,352           | 49     | 668      | 29     |
| 1935 ....   | 80,550     | 6,479   | 3,451     | 348    | 12,072                         | 233    | 4,979           | 236    | 1,194    | 55     |
| 1936 ....   | 78,488     | 8,892   | 3,081     | 451    | 17,036                         | 321    | 5,557           | 282    | 1,550    | 65     |
| 1937 ....   | 58,324     | 7,854   | 2,448     | 475    | 11,227                         | 249    | 4,555           | 247    | 1,306    | 67     |
| 1938 ....   | 53,452     | 5,877   | 2,706     | 446    | 11,445                         | 314    | 8,705           | 470    | 823      | 52     |
| 1939 ....   | 68,409     | 6,072   | 3,606     | 469    | 16,501                         | 497    | 11,775          | 638    | 1,278    | 80     |
| 1940 ....   | 65,279     | 7,603   | 3,648     | 661    | 10,639                         | 329    | 10,285          | 533    | 4,990    | 324    |
| 1941 ....   | 19,983     | 2,601   | 2,799     | 518    | 12,309                         | 407    | 9,691           | 496    | 13,261   | 851    |
| 1942 ....   | 75,739     | 9,836   | 4,928     | 1,030  | 7,883                          | 327    | 8,122           | 435    | 10,295   | 682    |
| 1943 ....   | 28,514     | 4,163   | 2,731     | 594    | (e)                            | (e)    | 8,785           | 458    | 2,321    | 155    |
| 1944 ....   | 68,663     | 10,842  | 4,619     | 917    | 3,185                          | 190    | 14,691          | 763    | 3,457    | 238    |
| 1945 ....   | 52,058     | 8,082   | 4,885     | 1,025  | 2,651                          | 168    | 8,824           | 410    | 3,741    | 254    |
| 1946 ....   | 108,180    | 17,136  | 11,746    | 2,778  | 9,517                          | 558    | 5,002           | 275    | 7,497    | 545    |
| 1947 ....   | 75,187     | 15,561  | 17,457    | 4,960  | 14,017                         | 691    | 8,997           | 409    | 2,880    | 248    |
| 1948 ....   | 80,205     | 27,801  | 16,073    | 5,443  | 14,007                         | 604    | 11,198          | 584    | 669      | 53     |
| 1949 ....   | 85,919     | 36,717  | 13,588    | 6,352  | 17,760                         | 840    | 10,157          | 608    | 1,375    | 179    |
| 1950 ....   | 83,405     | 40,071  | 17,491    | 10,852 | 19,015                         | 1,183  | 5,274           | 485    | 359      | 59     |
| 1951 ....   | 80,732     | 96,493  | 11,055    | 16,066 | 16,973                         | 1,221  | 2,070           | 217    | 616      | 113    |
| 1952 ....   | 91,455     | 57,291  | 11,353    | 10,389 | 13,290                         | 1,135  | 2,301           | 301    | 934      | 232    |
| 1953 ....   | 100,909    | 67,759  | 12,604    | 11,363 | 11,058                         | 1,437  | 14,527          | 1,463  | 1,020    | 303    |
| 1954 ....   | 100,701    | 71,346  | 11,918    | 10,914 | 13,555                         | 1,748  | 7,295           | 875    | 474      | 152    |
| 1955 ....   | 96,554     | 59,296  | 13,261    | 11,267 | 14,939                         | 2,038  | 7,109           | 1,328  | 2,313    | 532    |
| 1956 ....   | 113,289    | 57,894  | 16,745    | 12,419 | 16,757                         | 2,343  | 14,556          | 2,156  | 1,637    | 482    |
| 1957 ....   | 108,582    | 71,251  | 18,746    | 16,259 | 9,099                          | 1,221  | 12,761          | 1,741  | 1,615    | 588    |
| 1958 ....   | 96,453     | 57,224  | 18,557    | 15,462 | 24,305                         | 3,302  | 11,205          | 1,900  | 5,124    | 1,462  |
| 1959 ....   | 111,131    | 46,313  | 21,763    | 12,224 | 23,226                         | 4,342  | 21,923          | 3,177  | 4,371    | 1,178  |
| 1960 ....   | 111,104    | 58,137  | 27,430    | 19,820 | 29,977                         | 6,742  | 19,258          | 2,378  | 2,618    | 953    |
| 1961 ....   | 131,903    | 59,290  | 26,128    | 15,552 | 27,365                         | 6,141  | 25,059          | 3,901  | 4,176    | 1,501  |
| 1962 ....   | 136,894    | 68,177  | 25,331    | 15,688 | 27,654                         | 6,299  | 18,669          | 2,436  | 6,946    | 2,025  |
| 1963 ....   | 131,433    | 66,401  | 25,222    | 15,706 | 38,069                         | 9,382  | 16,376          | 2,401  | 4,543    | 1,404  |
| 1964 ....   | 159,262    | 97,138  | 22,901    | 17,101 | 45,257                         | 11,497 | 11,872          | 1,895  | 1,898    | 718    |
| 1965 ....   | 151,812    | 83,030  | 22,586    | 15,264 | 42,682                         | 11,730 | 11,111          | 1,981  | 1,259    | 516    |
| 1966 ....   | 193,682    | 101,905 | 21,705    | 13,223 | 39,937                         | 12,108 | 22,750          | 4,357  | 926      | 376    |
| 1967 ....   | 214,064    | 114,052 | 21,578    | 12,943 | 37,284                         | 11,987 | 21,278          | 3,723  | 1,245    | 470    |
| 1968 ....   | 249,616    | 113,868 | 25,317    | 12,549 | 37,084                         | 12,995 | 28,998          | 4,745  | 1,205    | 474    |
| 1969 ....   | 291,085    | 142,065 | 27,236    | 15,885 | 44,555                         | 16,939 | 47,450          | 7,218  | 1,416    | 564    |
| 1970 ....   | 265,049    | 117,952 | 27,676    | 17,024 | 52,128                         | 21,508 | 65,391          | 11,271 | 3,169    | 1,175  |
| 1971 ....   | 262,653    | 89,752  | 20,394    | 8,537  | 44,658                         | 17,626 | 53,448          | 9,396  | 2,482    | 895    |

(a) From 1915, year ended 30 June. (b) For 1890 and earlier years includes degreased wool for which figures are not available separately. (c) See note (b). (d) Separate particulars not available. Total exports of fresh meats were 184,379 lb valued at \$9,164. (e) Less than 500. (f) Six months ended 30 June.

EXPORTS OF CERTAIN COMMODITIES—*continued*

| Year<br>(a) | Flour             |        | Butter   |        | Potatoes |        | Fresh<br>fruit (b) | Cattle | Sheep  |
|-------------|-------------------|--------|----------|--------|----------|--------|--------------------|--------|--------|
|             | Quantity          | Value  | Quantity | Value  | Quantity | Value  | Value              | Value  | Value  |
|             | short<br>tons (c) | \$'000 | cwt      | \$'000 | tons     | \$'000 | \$'000             | \$'000 | \$'000 |
| 1850        | ....              | ....   | (d)      | (e)    | (d)      | (e)    | ....               | (e)    | (e)    |
| 1860        | .... 12           | (e)    | ....     | ....   | 70       | 1      | ....               | ....   | 4      |
| 1870        | ....              | ....   | ....     | ....   | 26       | (e)    | ....               | ....   | (e)    |
| 1880        | .... (d)          | 2      | ....     | ....   | ....     | ....   | ....               | ....   | (e)    |
| 1890        | ....              | ....   | ....     | ....   | ....     | ....   | ....               | 1      | 2      |
| 1900        | .... 52           | 1      | 76       | 1      | 111      | 1      | 1                  | (e)    | 2      |
| 1910        | .... 2,821        | 49     | 1,507    | 12     | 18       | (e)    | 11                 | 16     | 9      |
| 1911        | .... 7,145        | 107    | 157      | 1      | ....     | ....   | 32                 | 67     | 17     |
| 1912        | .... 15,410       | 241    | 135      | 2      | 548      | 11     | 67                 | 103    | 22     |
| 1913        | .... 29,696       | 477    | 165      | 2      | 3        | (e)    | 65                 | 146    | 31     |
| 1914 (f)    | .... 18,211       | 315    | 30       | (e)    | 4        | (e)    | 17                 | 59     | 6      |
| 1915        | .... 2,890        | 52     | 15       | (e)    | 69       | 1      | 93                 | 75     | 11     |
| 1916        | .... 17,220       | 426    | 69       | 1      | 516      | 11     | 44                 | 142    | 9      |
| 1917        | .... 37,747       | 843    | 232      | 4      | 6        | (e)    | 164                | 45     | 4      |
| 1918        | .... 57,634       | 1,377  | 2,631    | 48     | 7        | (e)    | 71                 | 177    | 29     |
| 1919        | .... 105,183      | 2,583  | 1,457    | 29     | 57       | 1      | 114                | 158    | 44     |
| 1920        | .... 129,250      | 5,045  | 744      | 17     | 1,611    | 54     | 300                | 73     | 28     |
| 1921        | .... 53,302       | 2,144  | 398      | 10     | 339      | 7      | 243                | 44     | 23     |
| 1922        | .... 56,155       | 2,046  | 245      | 6      | 293      | 5      | 352                | 96     | 70     |
| 1923        | .... 59,703       | 1,338  | 13       | (e)    | 1,541    | 32     | 476                | 118    | 45     |
| 1924        | .... 77,970       | 1,644  | 115      | 2      | 3,389    | 90     | 378                | 60     | 40     |
| 1925        | .... 74,909       | 1,923  | ....     | (e)    | 436      | 5      | 493                | 5      | 8      |
| 1926        | .... 91,859       | 2,581  | ....     | (e)    | 1,621    | 43     | 464                | 30     | 31     |
| 1927        | .... 94,020       | 2,314  | 11       | (e)    | 1,516    | 44     | 669                | 32     | 50     |
| 1928        | .... 85,107       | 2,009  | 10       | (e)    | 429      | 12     | 384                | 70     | 58     |
| 1929        | .... 79,659       | 1,780  | 713      | 14     | 1,306    | 32     | 1,067              | 38     | 52     |
| 1930        | .... 69,070       | 1,540  | 412      | 7      | 4,957    | 151    | 312                | 1      | 46     |
| 1931        | .... 85,664       | 1,266  | 393      | 5      | 4,820    | 47     | 604                | 3      | 25     |
| 1932        | .... 88,252       | 1,156  | 13,044   | 179    | 713      | 14     | 861                | 3      | 28     |
| 1933        | .... 86,155       | 1,105  | 20,519   | 280    | 479      | 5      | 665                | 1      | 35     |
| 1934        | .... 64,594       | 781    | 19,676   | 195    | 1,681    | 17     | 673                | (e)    | 26     |
| 1935        | .... 85,965       | 1,127  | 20,504   | 148    | 2,337    | 49     | 826                | 1      | 44     |
| 1936        | .... 66,836       | 1,972  | 20,325   | 246    | 8,307    | 121    | 905                | 1      | 47     |
| 1937        | .... 86,146       | 1,662  | 14,535   | 183    | 6,995    | 119    | 670                | 1      | 56     |
| 1938        | .... 81,162       | 1,605  | 32,318   | 472    | 4,951    | 55     | 549                | (e)    | 74     |
| 1939        | .... 89,029       | 1,165  | 36,917   | 462    | 14,725   | 282    | 1,175              | 1      | 73     |
| 1940        | .... 91,667       | 1,301  | 36,861   | 490    | 11,764   | 214    | 740                | (e)    | 65     |
| 1941        | .... 118,595      | 2,185  | 34,412   | 460    | 18,209   | 373    | 282                | 2      | 112    |
| 1942        | .... 84,974       | 1,681  | 32,988   | 428    | 10,287   | 213    | 114                | 1      | 97     |
| 1943        | .... 77,616       | 1,581  | 3,334    | 47     | 6,309    | 139    | 139                | 1      | (e)    |
| 1944        | .... 106,859      | 2,344  | 18,082   | 262    | 760      | 22     | 96                 | 27     | (e)    |
| 1945        | .... 101,896      | 2,505  | 18,969   | 369    | 17,656   | 581    | 132                | 2      | 1      |
| 1946        | .... 116,942      | 4,667  | 25,254   | 502    | 13,010   | 446    | 488                | 2      | 91     |
| 1947        | .... 129,699      | 7,628  | 18,113   | 383    | 12,735   | 484    | 1,445              | 27     | 362    |
| 1948        | .... 139,996      | 11,326 | 40,207   | 1,000  | 18,329   | 681    | 1,688              | 10     | 347    |
| 1949        | .... 131,203      | 10,516 | 40,843   | 1,047  | 13,506   | 431    | 1,452              | 11     | 374    |
| 1950        | .... 115,814      | 8,335  | 29,033   | 864    | 9,931    | 384    | 1,780              | 5      | 426    |
| 1951        | .... 159,740      | 11,774 | 9,795    | 312    | 11,004   | 506    | 2,295              | 9      | 616    |
| 1952        | .... 161,581      | 13,669 | 2,828    | 93     | 13,301   | 733    | 2,853              | 23     | 631    |
| 1953        | .... 176,241      | 15,090 | 3,059    | 126    | 12,657   | 750    | 4,556              | 23     | 501    |
| 1954        | .... 147,849      | 11,704 | 3,343    | 141    | 15,773   | 1,300  | 3,300              | 29     | 568    |
| 1955        | .... 120,342      | 7,219  | 3,312    | 142    | 8,878    | 512    | 3,845              | 68     | 612    |
| 1956        | .... 129,421      | 7,766  | 3,017    | 206    | 2,239    | 171    | 3,393              | 177    | 625    |
| 1957        | .... 127,491      | 7,474  | 3,489    | 156    | 7,606    | 736    | 4,598              | 243    | 923    |
| 1958        | .... 111,827      | 6,907  | 3,938    | 169    | 13,777   | 832    | 3,725              | 308    | 841    |
| 1959        | .... 104,559      | 6,337  | 3,508    | 166    | 8,442    | 368    | 3,609              | 396    | 764    |
| 1960        | .... 87,851       | 5,100  | 3,764    | 183    | 9,460    | 436    | 2,437              | 325    | 845    |
| 1961        | .... 135,407      | 7,840  | 5,971    | 247    | 7,697    | 437    | 4,636              | 318    | 881    |
| 1962        | .... 97,983       | 5,891  | 14,877   | 532    | 10,165   | 632    | 2,818              | 55     | 1,254  |
| 1963        | .... 74,574       | 4,645  | 4,857    | 228    | 17,747   | 810    | 4,912              | 160    | 1,495  |
| 1964        | .... 69,090       | 4,396  | 2,723    | 126    | 9,768    | 353    | 4,086              | 331    | 1,433  |
| 1965        | .... 92,402       | 5,926  | 3,272    | 159    | 12,731   | 841    | 5,165              | 427    | 1,376  |
| 1966        | .... 54,157       | 3,378  | 20,896   | 732    | 21,025   | 1,393  | 4,838              | 283    | 1,633  |
| 1967        | .... 38,365       | 2,507  | 3,778    | 201    | 17,202   | 692    | 5,704              | 381    | 1,771  |
| 1968        | .... 46,207       | 2,944  | 4,433    | 232    | 12,934   | 622    | 4,068              | 1,229  | 2,191  |
| 1969        | .... 38,691       | 2,433  | 4,549    | 254    | 21,597   | 1,149  | 6,552              | 972    | 2,943  |
| 1970        | .... 34,362       | 2,257  | 4,256    | 243    | 19,574   | 831    | 6,054              | 760    | 2,876  |
| 1971        | .... 29,399       | 1,958  | 5,239    | 325    | 9,242    | 510    | 7,208              | 1,159  | 2,710  |

(a) From 1915, year ended 30 June. (b) Includes tomatoes for 1932-33 and earlier years. (c) Short ton = 2,000 lb.  
 (d) Not available. (e) Less than \$500. (f) Six months ended 30 June.



EXPORTS OF CERTAIN COMMODITIES—*continued*

| Year (a) |      |      |      |      | Skins and hides | Timber (b)   |        | Rock lobster tails (c) |        | Pearl-shell |        | Iron and steel (d) |
|----------|------|------|------|------|-----------------|--------------|--------|------------------------|--------|-------------|--------|--------------------|
|          |      |      |      |      | Value           | Quantity     | Value  | Quantity               | Value  | Quantity    | Value  | Value              |
|          |      |      |      |      | \$'000          | '000 sup. ft | \$'000 | '000 lb                | \$'000 | cwt         | \$'000 | \$'000             |
| 1850     | .... | .... | .... | .... | 1               | 126          | 2      | ....                   | ....   | ....        | ....   | ....               |
| 1860     | .... | .... | .... | .... | (e)             | 658          | 10     | ....                   | ....   | ....        | ....   | ....               |
| 1870     | .... | .... | .... | .... | (e)             | 2,566        | 35     | ....                   | ....   | 1,480       | 19     | ....               |
| 1880     | .... | .... | .... | .... | 8               | 7,950        | 133    | ....                   | ....   | 14,380      | 79     | ....               |
| 1890     | .... | .... | .... | .... | 49              | 14,066       | 164    | ....                   | ....   | 24,745      | 173    | ....               |
| 1900     | .... | .... | .... | .... | 150             | 68,705       | 916    | ....                   | ....   | 14,747      | 173    | 7                  |
| 1910     | .... | .... | .... | .... | 482             | 144,858      | 1,945  | ....                   | ....   | 29,281      | 492    | 5                  |
| 1911     | .... | .... | .... | .... | 347             | 149,390      | 1,972  | ....                   | ....   | 27,471      | 482    | 2                  |
| 1912     | .... | .... | .... | .... | 365             | 135,565      | 1,807  | ....                   | ....   | 31,915      | 843    | 3                  |
| 1913     | .... | .... | .... | .... | 513             | 163,438      | 2,179  | ....                   | ....   | 30,419      | 549    | 3                  |
| 1914 (f) | .... | .... | .... | .... | 209             | 75,357       | 1,004  | ....                   | ....   | 10,143      | 172    | 8                  |
| 1915     | .... | .... | .... | .... | 300             | 119,622      | 1,617  | ....                   | ....   | 22,806      | 323    | 45                 |
| 1916     | .... | .... | .... | .... | 504             | 65,188       | 884    | ....                   | ....   | 25,045      | 317    | 14                 |
| 1917     | .... | .... | .... | .... | 445             | 46,688       | 622    | ....                   | ....   | 24,000      | 394    | 21                 |
| 1918     | .... | .... | .... | .... | 407             | 41,230       | 548    | ....                   | ....   | 17,267      | 288    | 53                 |
| 1919     | .... | .... | .... | .... | 544             | 49,629       | 665    | ....                   | ....   | 13,253      | 236    | 62                 |
| 1920     | .... | .... | .... | .... | 1,246           | 60,784       | 931    | ....                   | ....   | 33,505      | 671    | 16                 |
| 1921     | .... | .... | .... | .... | 759             | 117,795      | 2,274  | ....                   | ....   | 23,056      | 470    | 26                 |
| 1922     | .... | .... | .... | .... | 730             | 99,707       | 2,082  | ....                   | ....   | 30,440      | 508    | 16                 |
| 1923     | .... | .... | .... | .... | 1,092           | 94,935       | 1,995  | ....                   | ....   | 25,477      | 429    | 18                 |
| 1924     | .... | .... | .... | .... | 1,040           | 133,648      | 2,735  | ....                   | ....   | 28,479      | 487    | 6                  |
| 1925     | .... | .... | .... | .... | 955             | 142,132      | 2,956  | ....                   | ....   | 23,264      | 469    | 13                 |
| 1926     | .... | .... | .... | .... | 883             | 144,017      | 3,046  | ....                   | ....   | 25,762      | 465    | 9                  |
| 1927     | .... | .... | .... | .... | 752             | 157,355      | 3,316  | ....                   | ....   | 24,502      | 425    | 10                 |
| 1928     | .... | .... | .... | .... | 1,106           | 124,617      | 2,531  | ....                   | ....   | 19,066      | 332    | 7                  |
| 1929     | .... | .... | .... | .... | 1,101           | 91,623       | 1,921  | ....                   | ....   | 21,515      | 345    | 3                  |
| 1930     | .... | .... | .... | .... | 738             | 78,957       | 1,615  | ....                   | ....   | 19,378      | 331    | 3                  |
| 1931     | .... | .... | .... | .... | 539             | 49,534       | 1,015  | ....                   | ....   | 20,313      | 334    | 2                  |
| 1932     | .... | .... | .... | .... | 395             | 36,752       | 722    | ....                   | ....   | 12,237      | 194    | 1                  |
| 1933     | .... | .... | .... | .... | 480             | 26,826       | 523    | ....                   | ....   | 20,653      | 294    | 1                  |
| 1934     | .... | .... | .... | .... | 771             | 48,730       | 972    | ....                   | ....   | 16,854      | 196    | 7                  |
| 1935     | .... | .... | .... | .... | 640             | 63,913       | 1,270  | ....                   | ....   | 19,435      | 189    | 3                  |
| 1936     | .... | .... | .... | .... | 1,061           | 67,178       | 1,356  | ....                   | ....   | 19,363      | 214    | 3                  |
| 1937     | .... | .... | .... | .... | 1,143           | 68,087       | 1,397  | ....                   | ....   | 18,261      | 247    | 7                  |
| 1938     | .... | .... | .... | .... | 985             | 90,549       | 1,860  | ....                   | ....   | 24,781      | 336    | 12                 |
| 1939     | .... | .... | .... | .... | 736             | 68,451       | 1,436  | ....                   | ....   | 22,621      | 212    | 15                 |
| 1940     | .... | .... | .... | .... | 745             | 60,595       | 1,251  | ....                   | ....   | 16,859      | 153    | 31                 |
| 1941     | .... | .... | .... | .... | 580             | 73,094       | 1,546  | ....                   | ....   | 13,704      | 153    | 35                 |
| 1942     | .... | .... | .... | .... | 772             | 62,697       | 1,369  | ....                   | ....   | 11,616      | 142    | 19                 |
| 1943     | .... | .... | .... | .... | 348             | 42,272       | 1,189  | ....                   | ....   | 120         | 1      | 5                  |
| 1944     | .... | .... | .... | .... | 680             | 43,744       | 1,216  | ....                   | ....   | 37          | 1      | 23                 |
| 1945     | .... | .... | .... | .... | 537             | 34,218       | 1,131  | ....                   | ....   | ....        | ....   | 100                |
| 1946     | .... | .... | .... | .... | 1,274           | 40,476       | 1,429  | ....                   | ....   | 260         | 8      | 9                  |
| 1947     | .... | .... | .... | .... | 2,131           | 41,505       | 1,719  | ....                   | ....   | 2,491       | 120    | 99                 |
| 1948     | .... | .... | .... | .... | 2,048           | 43,349       | 2,230  | ....                   | ....   | 6,733       | 340    | 89                 |
| 1949     | .... | .... | .... | .... | 2,134           | 38,379       | 1,986  | (g)                    | (g)    | 8,169       | 367    | 59                 |
| 1950     | .... | .... | .... | .... | 2,329           | 34,295       | 1,949  | 1,143                  | 463    | 6,997       | 248    | 95                 |
| 1951     | .... | .... | .... | .... | 5,294           | 28,110       | 1,783  | 3,165                  | 1,517  | 6,797       | 274    | 83                 |
| 1952     | .... | .... | .... | .... | 3,194           | 28,659       | 2,075  | 2,891                  | 1,861  | 8,205       | 406    | 58                 |
| 1953     | .... | .... | .... | .... | 3,942           | 47,585       | 4,147  | 2,930                  | 2,085  | 10,538      | 612    | 357                |
| 1954     | .... | .... | .... | .... | 3,295           | 46,318       | 4,480  | 3,222                  | 2,342  | 12,271      | 708    | 279                |
| 1955     | .... | .... | .... | .... | 2,921           | 41,748       | 3,847  | 3,377                  | 2,490  | 13,785      | 820    | 602                |
| 1956     | .... | .... | .... | .... | 3,274           | 54,591       | 5,598  | 3,529                  | 3,022  | 15,954      | 999    | 530                |
| 1957     | .... | .... | .... | .... | 4,650           | 56,147       | 6,215  | 3,566                  | 3,514  | 21,671      | 1,391  | 1,174              |
| 1958     | .... | .... | .... | .... | 3,898           | 66,872       | 7,496  | 4,708                  | 3,965  | 22,580      | 1,381  | 2,470              |
| 1959     | .... | .... | .... | .... | 3,489           | 77,561       | 8,415  | 6,117                  | 5,281  | 15,521      | 772    | 4,218              |
| 1960     | .... | .... | .... | .... | 4,767           | 73,601       | 7,760  | 6,604                  | 6,499  | 12,535      | 707    | 11,198             |
| 1961     | .... | .... | .... | .... | 3,828           | 66,412       | 7,175  | 5,106                  | 5,881  | 11,283      | 502    | 12,781             |
| 1962     | .... | .... | .... | .... | 4,580           | 68,059       | 7,528  | 7,952                  | 9,778  | 8,924       | 320    | 13,826             |
| 1963     | .... | .... | .... | .... | 4,339           | 65,811       | 7,241  | 7,694                  | 8,910  | 7,647       | 289    | 15,107             |
| 1964     | .... | .... | .... | .... | 4,966           | 63,331       | 6,813  | 7,532                  | 9,211  | 3,304       | 112    | 15,029             |
| 1965     | .... | .... | .... | .... | 4,177           | 56,521       | 6,279  | 5,891                  | 10,592 | 3,186       | 133    | 17,933             |
| 1966     | .... | .... | .... | .... | 5,447           | 29,185       | 3,687  | 7,040                  | 13,821 | 3,045       | 123    | 14,458             |
| 1967     | .... | .... | .... | .... | 5,377           | 58,960       | 7,475  | 8,032                  | 13,873 | 4,284       | 189    | 15,658             |
| 1968     | .... | .... | .... | .... | 4,699           | 35,850       | 4,947  | 8,640                  | 17,989 | 4,178       | 147    | 11,442             |
| 1969     | .... | .... | .... | .... | 6,013           | 37,271       | 5,068  | 6,698                  | 17,133 | 4,180       | 125    | 27,002             |
| 1970     | .... | .... | .... | .... | 7,968           | 40,816       | 5,666  | 6,561                  | 15,695 | 5,013       | 173    | 34,306             |
| 1971     | .... | .... | .... | .... | 5,395           | 33,660       | 4,808  | 6,955                  | 19,413 | 3,862       | 132    | 34,571             |

(a) From 1915, year ended 30 June. (b) Excludes plywood and veneers and small quantities of timber for which the superficial footage is not recorded. For the years 1907 to 1921, figures are approximate. (c) Figures for the years 1949–50 to 1951–52 represent overseas exports only and exclude small consignments to other Australian States. Those for 1952–53 to 1959–60 include small consignments of cooked whole rock lobsters to other Australian States. (d) Principally pig-iron, cast iron and basic shapes and sections of iron and steel. (e) Less than \$500. (f) Six months ended 30 June. (g) Precise information not available, but it is known that the value of exports was about \$500,000.

## EXPORTS OF CERTAIN COMMODITIES—continued

| Year<br>(a) | Gold<br>mint bullion<br>(b) |              | Lead<br>and<br>zinc<br>ores<br>(c) | Tin<br>ore<br>and<br>concentrates | Asbestos<br>(crude and fibre) |        | Manganese ore<br>and<br>concentrates |        | Iron ore<br>and<br>concentrates |         | Ilmenite<br>concentrates<br>(including<br>leucoxene) |        |
|-------------|-----------------------------|--------------|------------------------------------|-----------------------------------|-------------------------------|--------|--------------------------------------|--------|---------------------------------|---------|------------------------------------------------------|--------|
|             | Quantity                    | Value<br>(d) | Value                              | Value                             | Quantity                      | Value  | Quantity                             | Value  | Quantity                        | Value   | Quantity                                             | Value  |
|             | '000<br>fine oz             | \$'000       | \$'000                             | \$'000                            | short<br>tons (e)             | \$'000 | '000<br>tons                         | \$'000 | '000<br>tons                    | \$'000  | '000<br>tons                                         | \$'000 |
| 1850        | ....                        | ....         | \$                                 | ....                              | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1860        | ....                        | ....         | 2                                  | ....                              | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1870        | ....                        | ....         | 29                                 | ....                              | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1880        | ....                        | ....         | 31                                 | ....                              | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1890        | 23                          | 173          | 4                                  | 11                                | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1900        | 1,000                       | 7,589        | \$                                 | 76                                | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1910        | 334                         | 2,835        | 4                                  | 93                                | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1911        | 309                         | 2,613        | 31                                 | 110                               | ....                          | ....   | \$                                   | \$     | ....                            | ....    | ....                                                 | ....   |
| 1912        | 269                         | 2,285        | 45                                 | 159                               | ....                          | ....   | \$                                   | \$     | ....                            | ....    | ....                                                 | ....   |
| 1913        | 198                         | 1,683        | 119                                | 144                               | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1914 (g)    | 60                          | 513          | 57                                 | 39                                | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1915        | 100                         | 827          | 95                                 | 51                                | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1916        | 183                         | 1,547        | 22                                 | 92                                | ....                          | ....   | \$                                   | \$     | ....                            | ....    | ....                                                 | ....   |
| 1917        | ....                        | ....         | 7                                  | 113                               | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1918        | ....                        | ....         | 9                                  | 110                               | 1                             | \$     | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1919        | ....                        | ....         | 8                                  | 112                               | 3                             | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1920        | 41                          | 452          | 102                                | 129                               | ....                          | ....   | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1921        | (f)                         | 1            | 67                                 | 41                                | 145                           | 13     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1922        | ....                        | ....         | ....                               | 10                                | 98                            | 8      | ....                                 | ....   | ....                            | ....    | ....                                                 | ....   |
| 1923        | ....                        | ....         | 47                                 | 18                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1924        | 91                          | 767          | 108                                | 38                                | ....                          | ....   | SSSS                                 | SSSS   | \$                              | \$      | ....                                                 | ....   |
| 1925        | 36                          | 305          | 186                                | 29                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1926        | 50                          | 386          | 186                                | 23                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1927        | 91                          | 711          | 109                                | 28                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1928        | 14                          | 121          | 8                                  | 24                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1929        | 10                          | 81           | 11                                 | 30                                | ....                          | ....   | SSSS                                 | SSSS   | \$                              | \$      | ....                                                 | ....   |
| 1930        | (f)                         | 1            | 19                                 | 29                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1931        | ....                        | ....         | 2                                  | 10                                | ....                          | ....   | \$                                   | \$     | ....                            | ....    | ....                                                 | ....   |
| 1932        | 515                         | 7,336        | 1                                  | 6                                 | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1933        | 625                         | 9,376        | SSS                                | 7                                 | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1934        | 653                         | 10,624       | SSS                                | 11                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1935        | 589                         | 10,258       | SSS                                | 17                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1936        | 771                         | 13,385       | SSS                                | 18                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1937        | 909                         | 15,819       | SSS                                | 16                                | ....                          | ....   | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1938        | 1,075                       | 18,598       | 1                                  | 20                                | 310                           | 37     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1939        | 1,169                       | 21,240       | 1                                  | 11                                | 300                           | 26     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1940        | 1,168                       | 24,056       | 2                                  | 14                                | 207                           | 17     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1941        | 1,202                       | 25,096       | 2                                  | 12                                | 163                           | 15     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1942        | 975                         | 20,590       | 2                                  | 6                                 | 82                            | 7      | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1943        | 756                         | 15,744       | 1                                  | 5                                 | 98                            | 8      | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1944        | 349                         | 7,250        | 1                                  | 6                                 | 101                           | 8      | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1945        | ....                        | ....         | 1                                  | 5                                 | 425                           | 36     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1946        | ....                        | ....         | \$                                 | 8                                 | 1,192                         | 104    | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1947        | ....                        | ....         | 5                                  | 12                                | 702                           | 65     | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1948        | 356                         | 7,656        | 146                                | 17                                | 1,324                         | 148    | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1949        | ....                        | ....         | 235                                | 31                                | 1,299                         | 179    | SSSS                                 | SSSS   | ....                            | ....    | ....                                                 | ....   |
| 1950        | (f)                         | 2            | 272                                | 49                                | 985                           | 204    | 2                                    | 22     | ....                            | ....    | ....                                                 | ....   |
| 1951        | ....                        | ....         | 263                                | 62                                | 1,728                         | 378    | 11                                   | 154    | ....                            | ....    | ....                                                 | ....   |
| 1952        | 395                         | 13,143       | 1,369                              | 107                               | 2,888                         | 709    | 8                                    | 115    | 52                              | 102     | ....                                                 | ....   |
| 1953        | 759                         | 24,798       | 1,681                              | 153                               | 3,313                         | 990    | 14                                   | 256    | 544                             | 1,079   | ....                                                 | ....   |
| 1954        | 418                         | 13,230       | 270                                | 97                                | 3,527                         | 986    | 27                                   | 829    | 583                             | 1,157   | ....                                                 | ....   |
| 1955        | 618                         | 19,338       | 108                                | 146                               | 4,180                         | 788    | 34                                   | 804    | 580                             | 1,149   | ....                                                 | ....   |
| 1956        | 410                         | 12,842       | 888                                | 322                               | 8,305                         | 1,440  | 55                                   | 1,271  | 472                             | 936     | ....                                                 | ....   |
| 1957        | 770                         | 24,119       | 960                                | 293                               | 11,825                        | 2,140  | 58                                   | 1,551  | 329                             | 649     | ....                                                 | ....   |
| 1958        | 208                         | 6,511        | 410                                | 166                               | 12,944                        | 2,920  | 75                                   | 2,501  | 439                             | 870     | 88                                                   | 1,011  |
| 1959        | 132                         | 4,118        | 238                                | 304                               | 11,836                        | 2,166  | 56                                   | 1,628  | 589                             | 1,169   | 65                                                   | 648    |
| 1960        | 600                         | 18,738       | 229                                | 415                               | 16,983                        | 3,111  | 79                                   | 2,224  | 796                             | 1,601   | 89                                                   | 713    |
| 1961        | 2,532                       | 79,271       | 83                                 | 325                               | 11,879                        | 2,364  | 47                                   | 1,267  | 1,019                           | 2,101   | 130                                                  | 1,198  |
| 1962        | 453                         | 12,195       | 45                                 | 563                               | 14,165                        | 2,753  | 108                                  | 2,945  | 1,052                           | 2,209   | 156                                                  | 1,441  |
| 1963        | 417                         | 13,048       | 33                                 | 532                               | 13,900                        | 2,799  | 52                                   | 1,390  | 1,471                           | 2,898   | 180                                                  | 1,717  |
| 1964        | 385                         | 12,045       | 18                                 | 1,080                             | 8,894                         | 1,767  | 27                                   | 695    | 1,359                           | 2,743   | 259                                                  | 2,571  |
| 1965        | 513                         | 16,127       | 662                                | 1,229                             | 12,270                        | 2,210  | 76                                   | 1,747  | 1,537                           | 3,040   | 325                                                  | 3,194  |
| 1966        | 833                         | 26,147       | 124                                | 1,521                             | 8,889                         | 1,702  | 104                                  | 2,404  | 2,615                           | 6,967   | 423                                                  | 4,181  |
| 1967        | 480                         | 15,107       | 177                                | 2,214                             | 6,597                         | 1,229  | 190                                  | 4,161  | 8,395                           | 50,890  | 436                                                  | 4,440  |
| 1968        | 373                         | 11,816       | 58                                 | 2,330                             | (h)                           | (f)    | 161                                  | 3,408  | 14,333                          | 104,506 | 455                                                  | 4,645  |
| 1969        | 361                         | 12,701       | 161                                | 1,843                             | 72                            | 8      | 176                                  | 3,624  | 19,584                          | 151,797 | 548                                                  | 5,751  |
| 1970        | 387                         | 13,874       | 41                                 | 1,386                             | 62                            | 4      | 158                                  | 3,086  | 31,044                          | 233,580 | 564                                                  | 6,068  |
| 1971        | 96                          | 3,041        | ....                               | 1,511                             | 50                            | 10     | 156                                  | 2,755  | 45,542                          | 341,702 | 554                                                  | 6,631  |

(a) From 1915, year ended 30 June. (b) Gold sold abroad before consignment is not recorded as an export until actually shipped. (c) Includes silver-lead and silver-lead-zinc ores and concentrates. (d) Includes additional premiums on sales of industrial gold. (e) Short ton = 2,000 lb. (f) Less than 500. (g) Six months ended June. (h) 700 lb.

**EXTERNAL TRADE**  
( $\$000$ )

| Year (a) | Imports  |            |           | Exports (b) |            |           | Excess of— |         | Ships' stores |
|----------|----------|------------|-----------|-------------|------------|-----------|------------|---------|---------------|
|          | Overseas | Interstate | Total     | Overseas    | Interstate | Total     | Imports    | Exports |               |
| 1850     | (c)      | (c)        | 125       | (c)         | (c)        | 44        | 80         | ....    | (c)           |
| 1860     | 318      | 20         | 338       | 160         | 16         | 175       | 163        | ....    | 3             |
| 1870     | 260      | 167        | 427       | 348         | 46         | 394       | 33         | ....    | 8             |
| 1880     | 349      | 358        | 707       | 736         | 252        | 988       | ....       | 280     | 11            |
| 1890     | 1,025    | 724        | 1,749     | 961         | 369        | 1,330     | 419        | ....    | 14            |
| 1900     | 6,574    | 5,350      | 11,924    | 11,246      | 2,250      | 13,496    | ....       | 1,572   | 208           |
| 1910     | 8,750    | 7,067      | 15,817    | 11,679      | 4,627      | 16,306    | ....       | 489     | 294           |
| 1911     | 8,971    | 8,321      | 17,292    | 18,342      | 2,586      | 20,928    | ....       | 3,637   | 285           |
| 1912     | 10,635   | 8,466      | 19,101    | 15,281      | 2,308      | 17,589    | 1,512      | ....    | 293           |
| 1913     | 10,815   | 8,970      | 19,785    | 10,204      | 7,726      | 17,931    | 1,854      | ....    | 326           |
| 1914 (d) | 5,112    | 4,256      | 9,368     | 5,788       | 4,474      | 10,262    | ....       | 894     | 157           |
| 1915     | 7,972    | 8,630      | 16,603    | 6,242       | 4,177      | 10,419    | 6,184      | ....    | 286           |
| 1916     | 8,338    | 9,628      | 17,966    | 8,769       | 6,711      | 15,480    | 2,486      | ....    | 601           |
| 1917     | 8,773    | 9,997      | 18,770    | 9,291       | 19,488     | 28,779    | ....       | 10,009  | 587           |
| 1918     | 5,011    | 10,288     | 15,298    | 8,521       | 2,783      | 11,303    | 3,995      | ....    | 311           |
| 1919     | 6,281    | 9,767      | 16,048    | 18,886      | 2,323      | 21,209    | ....       | 5,161   | 637           |
| 1920     | 9,918    | 14,819     | 24,737    | 28,918      | 2,392      | 31,311    | ....       | 6,574   | 827           |
| 1921     | 14,439   | 15,239     | 29,678    | 20,790      | 2,724      | 23,514    | 6,165      | ....    | 1,004         |
| 1922     | 8,616    | 15,459     | 24,076    | 21,594      | 4,522      | 26,116    | ....       | 2,041   | 1,141         |
| 1923     | 13,001   | 14,555     | 27,555    | 19,359      | 2,252      | 21,611    | 5,944      | ....    | 599           |
| 1924     | 13,325   | 15,363     | 28,688    | 24,825      | 2,928      | 27,753    | 935        | ....    | 493           |
| 1925     | 16,053   | 16,095     | 32,148    | 25,719      | 2,623      | 28,342    | 3,806      | ....    | 987           |
| 1926     | 15,792   | 17,133     | 32,925    | 25,223      | 2,876      | 28,100    | 4,826      | ....    | 1,064         |
| 1927     | 18,894   | 17,858     | 36,752    | 26,135      | 2,810      | 28,946    | 7,806      | ....    | 1,358         |
| 1928     | 18,023   | 18,553     | 36,575    | 32,505      | 2,674      | 35,179    | 1,396      | ....    | 1,302         |
| 1929     | 18,906   | 21,201     | 40,108    | 30,603      | 2,411      | 33,014    | 7,094      | ....    | 1,358         |
| 1930     | 17,758   | 19,805     | 37,563    | 32,009      | 2,213      | 34,223    | 3,341      | ....    | 1,316         |
| 1931     | 9,165    | 13,639     | 22,804    | 33,306      | 1,550      | 34,856    | ....       | 12,052  | 1,095         |
| 1932     | 6,926    | 15,854     | 22,780    | 29,633      | 1,826      | 31,459    | ....       | 8,679   | 1,133         |
| 1933     | 9,542    | 16,740     | 26,282    | 28,037      | 1,916      | 29,953    | ....       | 3,671   | 1,122         |
| 1934     | 8,889    | 18,554     | 27,443    | 31,132      | 2,427      | 33,559    | ....       | 6,116   | 1,024         |
| 1935     | 10,203   | 20,290     | 30,493    | 30,002      | 2,650      | 32,652    | ....       | 2,158   | 1,106         |
| 1936     | 12,688   | 22,073     | 34,761    | 33,023      | 3,665      | 36,689    | ....       | 1,928   | 1,095         |
| 1937     | 14,144   | 24,742     | 38,886    | 34,592      | 6,361      | 40,953    | ....       | 2,067   | 1,029         |
| 1938     | 15,986   | 25,879     | 41,865    | 38,944      | 6,057      | 45,001    | ....       | 3,135   | 1,200         |
| 1939     | 12,275   | 25,329     | 37,604    | 34,149      | 10,815     | 44,964    | ....       | 7,360   | 1,049         |
| 1940     | 12,568   | 27,450     | 40,017    | 19,256      | 28,518     | 47,774    | ....       | 7,756   | 1,380         |
| 1941     | 9,710    | 27,519     | 37,229    | 16,900      | 30,808     | 47,708    | ....       | 10,479  | 1,971         |
| 1942     | 10,391   | 26,110     | 36,501    | 23,157      | 25,241     | 48,398    | ....       | 11,897  | 2,305         |
| 1943     | 7,383    | 24,803     | 32,186    | 10,625      | 20,117     | 30,741    | 1,445      | ....    | 1,983         |
| 1944     | 7,770    | 26,628     | 34,399    | 22,845      | 13,472     | 36,317    | ....       | 1,919   | 2,747         |
| 1945     | 9,215    | 26,863     | 36,079    | 24,765      | 11,533     | 36,298    | ....       | 219     | 2,508         |
| 1946     | 11,018   | 32,238     | 43,256    | 38,917      | 11,662     | 50,579    | ....       | 7,322   | 2,511         |
| 1947     | 18,929   | 42,253     | 61,182    | 46,015      | 11,459     | 57,474    | 3,708      | ....    | 1,966         |
| 1948     | 34,311   | 51,329     | 85,640    | 97,389      | 11,599     | 108,989   | ....       | 23,349  | 2,474         |
| 1949     | 44,075   | 61,182     | 105,258   | 96,982      | 9,495      | 106,477   | ....       | 1,220   | 4,710         |
| 1950     | 68,844   | 70,044     | 138,887   | 106,590     | 12,421     | 119,011   | 19,876     | ....    | 4,720         |
| 1951     | 80,517   | 95,828     | 176,345   | 197,686     | 18,780     | 216,466   | ....       | 40,122  | 7,249         |
| 1952     | 120,474  | 124,209    | 244,683   | 151,562     | 35,404     | 186,966   | 57,717     | ....    | 8,419         |
| 1953     | 59,748   | 137,213    | 196,961   | 166,286     | 49,659     | 215,945   | ....       | 18,984  | 10,321        |
| 1954     | 85,051   | 165,374    | 250,425   | 136,849     | 39,190     | 176,039   | 74,386     | ....    | 7,266         |
| 1955     | 101,295  | 182,110    | 283,405   | 137,013     | 47,310     | 184,323   | 99,082     | ....    | 7,865         |
| 1956     | 92,963   | 177,952    | 270,915   | 152,286     | 68,466     | 220,752   | 50,164     | ....    | 10,592        |
| 1957     | 80,423   | 188,680    | 269,103   | 216,599     | 81,545     | 298,144   | ....       | 29,041  | 12,902        |
| 1958     | 91,775   | 195,103    | 286,879   | 179,516     | 79,836     | 259,352   | 27,527     | ....    | 11,602        |
| 1959     | 89,972   | 202,430    | 292,402   | 174,585     | 68,919     | 243,504   | 48,898     | ....    | 9,482         |
| 1960     | 92,363   | 246,696    | 339,059   | 231,766     | 77,278     | 309,043   | 30,016     | ....    | 8,954         |
| 1961     | 110,531  | 245,474    | 356,005   | 309,332     | 89,922     | 399,254   | ....       | 43,249  | 10,285        |
| 1962     | 100,178  | 245,208    | 345,386   | 287,619     | 84,626     | 372,245   | ....       | 26,859  | 9,379         |
| 1963     | 112,640  | 313,712    | 426,351   | 246,823     | 91,636     | 338,459   | 87,892     | ....    | 7,904         |
| 1964     | 121,677  | 323,176    | 444,854   | 286,132     | 101,811    | 387,943   | 56,911     | ....    | 9,733         |
| 1965     | 153,540  | 343,899    | 497,439   | 243,078     | 119,954    | 363,033   | 134,407    | ....    | 9,009         |
| 1966     | 175,690  | 403,054    | 578,744   | 314,404     | 119,619    | 434,023   | 144,721    | ....    | 10,058        |
| 1967     | 159,390  | 474,852    | 634,242   | 421,325     | 116,030    | 537,355   | 96,887     | ....    | 10,936        |
| 1968     | 206,980  | 527,052    | 734,031   | 475,260     | 124,505    | 599,765   | 134,266    | ....    | 14,824        |
| 1969     | 203,533  | 562,312    | 765,846   | 546,366     | 149,892    | 696,258   | 69,588     | ....    | 14,327        |
| 1970     | 242,299  | 640,189    | 882,487   | 675,027     | 149,861    | 824,888   | 57,600     | ....    | 15,092        |
| 1971     | 278,344  | 726,778    | 1,005,122 | 862,421     | 151,093    | 1,013,514 | ....       | 8,392   | 20,561        |

(a) From 1915, year ended 30 June. (b) Excludes ships' stores. (c) Not available. (d) Six months ended 30 June.

## LAND TENURE; LIVESTOCK; WOOL PRODUCTION

| Year | Land alienated and land in process of alienation (a) | Land held under lease or licence (a) (b) | Livestock (c) |        |        |      | Wool production (d) |                 |
|------|------------------------------------------------------|------------------------------------------|---------------|--------|--------|------|---------------------|-----------------|
|      |                                                      |                                          | Horses        | Cattle | Sheep  | Pigs | Quantity            | Gross value (e) |
|      | '000 acres                                           | '000 acres                               | '000          | '000   | '000   | '000 | tonnes              | \$'000          |
| 1829 | 525                                                  | ....                                     | (f)           | (f)    | 1      | (f)  | (g)                 |                 |
| 1830 | 633                                                  | ....                                     | (f)           | 1      | 8      | (f)  | (g)                 |                 |
| 1840 | 1,598                                                | ....                                     | 1             | 2      | 31     | 2    | (g)                 |                 |
| 1850 | 1,330                                                | ....                                     | 3             | 13     | 128    | 3    | (g)                 |                 |
| 1860 | 1,516                                                | 5,563                                    | 10            | 32     | 260    | 11   | 298                 | (g)             |
| 1870 | 1,465                                                | 12,239                                   | 22            | 45     | 609    | 13   | 811                 |                 |
| 1880 | 2,125                                                | 44,920                                   | 35            | 64     | 1,232  | 24   | 1,970               |                 |
| 1890 | 5,334                                                | 104,742                                  | 44            | 131    | 2,525  | 29   | 3,161               |                 |
| 1900 | 6,619                                                | 87,376                                   | 68            | 339    | 2,434  | 62   | 4,323               |                 |
| 1910 | 17,330                                               | 167,208                                  | 134           | 825    | 5,159  | 58   | 13,210              | 2,141           |
| 1911 | 19,046                                               | 169,938                                  | 140           | 844    | 5,412  | 56   | 13,446              | 2,184           |
| 1912 | 20,793                                               | 175,630                                  | 148           | 806    | 4,597  | 47   | 11,512              | 1,870           |
| 1913 | 21,363                                               | 188,547                                  | 157           | 834    | 4,421  | 48   | 11,352              | 1,902           |
| 1914 | 21,649                                               | 184,221                                  | 162           | 864    | 4,456  | 60   | 11,076              | 1,819           |
| 1915 | 22,087                                               | 189,742                                  | 163           | 821    | 4,804  | 58   | 13,478              | 2,607           |
| 1916 | 21,710                                               | 196,707                                  | 170           | 864    | 5,530  | 91   | 15,011              | 3,926           |
| 1917 | 21,561                                               | 192,437                                  | 178           | 927    | 6,384  | 112  | 18,296              | 4,835           |
| 1918 | 21,568                                               | 208,049                                  | 180           | 944    | 7,184  | 86   | 20,745              | 6,155           |
| 1919 | 21,843                                               | 245,405                                  | 175           | 881    | 6,698  | 58   | 18,867              | 5,369           |
| 1920 | 23,023                                               | 257,610                                  | 179           | 850    | 6,533  | 61   | 18,947              | 4,552           |
| 1921 | 24,232                                               | 258,504                                  | 180           | 893    | 6,506  | 63   | 19,542              | 4,482           |
| 1922 | 25,756                                               | 267,620                                  | 181           | 940    | 6,664  | 68   | 18,535              | 6,294           |
| 1923 | 27,065                                               | 262,147                                  | 182           | 954    | 6,596  | 61   | 20,541              | 8,665           |
| 1924 | 28,343                                               | 209,937                                  | 175           | 892    | 6,397  | 66   | 19,697              | 9,151           |
| 1925 | 28,902                                               | 232,992                                  | 171           | 836    | 6,862  | 74   | 21,903              | 6,800           |
| 1926 | 30,278                                               | 230,562                                  | 166           | 827    | 7,459  | 70   | 25,007              | 7,148           |
| 1927 | 31,740                                               | 234,160                                  | 165           | 847    | 8,447  | 60   | 28,441              | 10,170          |
| 1928 | 33,322                                               | 237,428                                  | 161           | 838    | 8,943  | 49   | 26,701              | 8,027           |
| 1929 | 35,399                                               | 243,724                                  | 160           | 837    | 9,557  | 65   | 30,459              | 5,952           |
| 1930 | 36,039                                               | 245,390                                  | 157           | 813    | 9,883  | 101  | 32,451              | 4,829           |
| 1931 | 36,209                                               | 216,627                                  | 156           | 827    | 10,098 | 121  | 32,484              | 5,007           |
| 1932 | 35,869                                               | 206,162                                  | 157           | 857    | 10,417 | 118  | 34,086              | 5,198           |
| 1933 | 35,547                                               | 198,325                                  | 160           | 886    | 10,322 | 91   | 35,573              | 9,404           |
| 1934 | 35,090                                               | 200,588                                  | 162           | 912    | 11,197 | 98   | 40,820              | 6,422           |
| 1935 | 34,118                                               | 203,602                                  | 160           | 883    | 11,083 | 98   | 38,876              | 8,886           |
| 1936 | 32,995                                               | 203,961                                  | 155           | 793    | 9,008  | 76   | 28,820              | 7,306           |
| 1937 | 33,003                                               | 205,059                                  | 151           | 740    | 8,732  | 65   | 29,365              | 5,832           |
| 1938 | 33,009                                               | 205,992                                  | 144           | 768    | 9,178  | 83   | 32,874              | 5,450           |
| 1939 | 32,768                                               | 205,705                                  | 139           | 799    | 9,574  | 150  | 34,201              | 7,581           |
| 1940 | 32,437                                               | 209,380                                  | 130           | 789    | 9,516  | 218  | 32,362              | 7,889           |
| 1941 | 32,110                                               | 209,958                                  | 124           | 840    | 9,773  | 163  | 35,211              | 8,328           |
| 1942 | 31,864                                               | 211,536                                  | 113           | 831    | 10,424 | 152  | 43,417              | 11,935          |
| 1943 | 31,658                                               | 212,039                                  | 107           | 871    | 11,013 | 164  | 46,611              | 12,741          |
| 1944 | 31,622                                               | 212,696                                  | 97            | 853    | 10,050 | 164  | 38,166              | 10,512          |
| 1945 | 31,719                                               | 212,331                                  | 88            | 834    | 9,766  | 138  | 37,225              | 10,424          |
| 1946 | 31,781                                               | 212,163                                  | 81            | 812    | 9,787  | 102  | 36,525              | 16,094          |
| 1947 | 32,275                                               | 217,228                                  | 75            | 816    | 10,444 | 93   | 40,609              | 29,277          |
| 1948 | 32,162                                               | 222,811                                  | 69            | 864    | 10,873 | 81   | 42,533              | 37,720          |
| 1949 | 32,563                                               | 225,496                                  | 59            | 865    | 10,923 | 79   | 42,071              | 47,237          |
| 1950 | 33,395                                               | (b)202,874                               | 55            | 841    | 11,362 | 90   | 46,680              | 118,068         |
| 1951 | 34,352                                               | 204,893                                  | 53            | 852    | 12,188 | 86   | 52,681              | 64,027          |
| 1952 | 35,325                                               | 206,546                                  | 50            | 846    | 12,475 | 76   | 54,760              | 75,121          |
| 1953 | 36,845                                               | 205,634                                  | 49            | 830    | 13,087 | 101  | 58,497              | 82,567          |
| 1954 | 37,591                                               | 208,633                                  | 47            | 861    | 13,411 | 107  | 56,324              | 67,985          |
| 1955 | 38,017                                               | 213,621                                  | 45            | 897    | 14,128 | 99   | 67,932              | 69,642          |
| 1956 | 38,317                                               | 215,799                                  | 45            | 957    | 14,887 | 140  | 67,301              | 90,283          |
| 1957 | 38,908                                               | 220,196                                  | 44            | 997    | 15,724 | 151  | 68,504              | 75,228          |
| 1958 | 39,351                                               | 218,411                                  | 41            | 1,000  | 16,215 | 115  | 71,376              | 59,407          |
| 1959 | 39,980                                               | 228,103                                  | 41            | 1,030  | 16,412 | 131  | 72,979              | 75,302          |
| 1960 | 40,385                                               | 228,915                                  | 40            | 1,100  | 17,151 | 176  | 82,652              | 73,863          |
| 1961 | 41,110                                               | 233,459                                  | 40            | 1,218  | 18,314 | 174  | 83,159              | 79,283          |
| 1962 | 42,203                                               | 246,416                                  | 39            | 1,298  | 18,727 | 131  | 80,366              | 80,071          |
| 1963 | 43,204                                               | 245,532                                  | 39            | 1,299  | 20,165 | 128  | 95,053              | 116,331         |
| 1964 | 44,102                                               | 244,066                                  | 37            | 1,258  | 22,392 | 137  | 91,170              | 93,275          |
| 1965 | 45,188                                               | 245,730                                  | 35            | 1,271  | 24,427 | 144  | 108,116             | 115,183         |
| 1966 | 46,299                                               | 246,520                                  | (g)           | 1,357  | 27,370 | 161  | 119,681             | 121,509         |
| 1967 | 47,425                                               | 248,538                                  | (g)           | 1,427  | 30,161 | 183  | 131,379             | 116,653         |
| 1968 | 48,195                                               | 249,515                                  | (g)           | 1,546  | 32,901 | 220  | 164,307             | 158,264         |
| 1969 | 48,841                                               | 248,872                                  | 29            | 1,681  | 33,634 | 250  | 144,527             | *120,819        |
| 1970 | 48,830                                               | 254,409                                  | (g)           | 1,781  | 34,709 | 278  | 151,777             | 92,009          |
| 1971 | 48,297                                               | 255,478                                  | (g)           | 1,975  | 34,405 | 427  | (h)169,700          | (h)128,974      |

NOTE. 1 tonne = 1,000 kilograms; 1 kilogram = 2.2 lb approximately.

(a) From 1907 to 1946, at 30 June; for earlier years and from 1947, at 31 December. (b) Comprises allocations by Lands Department and certain leases and licences issued by Mines and Forests Departments. Apparent decrease in 1950 due mainly to revisions in records of Lands Department. (c) At 31 December for 1941 and earlier years; from 1942, the figures shown relate to 31 March in the following year. (d) Comprises shorn, dead and fellmongered wool. Excludes wool exported on skins. For 1947 and earlier, year ended 31 December; figures shown for 1948 to 1964 are for the year ended 31 March in the following year. From 1965 figures relate to the year ended 30 June in the following year. (e) Figures for 1949 and 1951 to 1955 exclude distributions of profits under the 1939-1945 War-time Wool Disposals Plan aggregating \$13,869,934. Separate State figures are not available for distributions made from 1956 to 1958 when payments were virtually complete. (f) Less than 500. (g) Not available. (h) Preliminary; subject to revision. \* Revised.

## AGRICULTURE

| Year (a) | Total area used for crops (b) | Area and production of principal grain crops |                |              |             |            |              |            |              |
|----------|-------------------------------|----------------------------------------------|----------------|--------------|-------------|------------|--------------|------------|--------------|
|          |                               | Wheat                                        |                |              |             | Oats       |              | Barley     |              |
|          |                               | Area                                         | Production     |              |             | Area       | Production   | Area       | Production   |
|          |                               |                                              | Yield per acre | Total        | Gross value |            |              |            |              |
|          | '000 acres                    | '000 acres                                   | bushels        | '000 bushels | \$'000      | '000 acres | '000 bushels | '000 acres | '000 bushels |
|          | (c)                           | (c)                                          | (c)            | (c)          | (c)         | (c)        | (c)          | (c)        | (c)          |
| 1840     | 3                             | 2                                            | 20.0           | 33           |             |            |              |            |              |
| 1850     | 7                             | 4                                            |                |              |             |            |              |            |              |
| 1860     | 25                            | 14                                           | 15.3           | 208          | (c)         | 1          | 12           | 2          | 43           |
| 1870     | 55                            | 27                                           | 11.9           | 317          |             | 2          | 40           | 5          | 88           |
| 1880     | 64                            | 28                                           | 9.3            | 257          |             | 1          | 21           | 6          | 89           |
| 1890     | 70                            | 34                                           | 13.8           | 467          |             | 2          | 39           | 5          | 85           |
| 1900     | 201                           | 74                                           | 10.4           | 775          | 310         | 5          | 86           | 3          | 29           |
| 1910     | 855                           | 582                                          | 10.1           | 5,898        | 2,162       | 62         | 776          | 3          | 34           |
| 1911     | 1,073                         | 612                                          | 7.1            | 4,359        | 1,734       | 77         | 961          | 4          | 37           |
| 1912     | 1,200                         | 793                                          | 11.6           | 9,169        | 3,209       | 128        | 2,016        | 6          | 93           |
| 1913     | 1,538                         | 1,097                                        | 12.2           | 13,331       | 4,666       | 134        | 1,656        | 12         | 168          |
| 1914     | 1,868                         | 1,376                                        | 1.9            | 2,624        | 1,881       | 96         | 465          | 7          | 24           |
| 1915     | 2,189                         | 1,734                                        | 10.5           | 18,236       | 6,535       | 104        | 1,538        | 10         | 131          |
| 1916     | 2,005                         | 1,567                                        | 10.3           | 16,103       | 6,106       | 122        | 1,689        | 11         | 134          |
| 1917     | 1,680                         | 1,250                                        | 7.4            | 9,304        | 4,419       | 96         | 909          | 5          | 36           |
| 1918     | 1,605                         | 1,146                                        | 7.7            | 8,845        | 4,423       | 141        | 1,500        | 8          | 81           |
| 1919     | 1,628                         | 1,042                                        | 10.8           | 11,223       | 10,662      | 192        | 2,487        | 9          | 116          |
| 1920     | 1,805                         | 1,276                                        | 9.6            | 12,248       | 11,023      | 193        | 2,022        | 11         | 111          |
| 1921     | 1,902                         | 1,336                                        | 10.4           | 13,905       | 7,532       | 163        | 2,020        | 8          | 86           |
| 1922     | 2,275                         | 1,553                                        | 8.9            | 13,857       | 6,986       | 214        | 2,262        | 9          | 108          |
| 1923     | 2,323                         | 1,657                                        | 11.4           | 18,920       | 8,987       | 242        | 2,847        | 9          | 98           |
| 1924     | 2,711                         | 1,868                                        | 12.8           | 23,887       | 14,532      | 319        | 4,241        | 12         | 178          |
| 1925     | 2,932                         | 2,112                                        | 9.7            | 20,471       | 12,837      | 278        | 2,939        | 13         | 158          |
| 1926     | 3,325                         | 2,571                                        | 11.7           | 31,069       | 17,217      | 235        | 2,716        | 14         | 128          |
| 1927     | 3,720                         | 2,999                                        | 12.1           | 36,370       | 19,842      | 235        | 2,923        | 12         | 127          |
| 1928     | 4,259                         | 3,344                                        | 10.1           | 33,790       | 16,473      | 326        | 3,555        | 14         | 190          |
| 1929     | 4,566                         | 3,568                                        | 11.0           | 39,081       | 17,721      | 385        | 4,058        | 24         | 262          |
| 1930     | 4,792                         | 3,956                                        | 13.5           | 53,504       | 12,201      | 275        | 3,293        | 17         | 185          |
| 1931     | 3,963                         | 3,159                                        | 13.1           | 41,521       | 14,430      | 268        | 3,550        | 15         | 165          |
| 1932     | 4,263                         | 3,389                                        | 12.3           | 41,792       | 13,554      | 286        | 3,603        | 14         | 135          |
| 1933     | 4,217                         | 3,183                                        | 11.7           | 37,305       | 12,004      | 343        | 3,950        | 25         | 325          |
| 1934     | 3,841                         | 2,764                                        | 9.8            | 26,985       | 10,123      | 409        | 4,244        | 27         | 238          |
| 1935     | 3,726                         | 2,541                                        | 9.2            | 23,315       | 9,747       | 448        | 4,558        | 32         | 418          |
| 1936     | 3,852                         | 2,575                                        | 8.4            | 21,549       | 11,902      | 463        | 3,445        | 40         | 449          |
| 1937     | 4,168                         | 3,026                                        | 12.0           | 36,225       | 14,830      | 386        | 4,364        | 45         | 584          |
| 1938     | 4,683                         | 3,413                                        | 10.8           | 36,844       | 8,984       | 426        | 4,668        | 75         | 946          |
| 1939     | 4,287                         | 2,970                                        | 13.8           | 40,861       | 15,526      | 453        | 5,315        | 83         | 971          |
| 1940     | 3,988                         | 2,625                                        | 8.0            | 21,060       | 8,648       | 429        | 3,250        | 66         | 725          |
| 1941     | 3,817                         | 2,653                                        | 14.1           | 37,500       | 15,615      | 407        | 5,325        | 68         | 959          |
| 1942     | 2,784                         | 1,753                                        | 11.8           | 20,600       | 10,080      | 342        | 3,612        | 50         | 533          |
| 1943     | 2,744                         | 1,567                                        | 10.6           | 16,550       | 9,531       | 358        | 3,964        | 61         | 724          |
| 1944     | 2,756                         | 1,516                                        | 10.5           | 15,929       | 8,319       | 402        | 3,845        | 76         | 884          |
| 1945     | 2,875                         | 1,836                                        | 11.4           | 20,929       | 15,871      | 396        | 4,081        | 66         | 666          |
| 1946     | 3,532                         | 2,426                                        | 9.8            | 23,800       | 22,048      | 425        | 3,661        | 66         | 519          |
| 1947     | 3,936                         | 2,760                                        | 12.5           | 34,500       | 50,265      | 495        | 5,411        | 63         | 745          |
| 1948     | 4,102                         | 2,868                                        | 12.6           | 36,250       | 42,122      | 532        | 6,998        | 64         | 981          |
| 1949     | 4,293                         | 2,894                                        | 13.3           | 38,500       | 51,339      | 585        | 7,268        | 68         | 968          |
| 1950     | 4,533                         | 3,185                                        | 15.7           | 49,900       | 65,328      | 586        | 7,914        | 59         | 925          |
| 1951     | 4,508                         | 3,095                                        | 12.9           | 40,000       | 58,984      | 657        | 7,689        | 57         | 695          |
| 1952     | 4,637                         | 2,999                                        | 11.8           | 35,458       | 55,194      | 832        | 10,440       | 107        | 1,742        |
| 1953     | 4,477                         | 2,885                                        | 13.8           | 39,700       | 55,423      | 733        | 9,591        | 209        | 2,733        |
| 1954     | 5,043                         | 2,979                                        | 11.5           | 34,300       | 43,655      | 874        | 9,585        | 260        | 2,805        |
| 1955     | 5,234                         | 2,890                                        | 18.4           | 53,250       | 68,840      | 1,091      | 16,516       | 337        | 4,653        |
| 1956     | 5,139                         | 2,764                                        | 11.6           | 32,100       | 44,055      | 1,051      | 10,442       | 344        | 3,751        |
| 1957     | 5,511                         | 2,957                                        | 11.2           | 33,100       | 45,912      | 1,153      | 13,793       | 307        | 3,556        |
| 1958     | 6,015                         | 3,292                                        | 17.5           | 57,650       | 77,639      | 1,330      | 22,585       | 321        | 5,410        |
| 1959     | 6,382                         | 3,719                                        | 15.8           | 58,670       | 82,361      | 1,240      | 19,599       | 421        | 7,080        |
| 1960     | 6,757                         | 4,021                                        | 15.9           | 63,900       | 92,290      | 1,330      | 21,810       | 541        | 8,496        |
| 1961     | 6,976                         | 4,380                                        | 15.0           | 65,700       | 100,023     | 1,231      | 20,186       | 491        | 7,282        |
| 1962     | 7,327                         | 4,804                                        | 15.1           | 72,500       | 107,023     | 1,177      | 18,572       | 390        | 6,056        |
| 1963     | 6,706                         | 4,640                                        | 11.3           | 52,340       | 74,389      | 1,125      | 17,850       | 299        | 4,077        |
| 1964     | 7,289                         | 5,151                                        | 12.2           | 63,071       | 88,557      | 1,152      | 14,011       | 303        | 3,701        |
| 1965     | 8,449                         | 6,150                                        | 16.6           | 102,156      | 153,050     | 1,240      | 23,279       | 413        | 6,481        |
| 1966     | 8,558                         | 6,347                                        | 16.3           | 103,195      | 153,157     | 1,204      | 22,117       | 373        | 6,707        |
| 1967     | 8,883                         | 6,647                                        | 16.1           | 106,975      | 170,102     | 1,158      | 19,759       | 416        | 7,027        |
| 1968     | 9,490                         | 7,295                                        | 15.4           | 112,450      | 151,306     | 1,092      | 22,942       | 553        | 9,187        |
| 1969     | 9,676                         | 6,788                                        | 9.8            | 66,700       | 93,988      | 1,139      | 15,463       | 900        | 12,058       |
| 1970     | 9,468                         | 5,835                                        | 18.6           | 108,650      | 158,033     | 1,284      | 28,657       | 1,562      | 33,922       |
| 1971     | (d) 9,297                     | 5,045                                        | 15.8           | 79,556       | (e)         | (d) 1,120  | (d) 22,763   | (d) 2,246  | (d) 44,046   |

(a) Figures shown for 1942 and earlier are for the year ended last day of February in the following year; those shown for 1943 and later are for the season ended 31 March in the following year. (b) Excludes meadow hay. (c) Not available. (d) Preliminary figures; subject to revision. (e) Not available at time of publication.

## PRIMARY PRODUCTION—MISCELLANEOUS

| Year | Hay (all kinds) (a) |            | Gold production (b) |           | Coal production |        | Average values f.o.b.    |                      |
|------|---------------------|------------|---------------------|-----------|-----------------|--------|--------------------------|----------------------|
|      | Area                | Production | Quantity            | Value (c) | Quantity        | Value  | Wool (greasy) per kg (d) | Wheat per bushel (e) |
|      | '000 acres          | '000 tons  | '000 fine oz        | \$'000    | '000 tons       | \$'000 | cents                    | cents                |
| 1860 | 6                   | 8          | ....                | ....      | ....            | ....   | ....                     | 53.96                |
| 1870 | 17                  | 21         | ....                | ....      | ....            | ....   | ....                     | ....                 |
| 1880 | 20                  | 20         | ....                | ....      | ....            | ....   | (f)                      | 50.00                |
| 1890 | 23                  | 25         | 20                  | 171       | ....            | ....   | ....                     | ....                 |
| 1900 | 104                 | 104        | 1,414               | 12,015    | 118             | 110    | ....                     | 15.00                |
| 1910 | 175                 | 179        | 1,471               | 12,494    | 262             | 227    | 16.20                    | 40.42                |
| 1911 | 344                 | 300        | 1,371               | 11,646    | 250             | 222    | 16.20                    | 34.58                |
| 1912 | 232                 | 256        | 1,283               | 10,897    | 295             | 272    | 16.20                    | 39.79                |
| 1913 | 247                 | 279        | 1,314               | 11,163    | 314             | 307    | 16.71                    | 37.08                |
| 1914 | 332                 | 157        | 1,233               | 10,475    | 319             | 297    | (g) 16.42                | 36.87                |
| 1915 | 290                 | 395        | 1,210               | 10,280    | 287             | 276    | 14.99                    | (h) 69.79            |
| 1916 | 241                 | 237        | 1,061               | 9,017     | 302             | 296    | 19.22                    | 48.54                |
| 1917 | 266                 | 267        | 970                 | 8,243     | 327             | 384    | 25.66                    | 46.67                |
| 1918 | 250                 | 250        | 877                 | 7,446     | 337             | 409    | 22.13                    | 50.21                |
| 1919 | 327                 | 379        | 734                 | 7,498     | 402             | 521    | 28.68                    | 53.75                |
| 1920 | 267                 | 264        | 618                 | 6,951     | 462             | 701    | 28.26                    | 71.67                |
| 1921 | 336                 | 369        | 554                 | 5,907     | 469             | 814    | 24.07                    | 73.33                |
| 1922 | 432                 | 457        | 538                 | 5,052     | 438             | 763    | 22.95                    | 55.00                |
| 1923 | 330                 | 368        | 505                 | 4,464     | 421             | 738    | 33.60                    | 50.42                |
| 1924 | 398                 | 449        | 485                 | 4,512     | 422             | 727    | 41.78                    | 47.50                |
| 1925 | 391                 | 355        | 441                 | 3,749     | 437             | 726    | 45.97                    | 60.83                |
| 1926 | 358                 | 424        | 437                 | 3,715     | 475             | 789    | 30.78                    | 62.71                |
| 1927 | 357                 | 417        | 408                 | 3,469     | 502             | 816    | 28.31                    | 55.21                |
| 1928 | 415                 | 422        | 393                 | 3,342     | 528             | 840    | 35.52                    | 54.58                |
| 1929 | 419                 | 428        | 377                 | 3,204     | 545             | 853    | 29.87                    | 50.62                |
| 1930 | 398                 | 492        | 418                 | 3,729     | 501             | 770    | 19.37                    | 45.42                |
| 1931 | 381                 | 453        | 511                 | 5,996     | 432             | 672    | 14.77                    | 22.92                |
| 1932 | 417                 | 485        | 606                 | 8,807     | 416             | 541    | 15.50                    | 31.25                |
| 1933 | 480                 | 512        | 637                 | 9,773     | 458             | 580    | 15.74                    | 30.42                |
| 1934 | 413                 | 463        | 651                 | 11,118    | 500             | 557    | 28.75                    | 29.37                |
| 1935 | 494                 | 505        | 649                 | 11,404    | 537             | 636    | 17.73                    | 32.08                |
| 1936 | 478                 | 413        | 846                 | 14,747    | 565             | 663    | 24.98                    | 39.79                |
| 1937 | 432                 | 450        | 1,001               | 17,488    | 554             | 681    | 29.70                    | 55.21                |
| 1938 | 408                 | 438        | 1,168               | 20,726    | 605             | 750    | 24.25                    | 41.04                |
| 1939 | 396                 | 476        | 1,214               | 23,686    | 558             | 726    | 19.58                    | 24.37                |
| 1940 | 418                 | 375        | 1,191               | 25,393    | 539             | 729    | 25.68                    | 30.45                |
| 1941 | 325                 | 414        | 1,109               | 23,703    | 557             | 779    | 28.70                    | 39.43                |
| 1942 | 253                 | 278        | 848                 | 17,731    | 581             | 923    | 28.64                    | 41.14                |
| 1943 | 282                 | 314        | 546                 | 11,421    | 532             | 979    | 32.19                    | 41.08                |
| 1944 | 329                 | 339        | 466                 | 9,800     | 558             | 1,166  | 34.81                    | 48.21                |
| 1945 | 281                 | 287        | 469                 | 10,021    | 543             | 1,146  | 34.24                    | 63.40                |
| 1946 | 277                 | 280        | 617                 | 13,280    | 642             | 1,460  | 34.92                    | 86.57                |
| 1947 | 229                 | 268        | 704                 | 15,151    | 731             | 1,680  | 45.64                    | 131.77               |
| 1948 | 227                 | 277        | 665                 | 14,314    | 733             | 1,760  | 76.41                    | 175.07               |
| 1949 | 216                 | 272        | 648                 | 15,926    | 751             | 1,944  | 94.20                    | 152.70               |
| 1950 | 177                 | 227        | 610                 | 18,933    | 814             | 2,575  | 105.91                   | 155.20               |
| 1951 | 174                 | 212        | 628                 | 19,451    | 848             | 3,434  | 263.50                   | 169.41               |
| 1952 | 227                 | 290        | 730                 | 23,696    | 830             | 4,915  | 138.10                   | 170.48               |
| 1953 | 219                 | 294        | 824                 | 26,598    | 886             | 6,146  | 148.04                   | 173.02               |
| 1954 | 289                 | 305        | 851                 | 26,627    | 1,018           | 7,178  | 156.20                   | 165.75               |
| 1955 | 269                 | 384        | 842                 | 26,749    | 904             | 6,179  | 135.39                   | 142.12               |
| 1956 | 242                 | 288        | 812                 | 26,405    | 830             | 5,448  | 112.66                   | 126.73               |
| 1957 | 339                 | 386        | 897                 | 29,102    | 839             | 5,105  | 144.67                   | 130.97               |
| 1958 | 333                 | 455        | 867                 | 28,357    | 871             | 4,561  | 130.80                   | 153.36               |
| 1959 | 319                 | 433        | 867                 | 28,388    | 911             | 4,713  | 91.87                    | 140.88               |
| 1960 | 284                 | 381        | 856                 | 28,140    | 922             | 4,878  | 115.37                   | 134.67               |
| 1961 | 294                 | 396        | 872                 | 28,584    | 766             | 3,361  | 99.10                    | 135.82               |
| 1962 | 340                 | 453        | 859                 | 28,115    | 919             | 3,962  | 109.80                   | 141.25               |
| 1963 | 289                 | 389        | 800                 | 26,375    | 902             | 3,970  | 111.38                   | 142.34               |
| 1964 | 305                 | 390        | 713                 | 23,383    | 987             | 4,679  | 134.47                   | 141.55               |
| 1965 | 291                 | 414        | 659                 | 22,381    | 994             | 4,410  | 120.58                   | 140.60               |
| 1966 | 295                 | 417        | 629                 | 23,316    | 1,061           | 4,562  | 116.00                   | 139.13               |
| 1967 | 318                 | 421        | 576                 | 21,690    | 1,062           | 4,765  | 117.46                   | 149.35               |
| 1968 | 341                 | 500        | 512                 | 19,407    | 1,087           | 4,817  | 105.69                   | 139.64               |
| 1969 | 500                 | 508        | 465                 | 18,604    | 1,091           | 4,804  | 107.60                   | 139.51               |
| 1970 | 469                 | 662        | 342                 | 14,039    | 1,198           | 5,827  | 98.11                    | 129.86               |
| 1971 | (i)                 | (i)        | 348                 | 14,055    | 1,172           | 5,734  | 75.33                    | 133.04               |

NOTE. 1 kilogram = 2.2 lb approximately.

(a) See footnote (a) on preceding page. (b) Comprises gold refined at the Mint and gold contained in gold-bearing materials exported.

(c) Includes amounts, totalling \$8,605,481 for the years 1952 to 1971, distributed by the Gold Producers' Association Ltd. from premiums on sales of Western Australian gold. Also includes net subsidy payments by the Commonwealth Government, under the *Gold Mining Industry Assistance Act* 1954-1968, totalling \$28,334,946 in the years 1955 to 1971. (d) From 1915 figures relate to year ended 30 June. (e) Prior to 1940 averages generally are based on exports of the previous season's wheat; from 1940 they relate to exports during the year ended 30 June. (f) Not available. (g) For six months ended 30 June. (h) Exports negligible; average Metropolitan Market price shown. (i) Not available at time of publication.

**VALUE OF PRIMARY PRODUCTION**  
(Excluding Mining and Quarrying)  
(\$'000)

| Year<br>(a) | Gross value of primary production (excluding mining and quarrying) (b) |                                                         |                 |         |          |                  |         | Net value<br>of primary<br>production<br>(excluding<br>mining and<br>quarrying)<br>(c) (e) |
|-------------|------------------------------------------------------------------------|---------------------------------------------------------|-----------------|---------|----------|------------------|---------|--------------------------------------------------------------------------------------------|
|             | Agri-<br>culture                                                       | Dairying<br>poultry<br>farming<br>and<br>bee<br>keeping | Pastoral<br>(c) | Hunting | Forestry | Fisheries<br>(d) | Total   |                                                                                            |
| 1914        | 6,194                                                                  | 1,122                                                   | 4,115           |         |          |                  |         |                                                                                            |
| 1915        | 13,059                                                                 | 1,173                                                   | 6,060           |         |          |                  |         |                                                                                            |
| 1916        | 11,779                                                                 | 1,383                                                   | 7,340           |         |          |                  |         |                                                                                            |
| 1917        | 8,513                                                                  | 1,332                                                   | 8,959           |         |          |                  |         |                                                                                            |
| 1918        | 9,516                                                                  | 1,396                                                   | 9,088           |         | (g)      | (g)              | (g)     | (g)                                                                                        |
| 1919        | 18,133                                                                 | 1,687                                                   | 9,544           |         |          |                  |         |                                                                                            |
| 1920        | 17,466                                                                 | 2,065                                                   | 9,008           |         |          |                  |         |                                                                                            |
| 1921        | 13,853                                                                 | 2,265                                                   | 8,032           |         |          |                  |         |                                                                                            |
| 1922        | 12,992                                                                 | 2,350                                                   | 10,584          |         |          |                  |         |                                                                                            |
| 1923        | 15,076                                                                 | 2,483                                                   | 13,027          |         |          | 642              |         |                                                                                            |
| 1924        | 22,367                                                                 | 2,726                                                   | 13,419          |         |          | 764              |         |                                                                                            |
| 1925        | 19,510                                                                 | 2,507                                                   | 11,537          |         | 4,126    | 970              | 38,651  | 26,790                                                                                     |
| 1926        | 24,187                                                                 | 2,503                                                   | 11,262          |         | 3,367    | 580              | 41,899  | 29,222                                                                                     |
| 1927        | 26,068                                                                 | 2,687                                                   | 14,687          |         | 2,906    | 516              | 46,865  | 33,088                                                                                     |
| 1928        | 23,884                                                                 | 2,936                                                   | 13,501          |         | 2,463    | 561              | 43,344  | 28,930                                                                                     |
| 1929        | 24,504                                                                 | 3,443                                                   | 10,800          |         | 2,159    | 544              | 41,450  | 23,733                                                                                     |
| 1930        | 17,756                                                                 | 3,170                                                   | 8,845           |         | 1,809    | 485              | 32,066  | 13,977                                                                                     |
| 1931        | 20,985                                                                 | 3,311                                                   | 8,023           |         | 1,312    | 427              | 34,058  | 18,918                                                                                     |
| 1932        | 20,495                                                                 | 3,338                                                   | 8,057           |         | 1,183    | 430              | 33,502  | 17,709                                                                                     |
| 1933        | 19,022                                                                 | 3,315                                                   | 13,369          |         | 1,648    | 406              | 37,759  | 22,238                                                                                     |
| 1934        | 16,336                                                                 | 3,927                                                   | 9,329           | 127     | 2,399    | 373              | 32,491  | 19,174                                                                                     |
| 1935        | 17,045                                                                 | 3,897                                                   | 12,439          | 200     | 2,653    | 372              | 36,606  | 22,976                                                                                     |
| 1936        | 18,871                                                                 | 4,170                                                   | 11,016          | 421     | 3,032    | 465              | 37,974  | 24,841                                                                                     |
| 1937        | 21,071                                                                 | 4,494                                                   | 9,947           | 193     | 2,957    | 592              | 39,254  | 24,479                                                                                     |
| 1938        | 17,077                                                                 | 4,716                                                   | 9,326           | 131     | 2,899    | 561              | 34,711  | 19,407                                                                                     |
| 1939        | 23,198                                                                 | 4,855                                                   | 11,463          | 139     | 2,660    | 562              | 42,877  | 27,254                                                                                     |
| 1940        | 14,760                                                                 | 5,230                                                   | 11,460          | 241     | 3,160    | 539              | 38,391  | 20,765                                                                                     |
| 1941        | 22,219                                                                 | 5,960                                                   | 11,958          | 276     | 2,950    | 479              | 43,843  | 27,630                                                                                     |
| 1942        | 18,106                                                                 | 7,664                                                   | 16,155          | 190     | 3,277    | 255              | 45,647  | 30,961                                                                                     |
| 1943        | 18,505                                                                 | 7,971                                                   | 18,156          | 225     | 3,150    | 347              | 48,353  | 33,073                                                                                     |
| 1944        | 20,856                                                                 | 8,473                                                   | 15,385          | 215     | 3,152    | 330              | 48,411  | 33,907                                                                                     |
| 1945        | 26,310                                                                 | 8,709                                                   | 15,948          | 281     | 3,358    | 438              | 55,044  | 39,418                                                                                     |
| 1946        | 32,635                                                                 | 8,933                                                   | 21,986          | 465     | 3,305    | 635              | 67,959  | 50,237                                                                                     |
| 1947        | 64,699                                                                 | 9,790                                                   | 37,036          | 395     | 3,649    | 1,135            | 116,703 | 95,440                                                                                     |
| 1948        | 58,785                                                                 | 11,964                                                  | 46,254          | 517     | 4,024    | 1,379            | 122,924 | 96,436                                                                                     |
| 1949        | 69,686                                                                 | 12,975                                                  | 58,687          | 393     | 4,501    | 1,432            | 147,674 | 118,334                                                                                    |
| 1950        | 87,752                                                                 | 14,155                                                  | 131,921         | 499     | 6,741    | 1,649            | 242,716 | 204,544                                                                                    |
| 1951        | 86,791                                                                 | 18,778                                                  | 79,955          | 488     | 8,517    | 2,505            | 197,034 | 151,452                                                                                    |
| 1952        | 87,127                                                                 | 21,289                                                  | 90,639          | 461     | 7,155    | 3,286            | 209,956 | 156,303                                                                                    |
| 1953        | 86,533                                                                 | 22,328                                                  | 101,567         | 609     | 7,678    | 3,808            | 222,523 | 166,211                                                                                    |
| 1954        | 77,164                                                                 | 21,762                                                  | 87,435          | 335     | 8,116    | 4,383            | 199,195 | 140,799                                                                                    |
| 1955        | 109,709                                                                | 22,433                                                  | 89,293          | 361     | 10,474   | 4,915            | 237,185 | 172,142                                                                                    |
| 1956        | 80,170                                                                 | 23,240                                                  | 112,885         | 277     | 10,305   | 5,563            | 232,441 | 168,050                                                                                    |
| 1957        | 87,293                                                                 | 23,500                                                  | 94,118          | 175     | 11,046   | 6,530            | 222,662 | 153,299                                                                                    |
| 1958        | 126,672                                                                | 22,838                                                  | 81,639          | 125     | 10,903   | 7,818            | 249,995 | 171,083                                                                                    |
| 1959        | 131,052                                                                | 24,696                                                  | 100,255         | 288     | 10,919   | 8,621            | 275,831 | 194,365                                                                                    |
| 1960        | 140,003                                                                | 25,917                                                  | 101,051         | 579     | 11,082   | 8,569            | 287,201 | 201,580                                                                                    |
| 1961        | 148,765                                                                | 26,400                                                  | 105,310         | 511     | 11,104   | 10,689           | 302,779 | 216,761                                                                                    |
| 1962        | 157,948                                                                | 27,387                                                  | 107,280         | 376     | 10,877   | 11,219           | 315,087 | 223,576                                                                                    |
| 1963        | 123,342                                                                | 28,723                                                  | 148,701         | 632     | 11,462   | 10,187           | 323,047 | 235,973                                                                                    |
| 1964        | 139,426                                                                | 30,884                                                  | 125,837         | 775     | 12,093   | 15,218           | 324,233 | 234,564                                                                                    |
| 1965        | 215,949                                                                | 32,899                                                  | 157,249         | 836     | 12,731   | 15,733           | 435,397 | 328,298                                                                                    |
| 1966        | 218,206                                                                | 33,022                                                  | 159,857         | 986     | 13,300   | 16,525           | 441,895 | 323,275                                                                                    |
| 1967        | 234,020                                                                | 35,485                                                  | 158,754         | 1,236   | 14,076   | 21,954           | 465,524 | 330,396                                                                                    |
| 1968        | 218,643                                                                | 38,801                                                  | 210,780         | 1,211   | 13,465   | 23,717           | 506,617 | 358,248                                                                                    |
| 1969        | 156,738                                                                | 40,459                                                  | 176,387         | 1,098   | 13,632   | 19,660           | 407,974 | 264,283                                                                                    |
| 1970        | 262,391                                                                | 42,330                                                  | 146,198         | 834     | 16,174   | 25,127           | 493,054 | 330,867                                                                                    |

(a) Figures generally are for the season or financial period ending in the following year. (b) Represents the estimated value of recorded production based on wholesale prices realised at the principal market. (c) In addition, the following amounts were paid as interim distribution of profits under the 1939-1945 War-time Wool Disposals Plan: in 1949, \$3,629,478; in 1951, \$3,629,478; in 1952, \$2,325,324; in 1953, \$368,104; in 1954, \$2,120,460; and in 1955, \$1,797,090. Separate State figures are not available for distributions made from 1956 to 1958 when payments were virtually complete. (d) Includes pearling and whaling. (e) Net value of production is derived by deducting from the gross value all marketing costs and the cost of certain goods (seeds, fertiliser, pickling, sprays, dips, fodder, fuel and oil, etc.) used in the process of production. (f) Separate details not available. (g) Not available.

## FACTORIES (a)

| Year<br>(b) | Fac-<br>tories | Persons<br>em-<br>ployed<br>(c) | Salaries<br>and<br>wages<br>(d) | Output<br>(e) | Net<br>pro-<br>duction<br>(f) | Production of selected commodities |                                 |                                     |                     |               |                   |                                           |                                |
|-------------|----------------|---------------------------------|---------------------------------|---------------|-------------------------------|------------------------------------|---------------------------------|-------------------------------------|---------------------|---------------|-------------------|-------------------------------------------|--------------------------------|
|             |                |                                 |                                 |               |                               | Bricks<br>(g)                      | Super-<br>phos-<br>phate<br>(h) | Timber<br>from<br>local<br>logs (i) | Bacon<br>and<br>ham | Butter<br>(j) | Flour<br>(plain)  | Elec-<br>tricity<br>dis-<br>trib-<br>uted | Gas<br>(town)<br>pro-<br>duced |
|             | No.            | No.                             | \$'000                          | \$'000        | \$'000                        | '000                               | tons                            | '000<br>sup. ft                     | tons                | tons          | short<br>tons (k) | million<br>kWh                            | million<br>cu ft               |
| 1897 ....   | 487            | 9,689                           | (l)                             | (l)           | (l)                           | 36,564                             |                                 | 85,053                              |                     | 121           | 7,314             |                                           | (l)                            |
| 1898 ....   | 595            | 9,895                           | (l)                             | (l)           | (l)                           | 26,811                             |                                 | 103,043                             |                     | 118           | 8,460             |                                           | (l)                            |
| 1899 ....   | 603            | 10,206                          | 2,496                           | (l)           | (l)                           | 18,565                             |                                 | 118,052                             |                     | 132           | 10,042            |                                           | 53                             |
| 1900 ....   | 632            | 11,166                          | 2,589                           |               |                               | 25,234                             |                                 | 112,693                             |                     | 130           | 12,539            |                                           | 65                             |
| 1910 ....   | 822            | 14,894                          | 3,532                           | 10,158        | 5,472                         | 23,162                             |                                 | 174,528                             | (l)                 | 286           | 36,818            |                                           | 93                             |
| 1911 ....   | 880            | 16,754                          | 4,171                           | 11,863        | 6,567                         | 28,687                             |                                 | 198,977                             |                     | 222           | 40,642            | 23                                        | 102                            |
| 1912 ....   | 891            | 17,425                          | 4,579                           | 13,652        | 7,165                         | 34,432                             |                                 | 217,696                             |                     | 200           | 49,319            | 25                                        | 111                            |
| 1913 ....   | 954            | 18,372                          | 4,675                           | 14,597        | 7,524                         | 35,085                             | (l)                             | 218,908                             |                     | 231           | 61,997            | 26                                        | 125                            |
| 1914 ....   | 989            | 18,799                          | 4,949                           | 14,445        | 7,667                         | 34,854                             |                                 | 227,297                             |                     | 201           | 61,922            | 28                                        | 135                            |
| 1915 ....   | 983            | 15,882                          | 3,871                           | 14,125        | 6,468                         | 21,667                             |                                 | 123,494                             |                     | 320           | 32,396            | 28                                        | 140                            |
| 1916 ....   | 953            | 13,844                          | 3,600                           | 14,693        | 6,294                         | 18,585                             |                                 | 100,356                             |                     | 482           | 70,912            | 27                                        | 157                            |
| 1917 ....   | 944            | 13,350                          | 3,486                           | 15,324        | 6,199                         | 17,488                             |                                 | 85,218                              |                     | 608           | 102,300           | 30                                        | 161                            |
| 1918 ....   | 862            | 13,849                          | 3,726                           | 16,799        | 6,318                         | 15,672                             |                                 | 94,990                              | 1,028               | 397           | 119,876           | 30                                        | 169                            |
| 1919 ....   | 922            | 16,358                          | 4,636                           | 20,573        | 7,645                         | 21,092                             |                                 | 131,477                             | 1,000               | 445           | 141,516           | 28                                        | 180                            |
| 1920 ....   | 998            | 16,942                          | 6,073                           | 26,283        | 9,708                         | 31,838                             |                                 | 137,934                             | 837                 | 544           | 120,125           | 33                                        | 194                            |
| 1921 ....   | 1,099          | 18,151                          | 7,136                           | 25,689        | 10,479                        | 23,548                             |                                 | 183,663                             | 772                 | 684           | 82,148            | 36                                        | 202                            |
| 1922 ....   | 1,323          | 18,743                          | 7,426                           | 25,741        | 11,580                        | 28,509                             |                                 | 179,059                             | 801                 | 678           | 94,316            | 41                                        | 182                            |
| 1923 ....   | 1,307          | 19,805                          | 7,731                           | 27,409        | 12,257                        | 34,864                             |                                 | 192,547                             | 969                 | 766           | 107,990           | 48                                        | 204                            |
| 1924 ....   | 1,293          | 21,671                          | 8,673                           | 31,453        | 13,917                        | 34,930                             |                                 | 207,137                             | 1,164               | 741           | 122,192           | 55                                        | 217                            |
| 1926 (m)    | 1,170          | 20,667                          | 13,175                          | 42,890        | 19,222                        | 53,336                             |                                 | 328,935                             | 1,875               | 836           | 190,369           | 100                                       | 374                            |
| 1927 ....   | 1,216          | 19,403                          | 8,303                           | 31,343        | 13,814                        | 45,204                             | 182,621                         | 229,195                             | 1,123               | 1,100         | 133,919           | 78                                        | 294                            |
| 1928 ....   | 1,398          | 20,435                          | 9,003                           | 33,996        | 15,380                        | 52,992                             | 199,864                         | 227,631                             | 1,157               | 1,111         | 127,246           | 84                                        | 330                            |
| 1929 ....   | 1,469          | 20,913                          | 9,351                           | 34,909        | 15,937                        | 60,568                             | 254,977                         | 174,324                             | 1,089               | 1,617         | 119,550           | 92                                        | 362                            |
| 1930 ....   | 1,466          | 19,643                          | 8,310                           | 33,783        | 14,976                        | 47,720                             | 276,336                         | 159,643                             | 1,161               | 2,109         | 120,595           | 102                                       | 408                            |
| 1931 ....   | 1,455          | 14,619                          | 5,774                           | 24,707        | 10,562                        | 13,630                             | 191,137                         | 112,484                             | 1,300               | 3,171         | 132,090           | 98                                        | 424                            |
| 1932 ....   | 1,490          | 13,392                          | 4,671                           | 22,375        | 9,212                         | 15,101                             | 144,203                         | 57,690                              | 1,297               | 3,727         | 131,165           | 120                                       | 393                            |
| 1933 ....   | 1,499          | 14,810                          | 5,083                           | 24,655        | 10,124                        | 25,673                             | 231,245                         | 59,254                              | 1,542               | 4,224         | 127,574           | 138                                       | 389                            |
| 1934 ....   | 1,606          | 16,154                          | 5,505                           | 25,755        | 10,889                        | 31,717                             | 167,389                         | 96,428                              | 1,901               | 4,386         | 122,000           | 152                                       | 408                            |
| 1935 ....   | 1,658          | 17,769                          | 6,222                           | 29,283        | 12,570                        | 37,552                             | 190,627                         | 130,497                             | 2,035               | 4,992         | 124,130           | 164                                       | 446                            |
| 1936 ....   | 1,946          | 20,972                          | 7,408                           | 35,057        | 15,008                        | 50,498                             | 209,979                         | 154,989                             | 2,373               | 4,896         | 118,340           | 195                                       | 478                            |
| 1937 ....   | 2,032          | 22,712                          | 8,315                           | 36,626        | 15,893                        | 53,270                             | 264,457                         | 176,321                             | 1,941               | 4,751         | 122,723           | 224                                       | 507                            |
| 1938 ....   | 2,066          | 23,133                          | 8,803                           | 39,288        | 17,125                        | 57,598                             | 279,685                         | 176,718                             | 1,945               | 6,117         | 125,472           | 250                                       | 547                            |
| 1939 ....   | 2,129          | 23,211                          | 9,147                           | 39,097        | 17,551                        | 53,062                             | 298,180                         | 161,315                             | 1,881               | 6,542         | 137,553           | 278                                       | 561                            |
| 1940 ....   | 2,129          | 22,967                          | 9,150                           | 40,615        | 18,055                        | 43,786                             | 238,683                         | 152,453                             | 2,073               | 6,251         | 140,849           | 306                                       | 581                            |
| 1941 ....   | 2,056          | 22,734                          | 9,441                           | 43,650        | 18,034                        | 45,505                             | 206,161                         | 146,847                             | 2,288               | 6,352         | 149,925           | 320                                       | 629                            |
| 1942 ....   | 1,938          | 23,980                          | 10,999                          | 47,904        | 20,201                        | 34,247                             | 156,791                         | 146,013                             | 2,729               | 6,991         | 135,338           | 314                                       | 724                            |
| 1943 ....   | 1,79           | 25,813                          | 12,956                          | 53,475        | 22,906                        | 8,926                              | 121,144                         | 138,878                             | 4,106               | 6,446         | 126,274           | 283                                       | 860                            |
| 1944 ....   | 1,807          | 28,101                          | 14,835                          | 58,417        | 25,023                        | 6,296                              | 117,775                         | 121,600                             | 4,322               | 6,155         | 159,799           | 279                                       | 928                            |
| 1945 ....   | 1,931          | 29,146                          | 15,228                          | 63,481        | 25,920                        | 10,003                             | 198,092                         | 116,330                             | 4,971               | 5,676         | 161,690           | 292                                       | 1,003                          |
| 1946 ....   | 2,281          | 30,256                          | 15,768                          | 68,046        | 27,653                        | 24,150                             | 278,892                         | 117,995                             | 4,573               | 5,604         | 166,791           | 302                                       | 1,092                          |
| 1947 ....   | 2,615          | 33,806                          | 18,210                          | 76,540        | 31,497                        | 37,758                             | 266,332                         | 139,842                             | 4,603               | 5,956         | 176,726           | 339                                       | 1,127                          |
| 1948 ....   | 2,788          | 35,967                          | 21,471                          | 91,252        | 36,768                        | 44,986                             | 308,274                         | 148,695                             | 3,955               | 6,974         | 195,497           | 358                                       | 1,207                          |
| 1949 ....   | 2,925          | 38,354                          | 25,856                          | 106,835       | 42,948                        | 50,378                             | 381,013                         | 142,285                             | 3,553               | 6,966         | 181,466           | 354                                       | 1,250                          |
| 1950 ....   | 3,023          | 40,733                          | 30,586                          | 127,956       | 52,088                        | 58,943                             | 387,115                         | 153,813                             | 3,542               | 6,969         | 159,495           | 368                                       | 1,189                          |
| 1951 ....   | 3,111          | 43,761                          | 39,316                          | 168,862       | 68,441                        | 67,312                             | 416,997                         | 176,207                             | 3,558               | 6,797         | 217,345           | 402                                       | 1,392                          |
| 1952 ....   | 3,267          | 45,097                          | 50,769                          | 213,143       | 85,491                        | 76,884                             | 421,511                         | 199,447                             | 3,680               | 6,705         | 221,846           | 428                                       | 1,430                          |
| 1953 ....   | 3,424          | 45,188                          | 56,687                          | 238,620       | 98,383                        | 86,043                             | 417,727                         | 223,325                             | 3,693               | 6,480         | 224,330           | 469                                       | 1,443                          |
| 1954 ....   | 3,523          | 47,459                          | 63,181                          | 269,174       | 110,294                       | 101,240                            | 428,314                         | 241,011                             | 3,448               | 6,142         | 187,958           | 520                                       | 1,443                          |
| 1955 ....   | 3,727          | 49,314                          | 69,476                          | 299,169       | 121,912                       | 115,412                            | 472,787                         | 251,493                             | 3,316               | 7,145         | 165,767           | 583                                       | 1,448                          |
| 1956 ....   | 3,871          | 50,108                          | 74,413                          | 350,293       | 139,466                       | 102,359                            | 463,413                         | 245,138                             | 3,231               | 7,404         | 179,362           | 627                                       | 1,471                          |
| 1957 ....   | 3,935          | 48,748                          | 73,833                          | 375,272       | 146,884                       | 101,209                            | 482,049                         | 228,427                             | 3,054               | 7,462         | 169,535           | 652                                       | 1,451                          |
| 1958 ....   | 3,941          | 48,462                          | 75,870                          | 392,525       | 150,624                       | 111,082                            | 578,781                         | 233,173                             | 2,952               | 6,807         | 148,148           | 689                                       | 1,420                          |
| 1959 ....   | 4,125          | 48,417                          | 77,464                          | 392,405       | 157,524                       | 101,521                            | 529,799                         | 237,779                             | 2,955               | 6,166         | 139,702           | 732                                       | 1,418                          |
| 1960 ....   | 4,279          | 49,651                          | 83,285                          | 431,165       | 172,747                       | 110,359                            | 629,040                         | 225,461                             | 3,177               | 7,376         | 150,774           | 785                                       | 1,433                          |
| 1961 ....   | 4,334          | 50,666                          | 90,255                          | 481,140       | 193,262                       | 119,998                            | 660,501                         | 210,16                              | 3,163               | 7,661         | 168,237           | 870                                       | 1,450                          |
| 1962 ....   | 4,418          | 51,033                          | 92,840                          | 486,988       | 196,083                       | 119,868                            | 672,256                         | 213,948                             | 3,500               | 7,483         | 141,103           | 930                                       | 1,403                          |
| 1963 ....   | 4,492          | 53,435                          | 99,880                          | 517,899       | 216,422                       | 131,176                            | 751,574                         | 205,835                             | 3,837               | 6,963         | 135,911           | 1,020                                     | 1,401                          |
| 1964 ....   | 4,609          | 55,705                          | 108,515                         | 555,058       | 230,511                       | 155,792                            | 863,628                         | 218,911                             | 3,780               | 6,915         | 143,296           | 1,112                                     | 1,435                          |
| 1965 ....   | 4,734          | 58,097                          | 119,978                         | 616,422       | 260,637                       | 146,057                            | 867,205                         | 233,254                             | 3,983               | 7,762         | 134,378           | 1,241                                     | 1,458                          |
| 1966 ....   | 4,906          | 60,282                          | 134,171                         | 678,751       | 288,803                       | 140,611                            | 1,070,455                       | 233,747                             | 4,288               | 8,095         | 113,665           | 1,372                                     | 1,483                          |
| 1967 ....   | 5,167          | 63,757                          | 153,597                         | 765,224       | 335,788                       | 163,166                            | 1,201,433                       | 225,735                             | 4,580               | 6,426         | 101,109           | 1,596                                     | 1,560                          |
| 1968 ....   | 5,404          | 67,335                          | 175,100                         | 887,372       | 388,257                       | 207,575                            | 1,411,674                       | 236,174                             | 5,091               | 5,914         | 110,692           | 1,846                                     | 1,778                          |
| 1969 ....   | (n)            | (n)                             | (n)                             | (n)           | (n)                           | 274,318                            | 1,223,385                       | 226,193                             | 5,417               | 6,222         | 108,140           | (n)                                       | 1,998                          |
| 1970 ....   | (n)            | (n)                             | (n)                             | (n)           | (n)                           | 284,256                            | 1,095,851                       | 216,429                             | 5,739               | 5,810         | 103,727           | (n)                                       | (n)                            |
| 1971 ....   | (l)            | (l)                             | (l)                             | (l)           | (l)                           | 240,323                            | (p)                             | 211,675                             | 6,081               | 5,339         | 106,275           | (l)                                       | (n)                            |

(a) For statistical purposes a factory is defined as any establishment engaged in the processes of manufacturing, assembling, treating or repairing and in which 4 or more persons are employed during any period of the year or power other than manual is used. (b) For 1924 and earlier, calendar year; from 1927, year ended 30 June. See also note (m). (c) Average over the whole year and includes working proprietors and, up to and including 1925-26, fallers and haulers employed by sawmills. (d) Figures for 1929-30 and later years exclude amounts drawn by working proprietors. (e) Selling value 'at the factory'. (f) Value added in course of manufacture, representing sum available for payment of wages, rent, depreciation, other sundry expenses and for interest and profit. (g) For years prior to 1964-65, figures include all types of standard size bricks. Prior to 1925-26, they also include firebricks and blocks. From 1964-65 figures represent clay bricks only (all sizes). (h) Prior to 1948-49, figures exclude quantities produced and used in own works. From 1948-49 figures include such quantities. (i) Includes plywood veneers in terms of superficial feet and hewn timber produced by agencies other than 'Factories'. (j) For 1917 and earlier years, includes butter made on farms. (k) Short ton = 2,000 lb. (l) Not available. (m) Eighteen months ended 30 June. (n) Figures not available on a basis comparable with previous years. (o) Preliminary; subject to revision. (p) Not available for publication.



## CONSUMER PRICE INDEX (a)

(Base of each Index: Year 1966-67 = 100)

| Year<br>(b) | Group index numbers—<br>Perth (Metropolitan Area) |                            |         |                                                     |                    | Combined index (all groups)—<br>Capital Cities |        |                |               |               |        |                                 |
|-------------|---------------------------------------------------|----------------------------|---------|-----------------------------------------------------|--------------------|------------------------------------------------|--------|----------------|---------------|---------------|--------|---------------------------------|
|             | Food                                              | Clothing<br>and<br>drapery | Housing | House-<br>hold<br>supplies<br>and<br>equip-<br>ment | Miscel-<br>laneous | Perth                                          | Sydney | Mel-<br>bourne | Bris-<br>bane | Adel-<br>aide | Hobart | Six<br>capital<br>cities<br>(c) |
| 1949 .....  | 38.4                                              | 50.6                       | 36.1    | 60.4                                                | 45.4               | 44.0                                           | 44.4   | 43.3           | 43.1          | 45.0          | 43.0   | 43.9                            |
| 1950 .....  | 42.5                                              | 58.3                       | 38.2    | 64.6                                                | 46.6               | 48.0                                           | 48.1   | 47.1           | 46.6          | 48.4          | 45.8   | 47.6                            |
| 1951 .....  | 48.8                                              | 66.7                       | 42.9    | 71.0                                                | 50.4               | 53.9                                           | 54.6   | 53.1           | 52.2          | 54.6          | 51.9   | 53.8                            |
| 1952 .....  | 60.8                                              | 80.8                       | 50.2    | 84.2                                                | 60.8               | 65.6                                           | 67.4   | 64.7           | 63.8          | 66.8          | 64.0   | 65.9                            |
| 1953 .....  | 69.7                                              | 84.8                       | 57.6    | 90.9                                                | 67.1               | 72.5                                           | 73.4   | 71.1           | 69.5          | 73.1          | 70.9   | 72.1                            |
| 1954 .....  | 74.0                                              | 84.8                       | 62.0    | 92.7                                                | 66.8               | 74.6                                           | 74.5   | 72.5           | 70.9          | 74.7          | 74.4   | 73.5                            |
| 1955 .....  | 76.1                                              | 84.9                       | 68.6    | 92.8                                                | 66.8               | 76.3                                           | 75.0   | 72.5           | 71.4          | 75.6          | 74.3   | 74.0                            |
| 1956 .....  | 77.4                                              | 86.0                       | 71.3    | 92.7                                                | 70.8               | 78.3                                           | 77.5   | 76.8           | 73.8          | 78.1          | 78.1   | 77.0                            |
| 1957 .....  | 80.9                                              | 87.4                       | 71.1    | 95.0                                                | 78.5               | 81.8                                           | 82.8   | 81.0           | 77.8          | 81.2          | 82.8   | 81.5                            |
| 1958 .....  | 79.7                                              | 89.6                       | 72.5    | 96.0                                                | 79.4               | 82.4                                           | 84.0   | 81.3           | 79.4          | 81.8          | 82.9   | 82.3                            |
| 1959 .....  | 80.3                                              | 90.8                       | 75.0    | 96.3                                                | 79.6               | 83.2                                           | 84.6   | 82.9           | 82.1          | 83.6          | 84.1   | 83.6                            |
| 1960 .....  | 82.5                                              | 91.7                       | 76.9    | 97.3                                                | 81.1               | 84.8                                           | 86.5   | 85.3           | 84.2          | 86.2          | 85.6   | 85.7                            |
| 1961 .....  | 86.7                                              | 93.9                       | 81.6    | 97.5                                                | 84.0               | 87.9                                           | 89.6   | 89.5           | 87.1          | 89.8          | 90.3   | 89.2                            |
| 1962 .....  | 86.1                                              | 94.7                       | 84.3    | 97.6                                                | 84.0               | 88.2                                           | 89.9   | 89.8           | 88.4          | 89.5          | 90.7   | 89.6                            |
| 1963 .....  | 86.4                                              | 95.0                       | 86.9    | 97.3                                                | 84.2               | 88.7                                           | 90.4   | 89.7           | 88.7          | 89.1          | 90.7   | 89.8                            |
| 1964 .....  | 87.4                                              | 95.7                       | 89.8    | 95.7                                                | 86.2               | 89.8                                           | 91.4   | 90.4           | 89.6          | 90.2          | 91.7   | 90.6                            |
| 1965 .....  | 91.0                                              | 96.8                       | 92.1    | 96.7                                                | 90.0               | 92.6                                           | 94.5   | 94.0           | 93.0          | 93.9          | 94.6   | 94.0                            |
| 1966 .....  | 95.2                                              | 97.9                       | 95.4    | 98.3                                                | 95.3               | 96.1                                           | 97.7   | 97.5           | 97.5          | 97.0          | 98.0   | 97.4                            |
| 1967 .....  | 100.0                                             | 100.0                      | 100.0   | 100.0                                               | 100.0              | 100.0                                          | 100.0  | 100.0          | 100.0         | 100.0         | 100.0  | 100.0                           |
| 1968 .....  | 102.9                                             | 102.1                      | 105.8   | 100.7                                               | 103.2              | 102.9                                          | 103.2  | 103.7          | 103.3         | 102.9         | 104.6  | 103.3                           |
| 1969 .....  | 104.5                                             | 104.5                      | 112.7   | 102.1                                               | 105.6              | 105.5                                          | 106.2  | 106.2          | 105.5         | 105.3         | 106.1  | 106.0                           |
| 1970 .....  | 108.1                                             | 107.8                      | 120.1   | 103.7                                               | 109.8              | 109.4                                          | 110.6  | 108.7          | 108.4         | 108.2         | 108.5  | 109.4                           |
| 1971 .....  | 112.5                                             | 112.3                      | 125.7   | 107.7                                               | 114.8              | 114.1                                          | 116.8  | 113.1          | 114.2         | 112.5         | 112.6  | 114.6                           |

(a) The index numbers shown are so designed as to measure periodically the movement in retail prices of the specified groups of items in each capital city individually. They do not provide a measure of differences in absolute price level as between capital cities, nor of comparative costs of the groups of items. (b) Year ended 30 June. (c) Weighted average.

## NEW BUILDINGS COMPLETED

| Year<br>ended<br>30 June— | Houses |              | Flats (a) |           | Other new buildings (b) |                    |           |                                       | Total,<br>all<br>new<br>buildings<br>(b) |
|---------------------------|--------|--------------|-----------|-----------|-------------------------|--------------------|-----------|---------------------------------------|------------------------------------------|
|                           | Number | Value (b)    | Number    | Value (b) | Factories               | Office<br>premises | Education | Total,<br>'Other<br>new<br>buildings' |                                          |
| 1946 .....                | 860    | \$'000 1,452 | 2         | \$'000 4  | \$'000 144              | \$'000             | \$'000    | \$'000 492                            | \$'000 1,948                             |
| 1947 .....                | 1,792  | 3,516        | .....     | .....     | 98                      | .....              | .....     | 716                                   | 4,232                                    |
| 1948 .....                | 2,771  | 5,784        | .....     | .....     | 176                     | .....              | .....     | 872                                   | 6,656                                    |
| 1949 .....                | 3,244  | 7,592        | .....     | .....     | 440                     | .....              | .....     | 1,822                                 | 9,414                                    |
| 1950 .....                | 3,509  | 8,974        | 101       | 194       | 446                     | .....              | .....     | 1,536                                 | 10,704                                   |
| 1951 .....                | 5,160  | 15,032       | 305       | 606       | 410                     | (c)                | (c)       | 2,258                                 | 17,896                                   |
| 1952 .....                | 6,577  | 24,466       | 215       | 300       | 1,402                   | .....              | .....     | 4,086                                 | 28,852                                   |
| 1953 .....                | 7,965  | 37,988       | 100       | 334       | 1,668                   | .....              | .....     | 7,514                                 | 45,836                                   |
| 1954 .....                | 7,627  | 39,768       | 212       | 834       | 1,734                   | .....              | .....     | 10,968                                | 51,570                                   |
| 1955 .....                | 8,792  | 48,422       | 316       | 1,176     | 6,250                   | .....              | .....     | 18,594                                | 68,192                                   |
| 1956 .....                | 7,760  | 45,084       | 584       | 2,564     | 3,756                   | 842                | .....     | 19,708                                | 67,356                                   |
| 1957 .....                | 5,030  | 29,054       | 365       | 1,502     | 2,210                   | 2,002              | 2,162     | 16,292                                | 46,848                                   |
| 1958 .....                | 6,196  | 36,526       | 171       | 712       | 2,526                   | 3,906              | 1,110     | 17,286                                | 54,524                                   |
| 1959 .....                | 5,846  | 34,410       | 212       | 840       | 2,792                   | 2,384              | 4,584     | 25,274                                | 60,524                                   |
| 1960 .....                | 5,997  | 35,454       | 263       | 986       | 2,368                   | 1,544              | 5,838     | 23,800                                | 60,240                                   |
| 1961 .....                | 5,973  | 38,102       | 440       | 1,580     | 4,736                   | 4,118              | 7,956     | 32,368                                | 72,050                                   |
| 1962 .....                | 6,082  | 39,470       | 265       | 1,342     | 3,038                   | 2,902              | 6,014     | 27,260                                | 68,072                                   |
| 1963 .....                | 6,593  | 45,780       | 642       | 2,984     | 4,912                   | 1,588              | 7,724     | 37,664                                | 86,428                                   |
| 1964 .....                | 7,276  | 51,774       | 1,295     | 5,596     | 5,384                   | 5,996              | 6,226     | 35,498                                | 92,868                                   |
| 1965 .....                | 7,445  | 57,238       | 1,841     | 9,046     | 6,816                   | 2,820              | 8,044     | 40,816                                | 107,100                                  |
| 1966 .....                | 7,265  | 58,089       | 1,624     | 9,096     | 9,631                   | 10,576             | 8,459     | 62,993                                | 130,178                                  |
| 1967 .....                | 8,272  | 78,078       | 1,742     | 9,322     | 9,841                   | 7,093              | 10,477    | 74,735                                | 162,135                                  |
| 1968 .....                | 9,858  | 97,370       | 2,392     | 12,577    | 15,061                  | 14,608             | 12,051    | 85,456                                | 195,403                                  |
| 1969 .....                | 12,840 | 133,276      | 3,491     | 22,406    | 15,845                  | 10,885             | 14,122    | 99,152                                | 254,833                                  |
| 1970 .....                | 13,933 | 151,300      | 5,596     | 40,519    | 16,615                  | 14,294             | 13,297    | 111,577                               | 303,397                                  |
| 1971 .....                | 11,921 | 149,671      | 5,013     | 39,964    | 18,006                  | 39,736             | 20,589    | 175,377                               | 365,012                                  |

(a) Individual living units.

(b) Excludes the value of land.

(c) Not available.

## INDUSTRIAL DISPUTES; STATE BASIC WAGE; WAGE RATE INDEX NUMBERS

| Year | Industrial disputes (a) |                      |                              |                             | State basic wage per week (b) |               | Minimum wage rate index numbers (c) |           |
|------|-------------------------|----------------------|------------------------------|-----------------------------|-------------------------------|---------------|-------------------------------------|-----------|
|      | Number of disputes      | Workers involved (d) | Working days lost (man-days) |                             | Perth (e)                     |               | Adult males (f)                     |           |
|      |                         |                      | Number                       | Average per worker involved | Adult males                   | Adult females | Weekly                              | Hourly    |
|      |                         | '000                 | '000                         |                             | \$                            | \$            |                                     |           |
| 1913 | 9                       | 1.0                  | 12.5                         | 12.92                       |                               |               |                                     |           |
| 1914 | 18                      | 4.4                  | 124.2                        | 28.16                       |                               |               |                                     |           |
| 1915 | 6                       | 0.6                  | 4.1                          | 6.30                        |                               |               |                                     |           |
| 1916 | 24                      | 9.1                  | 102.1                        | 11.22                       |                               |               |                                     |           |
| 1917 | 23                      | 2.9                  | 102.3                        | 34.70                       |                               |               |                                     |           |
| 1918 | 22                      | 4.8                  | 22.4                         | 4.67                        |                               |               |                                     |           |
| 1919 | 20                      | 10.0                 | 348.7                        | 34.96                       | (g)                           | (g)           |                                     |           |
| 1920 | 45                      | 12.0                 | 166.6                        | 13.87                       |                               |               |                                     |           |
| 1921 | 12                      | 12.1                 | 145.1                        | 12.03                       |                               |               |                                     |           |
| 1922 | 8                       | 0.8                  | 43.5                         | 53.94                       |                               |               |                                     |           |
| 1923 | 6                       | 4.0                  | 72.3                         | 18.04                       |                               |               |                                     |           |
| 1924 | 13                      | 3.5                  | 66.7                         | 19.08                       |                               |               |                                     |           |
| 1925 | 10                      | 4.1                  | 98.9                         | 23.93                       |                               |               | (h)                                 | (h)       |
| 1926 | 9                       | 0.6                  | 9.1                          | 15.11                       | 8.50                          | 4.59          |                                     |           |
| 1927 | 20                      | 3.4                  | 23.8                         | 7.02                        | 8.50                          | 4.59          |                                     |           |
| 1928 | 11                      | 2.5                  | 54.9                         | 21.72                       | 8.50                          | 4.59          |                                     |           |
| 1929 | 4                       | 0.9                  | 2.7                          | 3.05                        | 8.70                          | 4.70          |                                     |           |
| 1930 | 2                       | 0.5                  | 27.1                         | 57.85                       | 8.60                          | 4.64          |                                     |           |
| 1931 | 13                      | 3.9                  | 24.0                         | 6.12                        | 7.35                          | 3.97          |                                     |           |
| 1932 | 8                       | 2.7                  | 11.1                         | 4.16                        | 7.05                          | 3.81          |                                     |           |
| 1933 | 10                      | 3.9                  | 16.9                         | 4.31                        | 6.92                          | 3.74          |                                     |           |
| 1934 | 10                      | 3.5                  | 17.8                         | 5.11                        | 7.10                          | 3.83          |                                     |           |
| 1935 | 11                      | 3.6                  | 72.0                         | 19.98                       | 7.05                          | 3.81          |                                     |           |
| 1936 | 19                      | 4.7                  | 32.4                         | 6.87                        | 7.38                          | 3.98          |                                     |           |
| 1937 | 12                      | 1.7                  | 14.4                         | 8.65                        | 7.49                          | 4.04          |                                     |           |
| 1938 | 7                       | 3.6                  | 43.8                         | 12.01                       | 8.11                          | 4.38          |                                     |           |
| 1939 | 7                       | 1.3                  | 14.1                         | 11.25                       | 8.22                          | 4.43          | 35.6                                | 32.0      |
| 1940 | 4                       | 3.0                  | 7.4                          | 2.44                        | 8.53                          | 4.61          | 36.8                                | 33.1      |
| 1941 | 3                       | 0.3                  | 0.8                          | 2.79                        | 9.04                          | 4.88          | 39.0                                | 35.4      |
| 1942 | 8                       | 1.8                  | 8.9                          | 4.89                        | 9.78                          | 5.28          | 47.5                                | 37.6      |
| 1943 | 10                      | 2.5                  | 38.4                         | 15.11                       | 10.11                         | 5.46          | 42.8                                | 38.8      |
| 1944 | 30                      | 11.0                 | 90.0                         | 8.16                        | 9.99                          | 5.39          | 42.6                                | 38.6      |
| 1945 | 16                      | 3.8                  | 32.5                         | 8.55                        | 10.01                         | 5.41          | 42.6                                | 38.7      |
| 1946 | 11                      | 6.4                  | 69.6                         | 10.94                       | 10.21                         | 5.51          | 43.6                                | 39.5      |
| 1947 | 7                       | 1.8                  | 6.1                          | 3.44                        | 11.08                         | 5.98          | 48.4                                | 44.1      |
| 1948 | 9                       | 2.4                  | 7.8                          | 3.33                        | 12.16                         | 6.57          | 53.9                                | 53.9      |
| 1949 | 16                      | 5.7                  | 26.3                         | 4.64                        | 13.59                         | 7.34          | 59.6                                | 59.7      |
| 1950 | 15                      | 2.0                  | 5.7                          | 2.93                        | 16.65                         | 9.41          | 71.0                                | 71.1      |
| 1951 | 10                      | 4.2                  | 5.1                          | 1.22                        | 20.57                         | 13.37         | 85.5                                | 85.7      |
| 1952 | 21                      | 19.2                 | 127.8                        | 6.67                        | 23.85                         | 15.50         | 97.5                                | 97.7      |
| 1953 | 11                      | 3.7                  | 5.0                          | 1.36                        | 24.65                         | 16.02         | 100.4                               | 100.7     |
| 1954 | 15                      | 5.5                  | 21.7                         | 3.94                        | 24.65                         | 16.02         | 101.7                               | 101.9     |
| 1955 | 16                      | 9.8                  | 9.6                          | 0.97                        | 25.24                         | 16.41         | 106.3                               | 106.6     |
| 1956 | 14                      | 11.1                 | 31.9                         | 2.87                        | 26.52                         | 17.23         | 110.8                               | 111.0     |
| 1957 | 14                      | 5.4                  | 3.1                          | 0.57                        | 27.38                         | 17.72         | 113.9                               | 114.1     |
| 1958 | 20                      | 11.0                 | 3.0                          | 0.27                        | 27.34                         | 17.78         | 114.7                               | 114.9     |
| 1959 | 20                      | 11.2                 | 11.2                         | 1.00                        | 28.15                         | 18.30         | 120.7                               | 120.8     |
| 1960 | 43                      | 25.7                 | 27.3                         | 1.06                        | 29.46                         | 22.09         | 126.8                               | 127.1     |
| 1961 | 22                      | 9.7                  | 23.2                         | 2.40                        | 29.88                         | 22.41         | 128.8                               | 129.0     |
| 1962 | 28                      | 8.4                  | 6.3                          | 0.75                        | 29.88                         | 22.41         | 129.5                               | 129.7     |
| 1963 | 28                      | 42.6                 | 32.0                         | 0.75                        | 30.15                         | 22.61         | 132.8                               | 133.0     |
| 1964 | 26                      | 6.2                  | 7.1                          | 1.16                        | 31.12                         | 23.34         | 137.5                               | 137.6     |
| 1965 | 33                      | 12.6                 | 10.0                         | 0.79                        | 31.96                         | 23.97         | 143.4                               | 143.5     |
| 1966 | 25                      | 2.9                  | 6.2                          | 2.17                        | 33.50                         | 25.13         | 153.6                               | 153.8     |
| 1967 | 26                      | 5.1                  | 6.0                          | 1.18                        | (j)                           | (j)           | 159.6                               | 159.9     |
| 1968 | 104                     | 18.7                 | 21.8                         | 1.16                        | 35.45                         | 27.08         | 169.0                               | 168.7     |
| 1969 | 104                     | 59.1                 | 101.4                        | 1.72                        | 36.45                         | 27.88         | 179.5                               | 179.3     |
| 1970 | 125                     | 46.5                 | 141.1                        | 3.03                        | 38.45                         | 29.40         | (j) 198.1                           | (j) 197.9 |
| 1971 | 132                     | 35.8                 | 69.4                         | 1.94                        | 39.45                         | 30.90         | (j) 218.5                           | (j) 218.5 |

(a) Excludes disputes involving cessation of work of less than 10 man-days. Details of the number of disputes and workers involved in disputes which commenced in any year and were still in progress during the following year are included in the figures for both years. (b) At 31 December. (c) End of December. Base: weighted average wage rate for Australia, 1954 = 100. (d) Includes workers indirectly involved, i.e. those thrown out of work at an establishment where a stoppage occurred but not themselves parties to the dispute. (e) The rates shown for 1964 and later apply uniformly throughout the State. (f) Excludes workers in rural industry. (g) The first State basic wage operated from the beginning of the first pay-period commencing on or after 1 July 1926. (h) Not available. (i) Special loading of 60 cents a week added to award rates for adult males and adult females operative from the beginning of the first pay-period commencing on or after 1 July 1967. Loading increased to \$1.95 operative from the beginning of the first pay-period commencing on or after 25 October 1968 until 22 November 1968 when loading was absorbed in basic wage. (j) Preliminary; subject to revision.

## WESTERN AUSTRALIA IN RELATION TO AUSTRALIA

| Particulars                                                       | Unit          | Date or period | Western Australia | Australia   | Percentage (a) |
|-------------------------------------------------------------------|---------------|----------------|-------------------|-------------|----------------|
| Area .....                                                        | sq miles      | n.a.           | 975,920           | 2,967,909   | 32.9           |
| Proportion of area having rainfall—                               |               |                |                   |             |                |
| Under 10 in. ....                                                 | per cent      | n.a.           | 58.0              | 39.0        | n.a.           |
| 10 in. and under 20 in. ....                                      | per cent      | n.a.           | 29.2              | 31.8        | n.a.           |
| 20 in. and over .....                                             | per cent      | n.a.           | 12.8              | 29.2        | n.a.           |
| Population .....                                                  | number        | Dec. 1971      | 1,045,755         | 12,881,064  | 8.1            |
| Population increase .....                                         | number        | 1971           | 34,492            | 242,055     | 14.2           |
| Rate of population increase .....                                 | per cent      | 1971           | 3.41              | 1.92        | n.a.           |
| Births registered .....                                           | number        | 1971           | 24,239            | 276,362     | 8.8            |
| Deaths registered .....                                           | number        | 1971           | 7,806             | 110,650     | 7.1            |
| Marriages registered .....                                        | number        | 1971           | 9,382             | 117,637     | 8.0            |
| Divorce—Decrees absolute .....                                    | number        | 1971           | 1,064             | 12,947      | 8.2            |
| Wage and salary earners (c) .....                                 | '000          | May 1972       | 343.8             | 4,511.2     | 7.6            |
| Average weekly earnings per employed male unit .....              | \$            | 1970-71        | 84.60             | 84.70       | n.a.           |
| Unemployed on benefit .....                                       | number        | June 1972      | 5,823             | 41,581      | 14.0           |
| Industrial disputes—Working days lost .....                       | '000          | 1971           | 69.4              | 3,068.6     | 2.3            |
| Trade union membership .....                                      | '000          | 1971           | 178.3             | 2,436.6     | 7.3            |
| Rural holdings .....                                              | number        | 1970-71        | 22,592            | 249,495     | 9.1            |
| Area under crop .....                                             | '000 acres    | 1970-71        | 9,468             | 37,164      | 25.5           |
| Area under established pasture .....                              | '000 acres    | 1970-71        | 17,254            | 65,173      | 26.5           |
| Area under Irrigation .....                                       | '000 acres    | 1970-71        | 78.1              | 3,908       | 2.0            |
| Area of—                                                          |               |                |                   |             |                |
| Wheat for grain .....                                             | '000 acres    | 1970-71        | 5,835             | 16,009      | 36.4           |
| Oats for grain .....                                              | '000 acres    | 1970-71        | 1,284             | 3,838       | 33.5           |
| Barley for grain .....                                            | '000 acres    | 1970-71        | 1,562             | 4,942       | 31.6           |
| Hay .....                                                         | '000 acres    | 1970-71        | 469               | 3,362       | 14.0           |
| Pasture seed harvested (d) .....                                  | '000 acres    | 1970-71        | 80                | 329         | 24.3           |
| Fruit and vineyards .....                                         | '000 acres    | 1970-71        | 30                | 462         | 6.5            |
| Cotton .....                                                      | '000 acres    | 1970-71        | 9                 | 87          | 9.8            |
| Livestock—                                                        |               |                |                   |             |                |
| Sheep .....                                                       | '000          | Mar. 1971      | 34,709            | (b) 178,287 | 19.5           |
| Cattle .....                                                      | '000          | Mar. 1971      | 1,781             | (b) 24,372  | 7.3            |
| Pigs .....                                                        | '000          | Mar. 1971      | 278               | (b) 2,568   | 10.8           |
| Wool production (e) .....                                         | million lb    | 1970-71        | 350               | 1,952       | 17.9           |
| Meat production (f) .....                                         | '000 tons     | 1970-71        | 157               | 2,022       | 7.8            |
| Whole milk production .....                                       | million gal   | 1970-71        | 55                | 1,600       | 3.4            |
| Butter production .....                                           | million lb    | 1970-71        | 12.0              | 448.0       | 2.7            |
| Fish (live weight) .....                                          | '000 lb       | 1970-71        | 12,339            | (b) 113,618 | 10.9           |
| Crustaceans (live weight) .....                                   | '000 lb       | 1970-71        | 24,147            | (b) 71,863  | 33.6           |
| Sawn timber produced (g) .....                                    | mil. sup. ft  | 1970-71        | 190               | 1,456       | 13.0           |
| Net value of primary production (excluding mining and quarrying)— |               |                |                   |             |                |
| Agriculture .....                                                 | \$m           | 1970-71        | 176               | 1,075       | 16.4           |
| Pastoral .....                                                    | \$m           | 1970-71        | 101               | 998         | 10.1           |
| Other primary .....                                               | \$m           | 1970-71        | 54                | 724         | 7.5            |
| Mining establishments—Value added (h) .....                       | \$m           | 1968-69        | 188.2             | 729.2       | 25.8           |
| Gold bullion .....                                                | '000 oz       | 1969-70        | 542               | 695         | 78.0           |
| Iron ore production .....                                         | '000 tons     | 1969-70        | 34,130            | 44,507      | 76.7           |
| Bauxite production .....                                          | '000 tons     | 1969-70        | (i) 2,861         | 8,163       | 35.0           |
| Black coal production .....                                       | '000 tons     | 1969-70        | (i) 1,159         | 47,759      | 2.4            |
| Crude oil production (j) .....                                    | '000 barrels  | 1969-70        | 15,583            | 30,643      | 50.9           |
| Manufacturing establishments (k)—                                 |               |                |                   |             |                |
| Number (h) .....                                                  |               | 1968-69        | 2,774             | 38,834      | 7.1            |
| Persons employed (h) .....                                        | '000          | 1968-69        | 63.8              | 1,320.2     | 4.8            |
| Wages and salaries paid (h) .....                                 | \$m           | 1968-69        | 186.9             | 3,996.9     | 4.7            |
| Value added (h) .....                                             | \$m           | 1968-69        | 356.8             | 7,589.0     | 4.7            |
| New houses and flats commenced .....                              | number        | 1970-71        | 13,802            | 138,203     | 10.0           |
| Value of all new buildings commenced .....                        | \$m           | 1970-71        | 317.9             | 2,938.9     | 10.8           |
| Overseas imports .....                                            | \$m f.o.b.    | 1970-71        | 278.3             | 4,150.1     | 6.7            |
| Overseas exports .....                                            | \$m f.o.b.    | 1970-71        | 862.4             | 4,375.3     | 19.7           |
| Overseas cargo discharged .....                                   | '000 tons (l) | 1970-71        | 5,180             | 26,479      | 19.6           |
| Overseas cargo shipped .....                                      | '000 tons (l) | 1970-71        | 52,810            | 102,822     | 51.4           |
| Motor vehicles on register .....                                  | '000          | Sept. 1971     | (b) 468.1         | (b) 5,211.5 | 9.0            |
| New motor vehicles registered .....                               | '000          | 1971           | 52.7              | 553.3       | 9.5            |
| Road traffic accidents—Persons killed .....                       | number        | 1971           | 332               | (b) 3,590   | 9.2            |
| Television viewers' licences (m) .....                            | '000          | June 1972      | 218.8             | 2,938.7     | 7.4            |
| Retail sales (including motor vehicles) .....                     | \$m           | Mar. qr 1972   | 283.3             | (n) 3,293.6 | (o) 8.6        |
| Installment credit for retail sales—Balances outstanding .....    | \$m           | Mar. 1972      | 211.9             | 2,150.4     | 9.9            |
| Savings bank deposits per head .....                              | \$            | Mar. 1972      | (b) 476.2         | (b) 628.2   | n.a.           |
| Personal income per head .....                                    | \$            | 1970-71        | 1,956             | 2,010       | n.a.           |
| Age and invalid pensions .....                                    | number        | June 1971      | 66,379            | 941,786     | 7.1            |
| War and service pensions .....                                    | number        | June 1971      | 54,281            | 646,968     | 8.4            |
| Student enrolment—                                                |               |                |                   |             |                |
| Government schools .....                                          | number        | Aug. 1971      | 179,889           | 2,196,454   | 8.2            |
| Non-government schools .....                                      | number        | Aug. 1971      | 42,113            | 610,993     | 6.9            |
| Universities .....                                                | number        | Apr. 1971      | 8,374             | 125,096     | 6.7            |
| Colleges of Advanced Education .....                              | number        | 1970           | 5,014             | 37,794      | 13.3           |

n.a. denotes 'not applicable'.

(a) Proportion of Western Australia to Australia. (b) Preliminary. (c) In civilian employment. Excludes defence forces and employees in agriculture and private domestic service, and trainee teachers. (d) Including lucerne and lupins for seed. (e) In terms of greasy wool. Comprises shorn wool, dead wool, fellmongered wool and wool exported on skins. (f) Dressed carcass weight. Excludes offal. (g) From local logs. Includes plywood veneers and railway sleepers. (h) See definition on page 388. (i) Mine production as reported to Department of Mines. (j) As reported to Department of Mines. (k) See notes on page 403. Excludes electricity and gas establishments. (l) Tons weight plus tons measurement. (m) Including combined receiving licences. (n) Excludes details of Australian Capital Territory and Northern Territory. (o) See footnote (n).

## APPENDIX

## CHAPTER III—CONSTITUTION AND GOVERNMENT

pages 97-102

### The State Parliament

A redesignation and reallocation of portfolios in the Ministry occurred on 6 July 1972. From that date the Ministry was constituted as shown in the following table.

THE MINISTRY FROM 6 JULY 1972

| Name of Minister                           | Title of office                                                                          |
|--------------------------------------------|------------------------------------------------------------------------------------------|
| Hon. John Trezise Tonkin, M.L.A. ....      | Premier, Treasurer, and Minister for Cultural Affairs                                    |
| Hon. Herbert Ernst Graham, M.L.A. ....     | Deputy Premier and Minister for Development and Decentralisation, and the North-West     |
| Hon. Thomas Daniel Evans, M.L.A. ....      | Minister for Education, and Recreation, Attorney General, and Assistant to the Treasurer |
| Hon. William Francis Willesee, M.L.C. .... | Minister for Community Welfare, and Leader of the Government in the Legislative Council  |
| Hon. John Dolan, M.L.C. ....               | Minister for Police, Transport, and Railways                                             |
| Hon. Donald George May, M.L.A. ....        | Minister for Mines, Electricity, and Fuel                                                |
| Hon. Colin John Jamieson, M.L.A. ....      | Minister for Works, Water Supplies, and Traffic Safety                                   |
| Hon. Hywel David Evans, B.A., M.L.A. ....  | Minister for Lands, Agriculture, Immigration, and Forests                                |
| Hon. Ronald Davies, M.L.A. ....            | Minister for Environmental Protection, Health, and Town Planning                         |
| Hon. Alexander Donald Taylor, B.A., M.L.A. | Minister for Labour, Prices Control, Consumer Protection, and Tourism                    |
| Hon. Robert Henry Claude Stubbs, M.L.C.    | Minister for Local Government, and Chief Secretary                                       |
| Hon. Arthur William Bickerton, M.L.A. .... | Minister for Housing, and Fisheries and Fauna                                            |

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### The Judicature

Two vacancies in the Judicature were filled in March 1972 by the following appointments.

Mr Alkin Robert Alexander Wallace was commissioned a Judge of the Supreme Court of Western Australia, as from 27 March 1972.

Mr Arthur Edward Kay was commissioned a Judge of The District Court of Western Australia as from 8 March 1972.

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### **Overseas Representation in Western Australia**

Mr J. G. Manford succeeded Mr E. Blanckensee as Honorary Consul for Belgium in May 1972. The new address for the Consulate is T. and G. Building, 37 St George's Terrace, Perth 6000.

Mr W. H. Bruns took up his appointment as Consul for the United States of America in July 1972, following the transfer of Mr J. A. Lacey to a new post overseas.

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### **Local Government Districts**

In the period 1 January 1970 to 31 August 1972, the following changes occurred.

The Shire of West Pilbara was constituted, with effect from 27 May 1972, by uniting the Shires of Ashburton and Tableland and by severance of territory from the Shires of Carnarvon, Roebourne and Upper Gascoyne.

The Shire of East Pilbara was constituted, with effect from 27 May 1972, by uniting the Shires of Marble Bar and Nullagine and by severance of territory from the Shires of Port Hedland, Tableland and Wiluna.

As a result of these changes there were, at 31 August 1972, 7 Cities, 12 Towns and 119 Shires in Western Australia.

## **CHAPTER IV—POPULATION AND VITAL STATISTICS**

### **PART I—POPULATION**

pages 136-41

### **Geographical Distribution**

The table on page 543 shows the population of each local government area in Western Australia at the Censuses of 30 June 1966 and 30 June 1971. The figures refer to total population, *i.e.* including Aborigines. Those for 1971 are preliminary figures based on the census field count and for information in greater detail, the reader is referred to the publication *Census of Population and Housing, 30 June 1971: Field Count Statement No. 7: Local Government Areas and Towns, Western Australia* issued by the Commonwealth Statistician, Canberra.

Cities are marked (C) and Towns (T), all other local government areas listed being Shires. The names and designations shown are those which were current at 30 June 1971.

## POPULATION IN LOCAL GOVERNMENT AREAS—CENSUSES, 1966 AND 1971

| Local government area   | Population                 |                            | Area<br>(square<br>miles) | Local government area               | Population                 |                            | Area<br>(square<br>miles) |
|-------------------------|----------------------------|----------------------------|---------------------------|-------------------------------------|----------------------------|----------------------------|---------------------------|
|                         | Census,<br>30 June<br>1966 | Census,<br>30 June<br>1971 |                           |                                     | Census,<br>30 June<br>1966 | Census,<br>30 June<br>1971 |                           |
| Albany (T) ....         | 11,440                     | 12,434                     | 13.3                      | Melville (C) ....                   | 47,901                     | 52,877                     | 20.6                      |
| Albany ....             | 3,247                      | 4,305                      | 1,708                     | Menzies ....                        | 460                        | 237                        | 57,500                    |
| Armadale-Kelmscott .... | 7,840                      | 15,705                     | 275.5                     | Merredin ....                       | 5,386                      | 4,766                      | 1,302                     |
| Ashburton ....          | 908                        | 1,011                      | 24,264                    | Mingenew ....                       | 1,009                      | 982                        | 774                       |
| Augusta-Margaret River  | 3,238                      | 3,193                      | 915                       | Moora ....                          | 3,144                      | 3,149                      | 1,464                     |
| Bassendean ....         | 9,753                      | 11,306                     | 3.9                       | Morawa ....                         | 1,726                      | 1,671                      | 1,314                     |
| Bayswater ....          | 26,125                     | 34,208                     | 10.7                      | Mosman Park (T) ....                | 5,793                      | 7,190                      | 1.7                       |
| Belmont ....            | 27,005                     | 32,550                     | 15.4                      | Mount Magnet ....                   | 1,061                      | 822                        | 5,358                     |
| Beverley ....           | 1,780                      | 1,664                      | 892                       | Mount Marshall ....                 | 1,314                      | 1,080                      | 3,913                     |
| Boddington ....         | 773                        | 722                        | 737                       | Mukinbudin ....                     | 877                        | 898                        | 1,318                     |
| Boulder ....            | 12,183                     | 12,847                     | 27,514                    | Mullewa ....                        | 1,869                      | 1,855                      | 4,205                     |
| Boypup Brook ....       | 2,237                      | 1,969                      | 1,095                     | Mundaring ....                      | 8,941                      | 11,995                     | 247.3                     |
| Bridgetown-Greenbushes  | 3,482                      | 3,157                      | 523                       | Murchison ....                      | 387                        | 228                        | 16,347                    |
| Brookton ....           | 1,361                      | 1,276                      | 464                       | Murray ....                         | 3,327                      | 4,020                      | 701                       |
| Broome ....             | 2,813                      | 2,835                      | 20,740                    | Nannup ....                         | 1,272                      | 1,071                      | 1,140                     |
| Broomehill ....         | 745                        | 695                        | 452                       | Narembeen ....                      | 1,590                      | 1,384                      | 1,475                     |
| Bruce Rock ....         | 2,155                      | 1,694                      | 1,051                     | Narrogin (T) ....                   | 4,878                      | 4,843                      | 4.4                       |
| Bunbury (T) ....        | 15,467                     | 17,762                     | 20.2                      | Narrogin ....                       | 1,010                      | 936                        | 625                       |
| Busselton ....          | 6,833                      | 7,462                      | 507                       | Nedlands (C) ....                   | 23,337                     | 22,586                     | 7.9                       |
| Canning (T) ....        | 23,612                     | 35,344                     | 25.0                      | Northam (T) ....                    | 7,413                      | 7,109                      | 9.0                       |
| Capel ....              | 2,132                      | 2,190                      | 215                       | Northam ....                        | 2,694                      | 2,604                      | 548                       |
| Carnamah ....           | 1,013                      | 921                        | 1,094                     | Northampton ....                    | 2,034                      | 2,111                      | 5,217                     |
| Carnarvon ....          | 4,949                      | 6,616                      | 20,602                    | Nullagine ....                      | 586                        | 4,687                      | 92,368                    |
| Chapman Valley ....     | 806                        | 854                        | 1,472                     | Nungarin ....                       | 539                        | 390                        | 442                       |
| Chittering ....         | 1,075                      | 1,095                      | 469                       | Nyabing-Pingrup ....                | 1,067                      | 950                        | 2,530                     |
| Claremont (T) ....      | 8,939                      | 9,245                      | 1.9                       | Peppermint Grove ....               | 1,601                      | 1,476                      | 0.4                       |
| Cockburn (T) ....       | 13,848                     | 25,026                     | 53.2                      | Perenjori ....                      | 1,312                      | 1,226                      | 2,953                     |
| Collie ....             | 8,586                      | 7,610                      | 374                       | Perth (C) ....                      | 96,322                     | 97,242                     | 24.4                      |
| Coolgardie ....         | 832                        | 5,561                      | 11,753                    | Pingelly ....                       | 1,539                      | 1,454                      | 476                       |
| Coorow ....             | 817                        | 911                        | 1,597                     | Plantagenet ....                    | 4,702                      | 4,295                      | 1,864                     |
| Corrigin ....           | 2,099                      | 1,785                      | 1,195                     | Port Hedland ....                   | 3,287                      | 8,634                      | 9,348                     |
| Cottesloe (T) ....      | 8,131                      | 7,965                      | 1.5                       | Quairading ....                     | 1,745                      | 1,644                      | 655                       |
| Cranbrook ....          | 1,463                      | 1,380                      | 1,310                     | Ravensthorpe ....                   | 782                        | 1,133                      | 4,970                     |
| Cue ....                | 732                        | 658                        | 483                       | Rockingham ....                     | 4,383                      | 11,574                     | 100.9                     |
| Cue ....                | 509                        | 399                        | 5,296                     | Roebourne ....                      | 2,144                      | 10,845                     | 8,452                     |
| Cunderdin ....          | 2,122                      | 1,864                      | 723                       | Sandstone ....                      | 150                        | 121                        | 10,862                    |
| Dalwallinu ....         | 2,447                      | 2,261                      | 2,775                     | Serpentine-Jarrahdale               | 1,747                      | 1,981                      | 287.6                     |
| Dandaragan ....         | 630                        | 1,323                      | 2,606                     | Shark Bay ....                      | 479                        | 676                        | 9,889                     |
| Dardantup ....          | 1,672                      | 2,080                      | 207                       | South Perth (C) ....                | 32,047                     | 31,657                     | 7.7                       |
| Denmark ....            | 1,775                      | 1,825                      | 711                       | Stirling (C) ....                   | 114,443                    | 154,261                    | 44.4                      |
| Donnybrook-Balingup     | 3,334                      | 3,134                      | 595                       | Subiaco (C) ....                    | 16,629                     | 17,087                     | 2.7                       |
| Dowerin ....            | 1,306                      | 1,069                      | 841                       | Swan ....                           | 19,165                     | 25,617                     | 397.2                     |
| Dumbleyung ....         | 1,459                      | 1,217                      | 985                       | Tableland ....                      | 1,889                      | 4,682                      | 14,871                    |
| Dundas ....             | 2,892                      | 2,516                      | 41,509                    | Tambellup ....                      | 955                        | 972                        | 554                       |
| East Fremantle (T) .... | 6,908                      | 7,357                      | 1.2                       | Tammin ....                         | 828                        | 772                        | 420                       |
| Esperance ....          | 4,891                      | 7,159                      | 10,979                    | Three Springs ....                  | 1,046                      | 984                        | 1,015                     |
| Exmouth ....            | 2,248                      | 2,934                      | 792                       | Toodyay ....                        | 1,388                      | 1,725                      | 650                       |
| Fremantle (C) ....      | 25,309                     | 25,990                     | 6.9                       | Trayning ....                       | 980                        | 816                        | 630                       |
| Geraldton (T) ....      | 12,196                     | 15,001                     | 10.9                      | Upper Gascoyne ....                 | 462                        | 320                        | 22,064                    |
| Gingin ....             | 1,032                      | 1,169                      | 1,244                     | Victoria Plains ....                | 1,903                      | 1,695                      | 990                       |
| Gnowangerup ....        | 3,859                      | 3,811                      | 4,349                     | Wagin ....                          | 2,780                      | 2,390                      | 750                       |
| Goomalling ....         | 1,567                      | 1,436                      | 712                       | Wandering ....                      | 637                        | 498                        | 755                       |
| Gosnells ....           | 11,382                     | 21,963                     | 48.3                      | Wanneroo ....                       | 2,440                      | 8,606                      | 303.9                     |
| Greenough ....          | 1,612                      | 1,901                      | 675                       | Waroona ....                        | 1,830                      | 2,002                      | 323                       |
| Halls Creek ....        | 1,793                      | 1,875                      | 55,177                    | West Arthur ....                    | 1,430                      | 1,303                      | 1,092                     |
| Harvey ....             | 6,594                      | 6,437                      | 949                       | West Kimberley ....                 | 4,765                      | 5,450                      | 39,655                    |
| Irwin ....              | 810                        | 944                        | 858                       | Westonia ....                       | 612                        | 473                        | 1,261                     |
| Kalamunda ....          | 9,901                      | 18,376                     | 136.8                     | Wickepin ....                       | 1,394                      | 1,136                      | 768                       |
| Kalgoorlie (T) ....     | 9,203                      | 9,170                      | 2.1                       | Williams ....                       | 1,200                      | 1,176                      | 886                       |
| Katanning ....          | 4,580                      | 4,528                      | 588                       | Wiluna ....                         | 853                        | 927                        | 127,909                   |
| Kellerberrin ....       | 2,395                      | 2,130                      | 716                       | Wongan-Ballidu ....                 | 2,336                      | 2,287                      | 1,307                     |
| Kojonup ....            | 2,724                      | 2,606                      | 1,134                     | Woodanilling ....                   | 594                        | 528                        | 1,435                     |
| Kondinin ....           | 1,262                      | 1,222                      | 2,834                     | Wyalkatchem ....                    | 1,256                      | 1,111                      | 504                       |
| Koorda ....             | 1,080                      | 1,073                      | 1,092                     | Wyndham-East Kimberley              | 3,329                      | 3,976                      | 46,791                    |
| Kulin ....              | 1,393                      | 1,260                      | 1,850                     | Yalgoo ....                         | 470                        | 398                        | 12,890                    |
| Kwinana ....            | 5,796                      | 12,208                     | 45.6                      | Yilgarn ....                        | 2,453                      | 2,344                      | 11,798                    |
| Lake Grace ....         | 1,988                      | 2,028                      | 3,572                     | York ....                           | 2,288                      | 2,043                      | 776                       |
| Laverton ....           | 584                        | 744                        | 70,733                    | Unincorporated—<br>Abrolhos Islands | n.a.                       | 313                        | n.a.                      |
| Leonora ....            | 782                        | 828                        | 12,256                    | Migratory ....                      | 3,039                      | 2,731                      | —                         |
| Mandurah ....           | 3,038                      | 5,938                      | 68                        | WESTERN AUSTRALIA                   | 848,100                    | 1,027,372                  | 975,920                   |
| Manjimup ....           | 9,168                      | 8,757                      | 2,662                     |                                     |                            |                            |                           |
| Marble Bar ....         | 1,001                      | 621                        | 46,223                    |                                     |                            |                            |                           |
| Meekatharra ....        | 1,190                      | 3,240                      | 39,348                    |                                     |                            |                            |                           |

n.a. denotes 'not available'.

# **CHAPTER V—SOCIAL CONDITIONS** **PART 5—SOCIAL BENEFITS, PENSIONS AND WELFARE SERVICES**

pages 237-9, 242-5, 250, 252

## **Pensions, Allowances and other Relief Payments**

During the period from 1 January to 30 June 1972, amendments made to the Social Services Act and the Repatriation Act provided for increases in certain payments to beneficiaries under those Acts. Tuberculosis allowances were also increased.

During the same period the State Government increased its payments to women not receiving a widow's pension under the Social Services Act.

The effect of these increases is summarised in the following table.

## **PENSIONS, ALLOWANCES AND OTHER RELIEF PAYMENTS** **MAXIMUM RATES—INCREASES FROM 1 JANUARY TO 30 JUNE 1972**

| Pension, allowance or other benefit                                | Rate per week at 1 January 1972 | Increase           |                 | Rate per week at 30 June 1972 |
|--------------------------------------------------------------------|---------------------------------|--------------------|-----------------|-------------------------------|
|                                                                    |                                 | Enabling Act       | Amount per week |                               |
| COMMONWEALTH BENEFITS (a)                                          |                                 |                    |                 |                               |
| Age and invalid pensions (b)—                                      | \$                              |                    | \$              | \$                            |
| Unmarried person ....                                              | 17·25                           | No. 14 of 1972 (c) | 1·00            | 18·25                         |
| Married couple—                                                    |                                 |                    |                 |                               |
| Where both eligible ....                                           | 30·50                           | "                  | 1·50            | 32·00                         |
| Where one person eligible ....                                     | 17·25                           | "                  | 1·00            | 18·25                         |
| Widows' pensions—                                                  |                                 |                    |                 |                               |
| Class A (widow with dependent child or children) ....              | 17·25                           | "                  | 1·00            | 18·25                         |
| Class B (widow aged 50 years or more) ....                         | 15·25                           | "                  | 0·75            | 16·00                         |
| Class C (widow under 50 years of age in necessitous circumstances) | 15·25                           | "                  | 0·75            | 16·00                         |
| Unemployment and sickness benefits—                                |                                 |                    |                 |                               |
| Unemployment benefit and short-term sickness benefit—              |                                 |                    |                 |                               |
| Unmarried person—                                                  |                                 |                    |                 |                               |
| Aged 16 and under 18 years ....                                    | 4·50                            | No. 1 of 1972 (d)  | 3·00            | 7·50                          |
| Aged 18 and under 21 years ....                                    | 6·00                            | "                  | 5·00            | 11·00                         |
| Aged 21 years or more (e) ....                                     | 10·00                           | "                  | 7·00            | 17·00                         |
| Married person ....                                                | 10·00                           | "                  | 7·00            | 17·00                         |
| Long-term sickness benefit (f)—                                    |                                 |                    |                 |                               |
| Unmarried person—                                                  |                                 |                    |                 |                               |
| Aged 16 and under 21 years ....                                    | 11·25                           | No. 14 of 1972 (c) | 0·75            | 12·00                         |
| Aged 21 years or more (e) ....                                     | 17·25                           | "                  | 1·00            | 18·25                         |
| Married person ....                                                | 17·25                           | "                  | 1·00            | 18·25                         |
| War pensions—                                                      |                                 |                    |                 |                               |
| Special rate ....                                                  | 42·50                           | No. 15 of 1972 (g) | 2·00            | 44·50                         |
| Intermediate rate ....                                             | 30·25                           | "                  | 1·00            | 31·25                         |
| War widows ....                                                    | 17·25                           | "                  | 1·00            | 18·25                         |
| Service pensions—                                                  |                                 |                    |                 |                               |
| Unmarried person ....                                              | 17·25                           | "                  | 1·00            | 18·25                         |
| Married person—                                                    |                                 |                    |                 |                               |
| Where spouse not receiving any Commonwealth pension ....           | 17·25                           | "                  | 1·00            | 18·25                         |
| Where spouse receiving a Commonwealth pension ....                 | 15·25                           | "                  | 0·75            | 16·00                         |
| Tuberculosis allowances—                                           |                                 |                    |                 |                               |
| Sufferer with dependent wife ....                                  | 33·75                           | (h)                | 1·50            | 35·25                         |
| Sufferer without spouse but with dependent child or children       | 25·25                           | (h)                | 1·00            | 26·25                         |
| Sufferer without dependants—                                       |                                 |                    |                 |                               |
| While undergoing approved domiciliary treatment ....               | 20·50                           | (h)                | 1·00            | 21·50                         |
| While undergoing free hospital treatment ....                      | 17·25                           | (h)                | 1·00            | 18·25                         |

## **STATE RELIEF PAYMENTS (i)**

|                                                                                  |       |     |      |       |
|----------------------------------------------------------------------------------|-------|-----|------|-------|
| Woman not receiving widow's pension under Social Services Act (Commonwealth) (j) | 15·25 | (k) | 0·75 | 16·00 |
| Payment in respect of dependent children—                                        |       |     |      |       |
| First child                                                                      | 10·50 | (k) | 0·25 | 10·75 |

(a) See also tables on pages 242, 244-5 and 250. (b) The rates shown apply also to the recipient of a sheltered employment allowance (see page 213). (c) *Social Services Act (No. 2) 1972*, operative from 24 April 1972. (d) *Social Services Act 1972*, operative from 25 February 1972. (e) Payable also to unmarried minor with no parent living in Australia. (f) Commences when sickness benefit has been paid continuously for six weeks and the beneficiary is not in hospital; payable also if the beneficiary is in hospital and has one or more dependants. (g) *Repatriation Act 1972*, operative from 24 April 1972. (h) Increase effective from 4 May 1972. (i) See also table on page 252. (j) Includes divorcee; deserted wife; woman whose husband is in prison or in a mental institution; and unmarried mother receiving no direct assistance under the Social Services Act. (k) Increase effective from 26 April 1972.

**Subsidised Health Insurance**

In its decision in the National Wage Case 1971-72, given on 5 May 1972, the Commonwealth Conciliation and Arbitration Commission granted an increase of \$4·70 in the minimum weekly wage payable to adult males, with effect from the beginning of the first pay-period commencing on or after 19 May. Following this decision, an amendment of 2 June 1972 to regulations under the National Health Act raised by \$5 per week the level of incomes used as a basis for determining entitlement to subsidised health insurance. In terms of this amendment, families with weekly income of \$51·50 or less are entitled to full medical benefits, and also to hospital benefits equal to the cost of public ward treatment, without any payment of contributions. Families with income of more than \$51·50 but not more than \$54·50 per week are eligible for the same benefits on payment of contributions at one-third of the usual rate, while those with income of more than \$54·50 but not more than \$57·50 per week are eligible for the benefits on payment of contributions at two-thirds of the usual rate.



pages 242, 244-5, 250

**Social Services, Repatriation and Health Benefits**

**The Budget for 1972-73.** The Commonwealth Budget for 1972-73 was presented to the Parliament on 15 August 1972. The Budget contained proposals to increase a number of pensions, allowances and other benefits payable under the provisions of the Social Services Act, the Repatriation Act and the Tuberculosis Act. These proposals are summarised in the following table.

**SOCIAL SERVICES, REPATRIATION AND HEALTH BENEFITS**  
**MAXIMUM WEEKLY RATES**  
**(\$)**

| Pension, allowance or other benefit                                             | Rate current<br>at 15 August<br>1972 | Proposed<br>increase<br>or decrease<br>(a) | Total |
|---------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------|-------|
| <b>SOCIAL SERVICE PAYMENTS</b>                                                  |                                      |                                            |       |
| Age and invalid pensions (b)—                                                   |                                      |                                            |       |
| Unmarried person ....                                                           | 18.25                                | 1.75                                       | 20.00 |
| Married couple—                                                                 |                                      |                                            |       |
| Where both eligible but living apart for an indefinite period due to ill health | 36.50                                | 3.50                                       | 40.00 |
| Where both eligible and living together ....                                    | 32.00                                | 2.50                                       | 34.50 |
| Where husband eligible—                                                         |                                      |                                            |       |
| Husband's pension ....                                                          | 18.25                                | —1.00                                      | 17.25 |
| Wife's allowance ....                                                           | 8.00                                 | 9.25                                       | 17.25 |
| Where wife eligible ....                                                        | 18.25                                | 1.75                                       | 20.00 |
| Widows' pensions—                                                               |                                      |                                            |       |
| Class A (widow with dependent child or children) ....                           | 18.25                                | 1.75                                       | 20.00 |
| Class B (widow aged 50 years or more) ....                                      | 16.00                                | 1.25                                       | 17.25 |
| Class C (widow under 50 years of age in necessitous circumstances) ....         | 16.00                                | 1.25                                       | 17.25 |
| Supplementary assistance ....                                                   | 2.00                                 | 2.00                                       | 4.00  |
| Unemployment and sickness benefits—                                             |                                      |                                            |       |
| Long-term sickness benefit (c)—                                                 |                                      |                                            |       |
| Unmarried person—                                                               |                                      |                                            |       |
| Aged 16 and under 21 years ....                                                 | 12.00                                | 1.00                                       | 13.00 |
| Aged 21 years or more (d) ....                                                  | 18.25                                | 1.75                                       | 20.00 |
| Married person ....                                                             | 18.25                                | 1.75                                       | 20.00 |
| Supplementary allowance ....                                                    | 2.00                                 | 2.00                                       | 4.00  |
| Personal care subsidy (e) ....                                                  | 5.00                                 | 5.00                                       | 10.00 |
| <b>WAR AND SERVICE PENSIONS</b>                                                 |                                      |                                            |       |
| War pensions—                                                                   |                                      |                                            |       |
| Special rate ....                                                               | 44.50                                | 3.50                                       | 48.00 |
| Intermediate rate ....                                                          | 31.25                                | 2.75                                       | 34.00 |
| General rate ....                                                               | 12.00                                | 2.00                                       | 14.00 |
| War widows—                                                                     |                                      |                                            |       |
| Pension ....                                                                    | 18.25                                | 1.75                                       | 20.00 |
| Domestic allowance ....                                                         | 8.00                                 | 0.50                                       | 8.50  |
| War orphans under 16 years of age—                                              |                                      |                                            |       |
| Where one parent dead—                                                          |                                      |                                            |       |
| Each child ....                                                                 | 7.00                                 | 0.35                                       | 7.35  |
| Where both parents dead—                                                        |                                      |                                            |       |
| Each child ....                                                                 | 14.00                                | 0.70                                       | 14.70 |
| Service pensions—                                                               |                                      |                                            |       |
| Unmarried person ....                                                           | 18.25                                | 1.75                                       | 20.00 |
| Married person—                                                                 |                                      |                                            |       |
| Where spouse receiving a Commonwealth pension ....                              | 16.00                                | 1.25                                       | 17.25 |
| Wife's pension ....                                                             | 8.00                                 | 9.25                                       | 17.25 |
| Supplementary assistance ....                                                   | 2.00                                 | 2.00                                       | 4.00  |
| <b>TUBERCULOSIS ALLOWANCES</b>                                                  |                                      |                                            |       |
| Sufferer with dependent wife ....                                               | 35.25                                | 2.50                                       | 37.75 |
| Sufferer without spouse but with dependent child or children ....               | 26.25                                | 1.75                                       | 28.00 |
| Sufferer without dependants—                                                    |                                      |                                            |       |
| While undergoing approved domiciliary treatment ....                            | 21.50                                | 1.75                                       | 23.25 |

(a) Subject to passage of enabling legislation. (b) The rates shown apply also to the recipient of a sheltered employment allowance (see page 213). (c) Commences when sickness benefit has been paid continuously for six weeks and the beneficiary is not in hospital; payable also if the beneficiary is in hospital and has one or more dependants. (d) Payable also to unmarried minor with no parent living in Australia. (e) Payable under the provisions of the Aged Persons Homes Act (see page 212).

## CENSUSES OF POPULATION AND HOUSING, 1911 TO 1966

## EXPLANATORY NOTES

The purpose of the tables on pages 549-69 is to bring together for ready reference information concerning population and occupied dwellings in local government areas, as disclosed at each of the seven censuses of population and housing from 1911 to 1966. The particulars have been grouped according to Statistical Divisions.

**Local Government Areas.** Western Australia is divided into a number of municipal districts for the purposes of local government administration. These districts are used as the basis of presentation of data derived not only from censuses of population and housing but also from many other statistical collections. Prior to the operation of the Local Government Act of 1960, which came into effect in 1961, local government areas were designated 'Municipalities' and 'Road Districts'. In the tables on pages 549-63, Municipalities are marked M., and Road Districts R.D. The Act provided that former Municipalities, other than cities, should become 'Towns' and that Road Districts be renamed 'Shires'. Municipalities which already had city status remained 'Cities'. In the tables on pages 564-9, local government areas are accordingly marked C., T., or S., as appropriate.

**Statistical Divisions.** Information presented on the basis of local government areas is valuable when considering activities in a particular area but is often more detailed than is required for a broader geographical assessment. For this reason, the municipal districts are combined into Statistical Divisions which provide significant areas for the publication of statistics in convenient summary form.

The partition of the Australian States into Statistical Divisions originated from a resolution of a conference of 1928 between the Federal Health Council of Australia and the Statisticians of the Commonwealth and the States concerning the need for the delineation of areas appropriate for the purposes of statistical tabulation. They first became operative in 1929 after consultation between the Commonwealth Statistician, the Statisticians of the States in collaboration with the State health authorities, and the Commonwealth Department of Health. Although Statistical Divisions were devised initially for use in the compilation and presentation of vital statistics, the advantages of extending the system to other fields of statistical investigation were recognised at once and it soon came to have general application in cases where consideration of areas was relevant.

Western Australia was originally divided into seven Statistical Divisions. There are currently ten such Divisions, and these have been used as the basis of compilation of all tables in this publication. *The local government areas grouped under the several Statistical Divisions are those which in aggregation are most nearly coterminous with the Divisions as they existed at 30 June 1966.* The statistics shown for population and dwellings in Statistical Divisions at the successive censuses thus relate to comparable geographic areas. Statistical Divisions are comprised of complete local government areas and their boundaries are therefore subject to extension or contraction in accordance with movements in municipal boundaries. It will be seen from the tables that, in some instances, the areas of land involved in such movements have been considerable. However, it is thought that these areas have had little or no significance in terms of population and dwellings, and that therefore boundary changes do not invalidate comparisons of the totals shown for Statistical Divisions.

The Perth Statistical Division, in common with similar Divisions for each of the other State capital cities, was used for the first time in census tabulations at the Census of 30 June 1966. A detailed description of the concepts and criteria adopted in the delimitation of these Capital City Statistical Divisions is contained in *Field Count Statement No. 4—Population: Principal Urban Centres of Australia* published November 1966 by the Commonwealth Statistician, Canberra (see also *Official Year Book of the Commonwealth of Australia* No. 53, 1967: p.174).

**Migratory Population.** The term 'Migratory' refers to persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left an Australian port before Census night for a next port of call in Western Australia. It includes also those who were enumerated on long-distance trains, motor coaches or aircraft.

At Censuses prior to 1954, the pearling fleet based on Broome was classified as 'Migratory'. The estimated population involved was 2,500 in 1911; 1,500 in 1921; 800 in 1933; and 200 in 1947. From 1954, pearling crews have been included in the population of Broome.

**Occupied Dwellings.** 'Private' and 'not-private' dwellings are included. For the purpose of the Census, an 'occupied dwelling' is any habitation occupied by a household group living together as a domestic unit, whether comprising the whole of a building or only part of it. The term has therefore a very wide reference and includes, in addition to houses and flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution.

**Aboriginal Population.** Before an amendment to the Australian Constitution in 1967, it was provided by section 127 that 'in reckoning the numbers of the people of the Commonwealth, or of a State or other part of the Commonwealth, aboriginal natives shall not be counted'. This provision was deleted following a referendum held on 27 May 1967 which resulted in a large majority of votes in favour of its repeal. The enabling Act, the *Constitution Alteration (Aboriginals)* 1967, came into operation on 10 August 1967.

With regard to the original provision, Commonwealth legal authorities were of the opinion that persons of the half-blood were not 'aboriginal natives' within the meaning of the Constitution, and *a fortiori* that persons of less than half Aboriginal blood were not Aboriginal natives. Accordingly, only persons having Aboriginal blood to a degree greater than one-half were excluded from the census tabulations. Dwellings occupied solely by full-blood Aborigines so defined were similarly excluded.

**Sources of Information.** The figures contained in the tables on pages 549-70 have been taken from the following publications issued by the Commonwealth Statistician:

- 1911 Census Volume III, pp.2045-7
- 1921 Statistician's Report, pp.382-4 (Census Volume II)
- 1933 Statistician's Report, pp.442-5 (Census Volume III)
- 1947 Statistician's Report, pp.368-70 (Census Volume III)
- 1954 Statistician's Report, pp.393-5 (Census Volume VIII)
- 1961 Statistician's Report, pp.447-51 (Census Volume VIII)
- 1966 Census Volume 4 Part 5, pp.12-41 (population), pp.236-49 (dwellings)  
Census Bulletin No. 5·8, pp.5-7 (area)

**Map References.** Maps showing the boundaries of local government areas appear in the following publications:

- 1911 Census Volume I, map facing p.437  
Statistical Register of Western Australia for 1911, Part XI
- 1921 Statistician's Report (Census Volume II) preceding index
- 1933 Statistician's Report (Census Volume III) preceding index  
Statistical Register of Western Australia for 1933-34, Part V
- 1947 Statistician's Report (Census Volume III) preceding index  
Statistical Register of Western Australia for 1947-48, Part V
- 1954 Statistician's Report (Census Volume VIII) preceding index
- 1961 Statistician's Report (Census Volume VIII) preceding index
- 1966 Census Volume 4 Part 5, following p.282

**CENSUS, 3 APRIL 1911—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS**  
**AREA, POPULATION AND OCCUPIED DWELLINGS**  
*(Exclusive of full-blood Aborigines and dwellings occupied solely by them)*

| Local government area                      |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied dwellings |
|--------------------------------------------|------|------|------|------|------|--------------------|------------|---------|---------|--------------------|
|                                            |      |      |      |      |      |                    | Males      | Females | Persons |                    |
| PERTH STATISTICAL DIVISION                 |      |      |      |      |      |                    |            |         |         |                    |
| Armadale-Kelmscott                         | .... | .... | .... | .... | R.D. | 199                | 728        | 599     | 1,327   | 329                |
| Bayswater                                  | .... | .... | .... | .... | R.D. | 4.5                | 924        | 866     | 1,790   | 417                |
| Belmont Park                               | .... | .... | .... | .... | R.D. | 13                 | 601        | 487     | 1,088   | 271                |
| Claremont                                  | .... | .... | .... | .... | M.   | 1.8                | 1,919      | 2,303   | 4,222   | 860                |
| Claremont                                  | .... | .... | .... | .... | R.D. | 5.5                | 773        | 457     | 1,230   | 184                |
| Cottesloe                                  | .... | .... | .... | .... | M.   | 1.6                | 1,261      | 1,443   | 2,704   | 541                |
| Cottesloe Beach                            | .... | .... | .... | .... | R.D. | 1.25               | 807        | 897     | 1,704   | 381                |
| Darling Range                              | .... | .... | .... | .... | R.D. | 230                | 561        | 477     | 1,038   | 245                |
| East Fremantle                             | .... | .... | .... | .... | M.   | 1.2                | 1,464      | 1,553   | 3,017   | 673                |
| Fremantle                                  | .... | .... | .... | .... | M.   | 4.3                | 7,545      | 6,954   | 14,499  | 2,988              |
| Fremantle                                  | .... | .... | .... | .... | R.D. | 37                 | 439        | 295     | 734     | 177                |
| Gosnells                                   | .... | .... | .... | .... | R.D. | 43.25              | 375        | 362     | 737     | 191                |
| Greenmount                                 | .... | .... | .... | .... | R.D. | 242                | 1,487      | 1,229   | 2,716   | 688                |
| Guildford                                  | .... | .... | .... | .... | M.   | 0.9                | 796        | 873     | 1,669   | 366                |
| Jandakot                                   | .... | .... | .... | .... | R.D. | 67                 | 217        | 166     | 383     | 118                |
| Jarrahdale                                 | .... | .... | .... | .... | R.D. | 165                | 710        | 416     | 1,126   | 323                |
| Leederville                                | .... | .... | .... | .... | M.   | 1.6                | 2,524      | 2,933   | 5,457   | 1,246              |
| Melville                                   | .... | .... | .... | .... | R.D. | 20                 | 292        | 273     | 565     | 123                |
| Midland Junction                           | .... | .... | .... | .... | M.   | 2.2                | 1,763      | 1,721   | 3,484   | 739                |
| North Fremantle                            | .... | .... | .... | .... | M.   | 1.2                | 1,662      | 1,669   | 3,331   | 691                |
| North Perth                                | .... | .... | .... | .... | M.   | 2.0                | 2,110      | 2,281   | 4,391   | 1,018              |
| Peppermint Grove                           | .... | .... | .... | .... | R.D. | 0.5                | 427        | 616     | 1,043   | 204                |
| Perth                                      | .... | .... | .... | .... | M.   | 5.6                | 18,118     | 17,649  | 35,767  | 6,858              |
| Perth                                      | .... | .... | .... | .... | R.D. | 42                 | 2,654      | 2,412   | 5,066   | 854                |
| Queen's Park                               | .... | .... | .... | .... | M.   | 11.1               | 668        | 539     | 1,207   | 251                |
| Rockingham                                 | .... | .... | .... | .... | R.D. | 93                 | 90         | 71      | 161     | 31                 |
| Serpentine                                 | .... | .... | .... | .... | R.D. | 192                | 168        | 160     | 328     | 76                 |
| South Perth                                | .... | .... | .... | .... | M.   | 3.9                | 600        | 597     | 1,197   | 272                |
| Subiaco                                    | .... | .... | .... | .... | M.   | 2.2                | 4,163      | 4,763   | 8,926   | 2,055              |
| Swan                                       | .... | .... | .... | .... | R.D. | 351                | 1,082      | 747     | 1,829   | 378                |
| Victoria Park                              | .... | .... | .... | .... | M.   | 6.2                | 1,083      | 1,184   | 2,267   | 546                |
| Wanneroo                                   | .... | .... | .... | .... | R.D. | 170                | 126        | 71      | 197     | 53                 |
| West Guildford                             | .... | .... | .... | .... | R.D. | 5                  | 489        | 492     | 981     | 211                |
| Total                                      | .... | .... | .... | .... | .... | 1,927              | 58,626     | 57,555  | 116,181 | 24,358             |
| SOUTH-WEST STATISTICAL DIVISION            |      |      |      |      |      |                    |            |         |         |                    |
| Augusta                                    | .... | .... | .... | .... | R.D. | 405.5              | 257        | 189     | 446     | 127                |
| Balingup                                   | .... | .... | .... | .... | R.D. | 121                | 656        | 397     | 1,053   | 323                |
| Bunbury                                    | .... | .... | .... | .... | M.   | 3.15               | 1,885      | 1,878   | 3,763   | 756                |
| Bunbury                                    | .... | .... | .... | .... | R.D. | 26.35              | 280        | 270     | 550     | 116                |
| Busselton                                  | .... | .... | .... | .... | M.   | 1.25               | 359        | 334     | 693     | 118                |
| Capel                                      | .... | .... | .... | .... | R.D. | 178                | 403        | 329     | 732     | 162                |
| Collie                                     | .... | .... | .... | .... | M.   | 8.88               | 927        | 804     | 1,731   | 378                |
| Collie                                     | .... | .... | .... | .... | R.D. | 384                | 802        | 563     | 1,365   | 352                |
| Dardanup                                   | .... | .... | .... | .... | R.D. | 349                | 770        | 517     | 1,287   | 323                |
| Drakesbrook                                | .... | .... | .... | .... | R.D. | 339.3              | 557        | 310     | 867     | 283                |
| Greenbushes                                | .... | .... | .... | .... | R.D. | 39                 | 770        | 598     | 1,368   | 404                |
| Harvey                                     | .... | .... | .... | .... | R.D. | 974                | 2,221      | 1,425   | 3,646   | 1,172              |
| Lower Blackwood                            | .... | .... | .... | .... | R.D. | 1,303              | 524        | 244     | 768     | 304                |
| Marradong                                  | .... | .... | .... | .... | R.D. | 584                | 133        | 81      | 214     | 61                 |
| Murray                                     | .... | .... | .... | .... | R.D. | 770.7              | 1,331      | 868     | 2,199   | 677                |
| Nelson                                     | .... | .... | .... | .... | R.D. | 206                | 736        | 571     | 1,307   | 309                |
| Preston                                    | .... | .... | .... | .... | R.D. | 234                | 1,195      | 805     | 2,000   | 557                |
| Sussex                                     | .... | .... | .... | .... | R.D. | 1,062              | 641        | 452     | 1,093   | 346                |
| Upper Blackwood                            | .... | .... | .... | .... | R.D. | 1,340              | 696        | 411     | 1,107   | 309                |
| Warren                                     | .... | .... | .... | .... | R.D. | 3,019              | 578        | 241     | 819     | 304                |
| Total                                      | .... | .... | .... | .... | .... | 11,348             | 15,721     | 11,287  | 27,008  | 7,381              |
| SOUTHERN AGRICULTURAL STATISTICAL DIVISION |      |      |      |      |      |                    |            |         |         |                    |
| Albany                                     | .... | .... | .... | .... | M.   | 8.4                | 1,727      | 1,859   | 3,586   | 732                |
| Albany                                     | .... | .... | .... | .... | R.D. | 4,880              | 900        | 633     | 1,533   | 434                |
| Broomehill                                 | .... | .... | .... | .... | R.D. | 2,063.4            | 775        | 462     | 1,237   | 299                |
| Dumbleyung                                 | .... | .... | .... | .... | R.D. | 3,356              | 643        | 286     | 929     | 266                |
| Katanning                                  | .... | .... | .... | .... | R.D. | 3,183.4            | 1,432      | 1,020   | 2,452   | 559                |
| Kojonup                                    | .... | .... | .... | .... | R.D. | 960                | 573        | 316     | 889     | 215                |
| Plantagenet                                | .... | .... | .... | .... | R.D. | 2,405.6            | 625        | 414     | 1,039   | 270                |
| Tambellup                                  | .... | .... | .... | .... | R.D. | 1,632              | 501        | 326     | 827     | 239                |
| Wagin                                      | .... | .... | .... | .... | M.   | 5.31               | 533        | 467     | 1,000   | 222                |
| Wagin                                      | .... | .... | .... | .... | R.D. | 625                | 592        | 414     | 1,006   | 299                |
| West Arthur                                | .... | .... | .... | .... | R.D. | 1,036              | 427        | 247     | 674     | 206                |
| Woodanilling                               | .... | .... | .... | .... | R.D. | 428.6              | 417        | 301     | 718     | 162                |
| Total                                      | .... | .... | .... | .... | .... | 20,584             | 9,145      | 6,745   | 15,890  | 3,903              |

**CENSUS, 3 APRIL 1911—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS**  
**AREA, POPULATION AND OCCUPIED DWELLINGS—continued**  
*(Exclusive of full-blood Aborigines and dwellings occupied solely by them)*

| Local government area | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|-----------------------|--------------------|------------|---------|---------|-----------------------|
|                       |                    | Males      | Females | Persons |                       |

**CENTRAL AGRICULTURAL STATISTICAL DIVISION**

|              |      |        |        |        |        |       |
|--------------|------|--------|--------|--------|--------|-------|
| Beverley     | M.   | 2      | 356    | 321    | 677    | 183   |
| Beverley     | R.D. | 875    | 814    | 533    | 1,347  | 273   |
| Brookton     | R.D. | 1,532  | 825    | 443    | 1,268  | 385   |
| Cuballing    | R.D. | 524    | 643    | 417    | 1,060  | 269   |
| Goomalling   | R.D. | 2,897  | 2,417  | 907    | 3,324  | 1,070 |
| Greenhills   | R.D. | 1,992  | 1,510  | 648    | 2,158  | 442   |
| Kellerberrin | R.D. | 4,226  | 2,771  | 1,122  | 3,893  | 1,332 |
| Meckering    | R.D. | 875    | 1,346  | 769    | 2,115  | 492   |
| Moorumbine   | R.D. | 1,325  | 1,078  | 801    | 1,879  | 414   |
| Narrogin     | M.   | 4.28   | 528    | 395    | 923    | 248   |
| Narrogin     | R.D. | 979    | 566    | 323    | 889    | 269   |
| Northam      | M.   | 2.09   | 1,737  | 1,624  | 3,361  | 680   |
| Northam      | R.D. | 396    | 1,029  | 756    | 1,785  | 460   |
| Toodyay      | M.   | 1.25   | 162    | 172    | 334    | 79    |
| Toodyay      | R.D. | 644    | 628    | 518    | 1,146  | 270   |
| Wandering    | R.D. | 845    | 274    | 167    | 441    | 91    |
| Wickepin     | R.D. | 4,687  | 766    | 380    | 1,146  | 330   |
| Williams     | R.D. | 1,010  | 535    | 331    | 866    | 226   |
| York         | M.   | 6.8    | 747    | 788    | 1,535  | 308   |
| York         | R.D. | 832    | 850    | 491    | 1,341  | 294   |
| Total        | .... | 23,655 | 19,582 | 11,906 | 31,488 | 8,115 |

**NORTHERN AGRICULTURAL STATISTICAL DIVISION**

|                 |      |        |       |       |        |       |
|-----------------|------|--------|-------|-------|--------|-------|
| Chittering      | R.D. | 360    | 197   | 146   | 343    | 63    |
| Dandaregan      | R.D. | 2,893  | 159   | 110   | 269    | 62    |
| Geraldton       | M.   | 3      | 1,862 | 1,616 | 3,478  | 711   |
| Geraldton       | R.D. | 998    | 425   | 211   | 636    | 161   |
| Gingin          | R.D. | 1,400  | 390   | 279   | 669    | 138   |
| Greenough       | R.D. | 769    | 567   | 449   | 1,016  | 204   |
| Irwin           | R.D. | 1,600  | 373   | 341   | 714    | 151   |
| Moora           | R.D. | 5,106  | 1,315 | 606   | 1,921  | 513   |
| Northampton     | R.D. | 10,700 | 875   | 537   | 1,412  | 338   |
| Upper Chapman   | R.D. | 566    | 363   | 251   | 614    | 133   |
| Upper Irwin     | R.D. | 17,319 | 990   | 446   | 1,436  | 317   |
| Victoria Plains | R.D. | 3,458  | 518   | 362   | 880    | 162   |
| Total           | .... | 45,172 | 8,034 | 5,354 | 13,388 | 2,953 |

**EASTERN GOLDFIELDS STATISTICAL DIVISION**

|                       |      |         |        |        |        |        |
|-----------------------|------|---------|--------|--------|--------|--------|
| Boulder               | M.   | 4.55    | 5,705  | 5,119  | 10,824 | 2,646  |
| Broad Arrow           | R.D. | 817     | 747    | 250    | 997    | 401    |
| Bulong                | R.D. | 1,133   | 694    | 91     | 785    | 412    |
| Coolgardie            | M.   | 2.68    | 1,049  | 951    | 2,000  | 568    |
| Coolgardie            | R.D. | 11,749  | 1,701  | 786    | 2,487  | 1,000  |
| Dundas                | R.D. | 41,960  | 526    | 315    | 841    | 325    |
| Esperance             | R.D. | 15,431  | 247    | 161    | 408    | 113    |
| Kalgoorlie            | M.   | 2.08    | 4,642  | 4,139  | 8,781  | 2,123  |
| Kalgoorlie            | R.D. | 647     | 6,935  | 5,126  | 12,061 | 3,534  |
| Kanowna               | M.   | 0.94    | 399    | 355    | 754    | 211    |
| Kookynie              | M.   | 3.15    | 201    | 179    | 380    | 121    |
| Lawlers               | R.D. | 11,304  | 871    | 307    | 1,178  | 471    |
| Leonora               | M.   | 1.33    | 978    | 638    | 1,616  | 512    |
| Malcolm               | M.   | 0.71    | 149    | 99     | 248    | 69     |
| Menzies               | M.   | 1.49    | 416    | 300    | 716    | 195    |
| Mount Margaret        | R.D. | 37,800  | 1,211  | 408    | 1,619  | 694    |
| Mount Morgans         | M.   | 1.74    | 115    | 98     | 213    | 87     |
| Norseman              | M.   | 1       | 261    | 192    | 453    | 129    |
| North Coolgardie      | R.D. | 64,546  | 2,055  | 1,048  | 3,103  | 1,169  |
| North-East Coolgardie | R.D. | 20,687  | 341    | 110    | 451    | 238    |
| Phillips River        | R.D. | 106     | 985    | 558    | 1,543  | 521    |
| Southern Cross        | M.   | 0.95    | 499    | 306    | 805    | 187    |
| Yilgarn               | R.D. | 15,891  | 2,127  | 639    | 2,766  | 1,332  |
| Total                 | .... | 222,092 | 32,854 | 22,175 | 55,029 | 17,058 |

CENSUS, 3 APRIL 1911—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area           |      |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|---------------------------------|------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|
|                                 |      |      |      |      |      |      |                    | Males      | Females | Persons |                       |
| CENTRAL STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |
| Black Range                     | .... | .... | .... | .... | .... | R.D. | 6,995              | 1,596      | 625     | 2,221   | 836                   |
| Cue                             | .... | .... | .... | .... | .... | M.   | 1.69               | 350        | 290     | 640     | 189                   |
| Cue                             | .... | .... | .... | .... | .... | R.D. | 3,900              | 700        | 374     | 1,074   | 417                   |
| Day Dawn                        | .... | .... | .... | .... | .... | M.   | 0.39               | 424        | 330     | 754     | 218                   |
| Meekatharra                     | .... | .... | .... | .... | .... | R.D. | 21,300             | 1,536      | 471     | 2,007   | 777                   |
| Mount Magnet                    | .... | .... | .... | .... | .... | M.   | 0.55               | 326        | 249     | 575     | 128                   |
| Mount Magnet                    | .... | .... | .... | .... | .... | R.D. | 5,520              | 412        | 156     | 568     | 224                   |
| Murchison                       | .... | .... | .... | .... | .... | R.D. | 13,104             | 388        | 127     | 515     | 113                   |
| Nannine                         | .... | .... | .... | .... | .... | M.   | 0.3                | 143        | 94      | 237     | 60                    |
| Upper Murchison                 | .... | .... | .... | .... | .... | R.D. | 15,712             | 142        | 18      | 160     | 37                    |
| Wijuna                          | .... | .... | .... | .... | .... | R.D. | 81,800             | 265        | 114     | 379     | 152                   |
| Yalgoo                          | .... | .... | .... | .... | .... | R.D. | 8,618              | 305        | 133     | 438     | 114                   |
| Total                           | .... | .... | .... | .... | .... | .... | 156,952            | 6,587      | 2,981   | 9,568   | 3,261                 |
| NORTH-WEST STATISTICAL DIVISION |      |      |      |      |      |      |                    |            |         |         |                       |
| Ashburton                       | .... | .... | .... | .... | .... | R.D. | 23,207             | 368        | 59      | 427     | 79                    |
| Carnarvon                       | .... | .... | .... | .... | .... | M.   | 1.09               | 424        | 303     | 727     | 148                   |
| Gascoyne-Minilya                | .... | .... | .... | .... | .... | R.D. | 25,343             | 420        | 32      | 452     | 67                    |
| Shark Bay                       | .... | .... | .... | .... | .... | R.D. | 5,800              | 148        | 78      | 226     | 56                    |
| Upper Gascoyne                  | .... | .... | .... | .... | .... | R.D. | 121,846            | 263        | 33      | 296     | 66                    |
| Total                           | .... | .... | .... | .... | .... | .... | 176,197            | 1,623      | 505     | 2,128   | 416                   |
| PILBARA STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |
| Marble Bar                      | .... | .... | .... | .... | .... | R.D. | 73,000             | 314        | 41      | 355     | 87                    |
| Nullagine                       | .... | .... | .... | .... | .... | R.D. | 93,438             | 451        | 82      | 533     | 281                   |
| Port Hedland                    | .... | .... | .... | .... | .... | R.D. | 8,125              | 505        | 105     | 610     | 142                   |
| Roebourne                       | .... | .... | .... | .... | .... | R.D. | 9,114              | 669        | 165     | 834     | 301                   |
| Tableland                       | .... | .... | .... | .... | .... | R.D. | 16,362             | 111        | 13      | 124     | 45                    |
| Total                           | .... | .... | .... | .... | .... | .... | 200,039            | 2,050      | 406     | 2,456   | 856                   |
| KIMBERLEY STATISTICAL DIVISION  |      |      |      |      |      |      |                    |            |         |         |                       |
| Broome (a)                      | .... | .... | .... | .... | .... | M.   | 1                  | 596        | 270     | 866     | 260                   |
| Kimberley Goldfields            | .... | .... | .... | .... | .... | R.D. | 47,624             | 201        | 15      | 216     | 101                   |
| West Kimberley                  | .... | .... | .... | .... | .... | R.D. | 38,070             | 573        | 160     | 733     | 170                   |
| Wyndham                         | .... | .... | .... | .... | .... | R.D. | 32,259             | 127        | 20      | 147     | 38                    |
| Total (a)                       | .... | .... | .... | .... | .... | .... | 117,954            | 1,497      | 465     | 1,962   | 569                   |
| MIGRATORY                       |      |      |      |      |      |      |                    |            |         |         |                       |
| Migratory (a)                   | .... | .... | .... | .... | .... | n.a. | n.a.               | 5,846      | 1,170   | 7,016   | n.a.                  |
| STATE SUMMARY                   |      |      |      |      |      |      |                    |            |         |         |                       |
| Perth Statistical Division      | .... | .... | .... | .... | .... | .... | 1,927              | 58,626     | 57,555  | 116,181 | 24,358                |
| Other Divisions—                |      |      |      |      |      |      |                    |            |         |         |                       |
| South-West                      | .... | .... | .... | .... | .... | .... | 11,348             | 15,721     | 11,287  | 27,008  | 7,381                 |
| Southern Agricultural           | .... | .... | .... | .... | .... | .... | 20,584             | 9,145      | 6,745   | 15,890  | 3,903                 |
| Central Agricultural            | .... | .... | .... | .... | .... | .... | 23,655             | 19,582     | 11,906  | 31,488  | 8,115                 |
| Northern Agricultural           | .... | .... | .... | .... | .... | .... | 45,172             | 8,034      | 5,354   | 13,388  | 2,953                 |
| Eastern Goldfields              | .... | .... | .... | .... | .... | .... | 222,092            | 32,854     | 22,175  | 55,029  | 17,058                |
| Central                         | .... | .... | .... | .... | .... | .... | 156,952            | 6,587      | 2,981   | 9,568   | 3,261                 |
| North-West                      | .... | .... | .... | .... | .... | .... | 176,197            | 1,623      | 505     | 2,128   | 416                   |
| Pilbara                         | .... | .... | .... | .... | .... | .... | 200,039            | 2,050      | 406     | 2,456   | 856                   |
| Kimberley (a)                   | .... | .... | .... | .... | .... | .... | 117,954            | 1,497      | 465     | 1,962   | 569                   |
| Total (a)                       | .... | .... | .... | .... | .... | .... | 973,993            | 97,093     | 61,824  | 158,917 | 44,512                |
| Total, all Divisions (a)        | .... | .... | .... | .... | .... | .... | 975,920            | 155,719    | 119,379 | 275,098 | 68,870                |
| Migratory (a)                   | .... | .... | .... | .... | .... | .... | n.a.               | 5,846      | 1,170   | 7,016   | n.a.                  |
| WESTERN AUSTRALIA               | .... | .... | .... | .... | .... | .... | 975,920            | 161,565    | 120,549 | 282,114 | 68,870                |

n.a. denotes 'not applicable'. (a) See note *Migratory Population* on page 548.

CENSUS, 4 APRIL 1921—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS  
(Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area                      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |        |
|--------------------------------------------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|--------|
|                                            |      |      |      |      |                    | Males      | Females | Persons |                       |        |
| PERTH STATISTICAL DIVISION                 |      |      |      |      |                    |            |         |         |                       |        |
| Armadale-Kelmscott                         | .... | .... | .... | .... | R.D.               | 250        | 1,172   | 1,079   | 2,251                 | 523    |
| Bayswater                                  | .... | .... | .... | .... | R.D.               | 10.7       | 1,182   | 1,210   | 2,392                 | 597    |
| Belmont Park                               | .... | .... | .... | .... | R.D.               | 15.5       | 1,017   | 849     | 1,866                 | 434    |
| Claremont                                  | .... | .... | .... | .... | M.                 | 1.8        | 2,530   | 2,981   | 5,511                 | 1,128  |
| Claremont                                  | .... | .... | .... | .... | R.D.               | 5.6        | 2,062   | 1,495   | 3,557                 | 676    |
| Cottesloe                                  | .... | .... | .... | .... | M.                 | 1.5        | 2,220   | 2,813   | 5,033                 | 1,027  |
| Cottesloe Beach                            | .... | .... | .... | .... | R.D.               | 1.3        | 1,546   | 1,675   | 3,221                 | 702    |
| Darling Range                              | .... | .... | .... | .... | R.D.               | 144        | 900     | 851     | 1,751                 | 462    |
| East Fremantle                             | .... | .... | .... | .... | M.                 | 1.2        | 2,145   | 2,278   | 4,423                 | 935    |
| Fremantle                                  | .... | .... | .... | .... | M.                 | 5.8        | 8,858   | 8,708   | 17,566                | 3,358  |
| Fremantle                                  | .... | .... | .... | .... | R.D.               | 30         | 706     | 572     | 1,278                 | 304    |
| Gosnells                                   | .... | .... | .... | .... | R.D.               | 42         | 989     | 947     | 1,936                 | 454    |
| Greenmount                                 | .... | .... | .... | .... | R.D.               | 259        | 1,686   | 1,610   | 3,296                 | 775    |
| Guildford                                  | .... | .... | .... | .... | M.                 | 0.9        | 943     | 933     | 1,876                 | 385    |
| Jandakot                                   | .... | .... | .... | .... | R.D.               | 63         | 228     | 173     | 401                   | 124    |
| Melville                                   | .... | .... | .... | .... | R.D.               | 18         | 1,163   | 1,197   | 2,360                 | 501    |
| Midland Junction                           | .... | .... | .... | .... | M.                 | 2.3        | 2,483   | 2,454   | 4,937                 | 1,068  |
| North Fremantle                            | .... | .... | .... | .... | M.                 | 1.3        | 1,747   | 1,798   | 3,545                 | 708    |
| Peppermint Grove                           | .... | .... | .... | .... | R.D.               | 0.4        | 433     | 677     | 1,110                 | 209    |
| Perth                                      | .... | .... | .... | .... | M.                 | 23.8       | 30,696  | 33,470  | 64,166                | 12,521 |
| Perth                                      | .... | .... | .... | .... | R.D.               | 46         | 6,052   | 5,991   | 12,043                | 2,466  |
| Queen's Park                               | .... | .... | .... | .... | R.D.               | 11.6       | 1,083   | 923     | 2,006                 | 441    |
| Rockingham                                 | .... | .... | .... | .... | R.D.               | 211        | 329     | 148     | 477                   | 183    |
| Serpentine-Jarrahdale                      | .... | .... | .... | .... | R.D.               | 235        | 671     | 510     | 1,181                 | 290    |
| South Perth                                | .... | .... | .... | .... | M.                 | 5.6        | 1,370   | 1,590   | 2,960                 | 667    |
| Subiaco                                    | .... | .... | .... | .... | M.                 | 2.7        | 6,292   | 7,355   | 13,647                | 3,028  |
| Swan                                       | .... | .... | .... | .... | R.D.               | 361        | 1,412   | 963     | 2,375                 | 531    |
| Wanneroo                                   | .... | .... | .... | .... | R.D.               | 195        | 194     | 118     | 312                   | 71     |
| West Guildford                             | .... | .... | .... | .... | R.D.               | 3.9        | 1,329   | 1,407   | 2,736                 | 622    |
| Total                                      | .... | .... | .... | .... | ....               | 1,950      | 83,438  | 86,775  | 170,213               | 35,190 |
| SOUTH-WEST STATISTICAL DIVISION            |      |      |      |      |                    |            |         |         |                       |        |
| Augusta                                    | .... | .... | .... | .... | R.D.               | 440        | 94      | 107     | 201                   | 45     |
| Balingup                                   | .... | .... | .... | .... | R.D.               | 311        | 804     | 576     | 1,380                 | 304    |
| Bridgetown                                 | .... | .... | .... | .... | R.D.               | 206        | 862     | 756     | 1,618                 | 373    |
| Bunbury                                    | .... | .... | .... | .... | M.                 | 3.2        | 2,145   | 2,330   | 4,475                 | 841    |
| Bunbury                                    | .... | .... | .... | .... | R.D.               | 25         | 400     | 421     | 821                   | 171    |
| Busselton                                  | .... | .... | .... | .... | M.                 | 1.3        | 270     | 339     | 609                   | 116    |
| Capel                                      | .... | .... | .... | .... | R.D.               | 185        | 549     | 446     | 995                   | 232    |
| Collie                                     | .... | .... | .... | .... | M.                 | 8.9        | 1,765   | 1,548   | 3,313                 | 671    |
| Collie                                     | .... | .... | .... | .... | R.D.               | 381        | 1,244   | 810     | 2,054                 | 538    |
| Dardanup                                   | .... | .... | .... | .... | R.D.               | 209        | 595     | 494     | 1,089                 | 242    |
| Drakesbrook                                | .... | .... | .... | .... | R.D.               | 349        | 629     | 376     | 1,005                 | 302    |
| Greenbushes                                | .... | .... | .... | .... | R.D.               | 38         | 634     | 618     | 1,252                 | 295    |
| Harvey                                     | .... | .... | .... | .... | R.D.               | 990        | 2,261   | 1,689   | 3,950                 | 1,101  |
| Lower Blackwood                            | .... | .... | .... | .... | R.D.               | 1,349      | 679     | 423     | 1,102                 | 310    |
| Marradong                                  | .... | .... | .... | .... | R.D.               | 663        | 427     | 248     | 675                   | 239    |
| Murray                                     | .... | .... | .... | .... | R.D.               | 791        | 1,898   | 1,502   | 3,400                 | 883    |
| Preston                                    | .... | .... | .... | .... | R.D.               | 333        | 915     | 727     | 1,642                 | 408    |
| Sussex                                     | .... | .... | .... | .... | R.D.               | 873        | 672     | 563     | 1,235                 | 291    |
| Upper Blackwood                            | .... | .... | .... | .... | R.D.               | 938        | 660     | 458     | 1,118                 | 294    |
| Warren                                     | .... | .... | .... | .... | R.D.               | 3,100      | 1,512   | 910     | 2,422                 | 663    |
| Total                                      | .... | .... | .... | .... | ....               | 11,194     | 19,015  | 15,341  | 34,356                | 8,319  |
| SOUTHERN AGRICULTURAL STATISTICAL DIVISION |      |      |      |      |                    |            |         |         |                       |        |
| Albany                                     | .... | .... | .... | .... | M.                 | 8.4        | 1,845   | 2,131   | 3,976                 | 848    |
| Albany                                     | .... | .... | .... | .... | R.D.               | 3,385      | 667     | 577     | 1,244                 | 327    |
| Broomehill                                 | .... | .... | .... | .... | R.D.               | 469        | 529     | 412     | 941                   | 204    |
| Denmark                                    | .... | .... | .... | .... | R.D.               | 718        | 385     | 284     | 669                   | 191    |
| Dumbleyung                                 | .... | .... | .... | .... | R.D.               | 4,620      | 1,021   | 668     | 1,689                 | 375    |
| Gnowangerup                                | .... | .... | .... | .... | R.D.               | 2,498      | 644     | 462     | 1,106                 | 265    |
| Katanning                                  | .... | .... | .... | .... | R.D.               | 3,030      | 1,734   | 1,558   | 3,292                 | 714    |
| Kojonup                                    | .... | .... | .... | .... | R.D.               | 1,228      | 694     | 556     | 1,250                 | 316    |
| Plantagenet                                | .... | .... | .... | .... | R.D.               | 2,714      | 1,068   | 735     | 1,803                 | 421    |
| Tambellup                                  | .... | .... | .... | .... | R.D.               | 764        | 519     | 406     | 925                   | 220    |
| Wagin                                      | .... | .... | .... | .... | M.                 | 5.3        | 641     | 632     | 1,273                 | 251    |
| Wagin                                      | .... | .... | .... | .... | R.D.               | 739        | 601     | 449     | 1,050                 | 226    |
| West Arthur                                | .... | .... | .... | .... | R.D.               | 1,060      | 364     | 260     | 624                   | 164    |
| Woodanilling                               | .... | .... | .... | .... | R.D.               | 437        | 348     | 291     | 639                   | 132    |
| Total                                      | .... | .... | .... | .... | ....               | 21,676     | 11,060  | 9,421   | 20,481                | 4,654  |

CENSUS, 4 APRIL 1921—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|-----------------------|--------------------|------------|---------|---------|-----------------------|
|                       |                    | Males      | Females | Persons |                       |

**CENTRAL AGRICULTURAL STATISTICAL DIVISION**

|              |      |        |        |        |        |       |
|--------------|------|--------|--------|--------|--------|-------|
| Avon         | R.D. | 673    | 764    | 509    | 1,273  | 264   |
| Beverley     | R.D. | 883    | 985    | 897    | 1,882  | 396   |
| Brookton     | R.D. | 473    | 639    | 510    | 1,149  | 248   |
| Bruce Rock   | R.D. | 1,799  | 1,625  | 806    | 2,431  | 560   |
| Corrigin     | R.D. | 1,282  | 854    | 432    | 1,286  | 311   |
| Cuballing    | R.D. | 483    | 520    | 410    | 930    | 221   |
| Dowerin      | R.D. | 694    | 625    | 438    | 1,063  | 238   |
| Goomalling   | R.D. | 713    | 841    | 667    | 1,508  | 288   |
| Kellerberrin | R.D. | 767    | 1,046  | 758    | 1,804  | 408   |
| Meckering    | R.D. | 1,047  | 1,280  | 903    | 2,183  | 464   |
| Merredin     | R.D. | 3,505  | 1,811  | 988    | 2,799  | 711   |
| Narrogin     | M.   | 4.3    | 944    | 928    | 1,872  | 383   |
| Narrogin     | R.D. | 625    | 641    | 476    | 1,117  | 250   |
| Ninghan      | R.D. | 1,866  | 929    | 459    | 1,388  | 365   |
| Northam      | M.   | 2.1    | 1,831  | 1,771  | 3,602  | 752   |
| Northam      | R.D. | 425    | 1,207  | 946    | 2,153  | 501   |
| Pingelly     | R.D. | 476    | 887    | 757    | 1,644  | 332   |
| Roe          | R.D. | 3,428  | 756    | 365    | 1,121  | 268   |
| Toodyay      | R.D. | 706    | 802    | 743    | 1,545  | 316   |
| Wandering    | R.D. | 775    | 361    | 203    | 564    | 159   |
| Westonia     | R.D. | 1,040  | 474    | 368    | 842    | 227   |
| Wickepin     | R.D. | 768    | 806    | 648    | 1,454  | 327   |
| Williams     | R.D. | 885    | 412    | 360    | 772    | 168   |
| Wyalkatchem  | R.D. | 1,720  | 773    | 445    | 1,218  | 278   |
| York         | M.   | 6.8    | 759    | 762    | 1,521  | 331   |
| York         | R.D. | 850    | 756    | 576    | 1,332  | 260   |
| Total        | .... | 25,896 | 23,328 | 17,125 | 40,453 | 9,026 |

**NORTHERN AGRICULTURAL STATISTICAL DIVISION**

|                  |      |        |        |       |        |       |
|------------------|------|--------|--------|-------|--------|-------|
| Chittering       | R.D. | 414    | 210    | 178   | 388    | 86    |
| Dalwallinu       | R.D. | 3,300  | 660    | 296   | 956    | 195   |
| Dandaragan       | R.D. | 2,545  | 132    | 90    | 222    | 45    |
| Geraldton        | M.   | 3      | 2,122  | 2,052 | 4,174  | 836   |
| Geraldton        | R.D. | 326    | 400    | 217   | 617    | 202   |
| Gingin           | R.D. | 1,454  | 382    | 304   | 686    | 154   |
| Greenough        | R.D. | 334    | 402    | 356   | 758    | 146   |
| Irwin            | R.D. | 1,423  | 268    | 311   | 579    | 124   |
| Melbourne        | R.D. | 1,400  | 435    | 231   | 666    | 158   |
| Mingenew         | R.D. | 4,470  | 1,014  | 632   | 1,646  | 389   |
| Moora            | R.D. | 1,387  | 946    | 696   | 1,642  | 336   |
| Mullewa          | R.D. | 4,550  | 507    | 309   | 816    | 193   |
| Northampton      | R.D. | 8,935  | 871    | 647   | 1,518  | 354   |
| Perenjori-Morawa | R.D. | 5,580  | 548    | 239   | 787    | 173   |
| Upper Chapman    | R.D. | 939    | 712    | 455   | 1,167  | 284   |
| Victoria Plains  | R.D. | 1,000  | 663    | 426   | 1,089  | 171   |
| Total            | .... | 38,060 | 10,272 | 7,439 | 17,711 | 3,846 |

**EASTERN GOLDFIELDS STATISTICAL DIVISION**

|                       |      |         |        |        |        |       |
|-----------------------|------|---------|--------|--------|--------|-------|
| Boulder               | M.   | 4.5     | 4,068  | 4,144  | 8,212  | 1,915 |
| Broad Arrow           | R.D. | 1,039   | 310    | 177    | 487    | 200   |
| Coolgardie            | M.   | 2.7     | 349    | 352    | 701    | 212   |
| Coolgardie            | R.D. | 11,750  | 1,461  | 463    | 1,924  | 1,082 |
| Esperance             | R.D. | 46,120  | 455    | 258    | 713    | 249   |
| Kalgoorlie            | M.   | 2.1     | 3,977  | 3,920  | 7,897  | 1,881 |
| Kalgoorlie            | R.D. | 1,645   | 3,939  | 3,436  | 7,375  | 2,166 |
| Kanowna               | R.D. | 18,750  | 313    | 138    | 451    | 188   |
| Lawlers               | R.D. | 11,010  | 239    | 91     | 330    | 109   |
| Leonora-Mount Malcolm | R.D. | 2,755   | 794    | 635    | 1,429  | 455   |
| Menzies               | R.D. | 57,560  | 750    | 459    | 1,209  | 403   |
| Mount Margaret        | R.D. | 37,830  | 384    | 217    | 601    | 228   |
| Norseman              | R.D. | 15,000  | 329    | 254    | 583    | 176   |
| Phillips River        | R.D. | 1,640   | 346    | 242    | 588    | 154   |
| Yilgarn               | R.D. | 14,840  | 724    | 486    | 1,210  | 390   |
| Total                 | .... | 219,948 | 18,438 | 15,272 | 33,710 | 9,808 |



CENSUS, 4 APRIL 1921—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area           |      |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|---------------------------------|------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|
|                                 |      |      |      |      |      |      |                    | Males      | Females | Persons |                       |
| CENTRAL STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |
| Black Range                     | .... | .... | .... | .... | .... | R.D. | 9,765              | 439        | 192     | 631     | 188                   |
| Cue-Day Dawn                    | .... | .... | .... | .... | .... | R.D. | 4,130              | 567        | 390     | 957     | 253                   |
| Meekatharra                     | .... | .... | .... | .... | .... | R.D. | 106,760            | 914        | 508     | 1,422   | 385                   |
| Mount Magnet                    | .... | .... | .... | .... | .... | R.D. | 5,230              | 390        | 238     | 628     | 170                   |
| Murchison                       | .... | .... | .... | .... | .... | R.D. | 18,330             | 163        | 22      | 185     | 3                     |
| Nannine                         | .... | .... | .... | .... | .... | R.D. | 4,300              | 147        | 59      | 206     | 62                    |
| Wiluna                          | .... | .... | .... | .... | .... | R.D. | 87,800             | 136        | 45      | 181     | 81                    |
| Yalgoo                          | .... | .... | .... | .... | .... | R.D. | 12,690             | 536        | 219     | 755     | 174                   |
| Total                           | .... | .... | .... | .... | .... | .... | 249,005            | 3,292      | 1,673   | 4,965   | 1,344                 |
| NORTH-WEST STATISTICAL DIVISION |      |      |      |      |      |      |                    |            |         |         |                       |
| Ashburton                       | .... | .... | .... | .... | .... | R.D. | 24,800             | 266        | 64      | 330     | 64                    |
| Carnarvon                       | .... | .... | .... | .... | .... | M.   | 1.1                | 575        | 371     | 946     | 178                   |
| Gascoyne-Minilya                | .... | .... | .... | .... | .... | R.D. | 21,670             | 315        | 51      | 366     | 58                    |
| Shark Bay                       | .... | .... | .... | .... | .... | R.D. | 6,340              | 156        | 75      | 231     | 51                    |
| Upper Gascoyne                  | .... | .... | .... | .... | .... | R.D. | 19,900             | 168        | 30      | 198     | 38                    |
| Total                           | .... | .... | .... | .... | .... | .... | 72,711             | 1,480      | 591     | 2,071   | 389                   |
| PILBARA STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |
| Marble Bar                      | .... | .... | .... | .... | .... | R.D. | 69,260             | 236        | 57      | 293     | 104                   |
| Nullagine                       | .... | .... | .... | .... | .... | R.D. | 94,595             | 160        | 16      | 176     | 66                    |
| Port Hedland                    | .... | .... | .... | .... | .... | R.D. | 7,685              | 303        | 101     | 404     | 94                    |
| Roebourne                       | .... | .... | .... | .... | .... | R.D. | 8,830              | 321        | 149     | 470     | 141                   |
| Tableland                       | .... | .... | .... | .... | .... | R.D. | 16,050             | 56         | 6       | 62      | 9                     |
| Total                           | .... | .... | .... | .... | .... | .... | 196,420            | 1,076      | 329     | 1,405   | 414                   |
| KIMBERLEY STATISTICAL DIVISION  |      |      |      |      |      |      |                    |            |         |         |                       |
| Broome (a)                      | .... | .... | .... | .... | .... | R.D. | 20,740             | 733        | 313     | 1,046   | 321                   |
| Halls Creek                     | .... | .... | .... | .... | .... | R.D. | 32,920             | 239        | 14      | 253     | 50                    |
| West Kimberley                  | .... | .... | .... | .... | .... | R.D. | 38,550             | 344        | 75      | 419     | 98                    |
| Wyndham                         | .... | .... | .... | .... | .... | R.D. | 46,850             | 362        | 97      | 459     | 89                    |
| Total (a)                       | .... | .... | .... | .... | .... | .... | 139,060            | 1,678      | 499     | 2,177   | 558                   |
| MIGRATORY                       |      |      |      |      |      |      |                    |            |         |         |                       |
| Migratory (a)                   | .... | .... | .... | .... | .... | n.a. | n.a.               | 4,201      | 989     | 5,190   | n.a.                  |
| STATE SUMMARY                   |      |      |      |      |      |      |                    |            |         |         |                       |
| Perth Statistical Division      | .... | .... | .... | .... | .... | .... | 1,950              | 83,438     | 86,775  | 170,213 | 35,190                |
| Other Divisions—                | .... | .... | .... | .... | .... | .... | 11,194             | 19,015     | 15,341  | 34,356  | 8,319                 |
| South-West                      | .... | .... | .... | .... | .... | .... | 21,676             | 11,060     | 9,421   | 20,481  | 4,654                 |
| Southern Agricultural           | .... | .... | .... | .... | .... | .... | 25,896             | 23,328     | 17,125  | 40,453  | 9,026                 |
| Central Agricultural            | .... | .... | .... | .... | .... | .... | 38,060             | 10,272     | 7,439   | 17,711  | 3,846                 |
| Northern Agricultural           | .... | .... | .... | .... | .... | .... | 219,948            | 18,438     | 15,272  | 33,710  | 9,808                 |
| Eastern Goldfields              | .... | .... | .... | .... | .... | .... | 249,005            | 3,292      | 1,673   | 4,965   | 1,344                 |
| Central                         | .... | .... | .... | .... | .... | .... | 72,711             | 1,480      | 591     | 2,071   | 389                   |
| North-West                      | .... | .... | .... | .... | .... | .... | 196,420            | 1,076      | 329     | 1,405   | 414                   |
| Pilbara                         | .... | .... | .... | .... | .... | .... | 139,060            | 1,678      | 499     | 2,177   | 558                   |
| Kimberley (a)                   | .... | .... | .... | .... | .... | .... | 973,970            | 89,639     | 67,690  | 157,329 | 38,358                |
| Total (a)                       | .... | .... | .... | .... | .... | .... | 975,920            | 173,077    | 154,465 | 327,542 | 73,548                |
| Total, all Divisions (a)        | .... | .... | .... | .... | .... | .... | n.a.               | 4,201      | 989     | 5,190   | n.a.                  |
| Migratory (a)                   | .... | .... | .... | .... | .... | .... | n.a.               | 4,201      | 989     | 5,190   | n.a.                  |
| WESTERN AUSTRALIA               | .... | .... | .... | .... | .... | .... | 975,920            | 177,278    | 155,454 | 332,732 | 73,548                |

n.a. denotes 'not applicable'.

(a) See note *Migratory Population* on page 548.

**CENSUS, 30 JUNE 1933—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS**  
(Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area                      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |        |
|--------------------------------------------|--------------------|------------|---------|---------|-----------------------|--------|
|                                            |                    | Males      | Females | Persons |                       |        |
| PERTH STATISTICAL DIVISION                 |                    |            |         |         |                       |        |
| Armada-Kelmscott                           | R.D.               | 276        | 1,959   | 1,626   | 3,585                 | 947    |
| Bassendean                                 | R.D.               | 3.9        | 1,867   | 1,936   | 3,803                 | 931    |
| Bayswater                                  | R.D.               | 10.7       | 2,116   | 2,022   | 4,138                 | 1,109  |
| Belmont Park                               | R.D.               | 15.5       | 1,685   | 1,454   | 3,139                 | 780    |
| Buckland Hill                              | R.D.               | 1.3        | 1,686   | 1,942   | 3,628                 | 891    |
| Canning                                    | R.D.               | 26.2       | 1,691   | 1,517   | 3,208                 | 744    |
| Claremont                                  | M.                 | 1.8        | 2,666   | 3,280   | 5,946                 | 1,383  |
| Cottesloe                                  | M.                 | 1.5        | 2,622   | 3,238   | 5,860                 | 1,473  |
| Darling Range                              | R.D.               | 137        | 1,453   | 1,361   | 2,814                 | 737    |
| East Fremantle                             | M.                 | 1.2        | 2,494   | 2,624   | 5,118                 | 1,241  |
| Fremantle                                  | M.                 | 5.9        | 8,445   | 8,553   | 16,998                | 3,719  |
| Fremantle                                  | R.D.               | 53.3       | 1,271   | 950     | 2,221                 | 550    |
| Gosnells                                   | R.D.               | 48.3       | 1,625   | 1,391   | 3,016                 | 744    |
| Greenmount                                 | R.D.               | 258.5      | 2,861   | 2,114   | 4,975                 | 1,125  |
| Guildford                                  | M.                 | 0.9        | 1,022   | 1,017   | 2,039                 | 472    |
| Melville                                   | R.D.               | 20.6       | 2,288   | 2,340   | 4,628                 | 1,102  |
| Midland Junction                           | M.                 | 2.5        | 2,706   | 2,702   | 5,408                 | 1,249  |
| Nedlands                                   | R.D.               | 7.6        | 5,469   | 5,111   | 10,580                | 2,205  |
| North Fremantle                            | M.                 | 1.3        | 1,513   | 1,595   | 3,108                 | 710    |
| Peppermint Grove                           | R.D.               | 0.4        | 594     | 834     | 1,428                 | 320    |
| Perth                                      | M.                 | 24.1       | 38,862  | 43,428  | 82,290                | 18,068 |
| Perth                                      | R.D.               | 44         | 9,473   | 10,514  | 19,987                | 4,854  |
| Rockingham                                 | R.D.               | 146        | 574     | 440     | 1,014                 | 258    |
| Serpentine-Jarrahdale                      | R.D.               | 288        | 968     | 706     | 1,674                 | 429    |
| South Perth                                | R.D.               | 5.7        | 4,113   | 4,618   | 8,731                 | 2,200  |
| Subiaco                                    | M.                 | 2.7        | 7,653   | 9,156   | 16,809                | 4,110  |
| Swan                                       | R.D.               | 368        | 2,029   | 1,472   | 3,501                 | 861    |
| Wanneroo                                   | R.D.               | 308        | 446     | 248     | 694                   | 182    |
| Total                                      | ....               | 2,061      | 112,151 | 118,189 | 230,340               | 53,394 |
| SOUTH-WEST STATISTICAL DIVISION            |                    |            |         |         |                       |        |
| Augusta-Margaret River                     | R.D.               | 1,132      | 1,713   | 1,239   | 2,952                 | 734    |
| Balingup                                   | R.D.               | 281        | 784     | 585     | 1,369                 | 338    |
| Bridgetown                                 | R.D.               | 450        | 1,202   | 946     | 2,148                 | 557    |
| Bunbury                                    | M.                 | 3.2        | 2,518   | 2,622   | 5,140                 | 1,132  |
| Bunbury                                    | R.D.               | 77         | 646     | 575     | 1,221                 | 288    |
| Busselton                                  | M.                 | 1.4        | 458     | 458     | 916                   | 225    |
| Capel                                      | R.D.               | 181        | 706     | 581     | 1,287                 | 271    |
| Collie                                     | M.                 | 8.9        | 1,941   | 1,843   | 3,784                 | 919    |
| Collie                                     | R.D.               | 350        | 1,145   | 948     | 2,093                 | 521    |
| Dardanup                                   | R.D.               | 208        | 918     | 635     | 1,553                 | 400    |
| Drakesbrook                                | R.D.               | 322        | 933     | 586     | 1,519                 | 408    |
| Greenbushes                                | R.D.               | 73         | 425     | 383     | 808                   | 215    |
| Harvey                                     | R.D.               | 927        | 3,133   | 2,234   | 5,367                 | 1,478  |
| Manjimup                                   | R.D.               | 2,849      | 4,404   | 3,108   | 7,512                 | 1,854  |
| Marradong                                  | R.D.               | 738        | 579     | 339     | 918                   | 294    |
| Murray                                     | R.D.               | 769        | 2,314   | 1,746   | 4,060                 | 950    |
| Nannup                                     | R.D.               | 926        | 756     | 598     | 1,354                 | 335    |
| Preston                                    | R.D.               | 326        | 1,060   | 804     | 1,864                 | 430    |
| Sussex                                     | R.D.               | 503        | 1,761   | 1,376   | 3,137                 | 792    |
| Upper Blackwood                            | R.D.               | 1,104      | 873     | 559     | 1,432                 | 403    |
| Total                                      | ....               | 11,229     | 28,269  | 22,165  | 50,434                | 12,544 |
| SOUTHERN AGRICULTURAL STATISTICAL DIVISION |                    |            |         |         |                       |        |
| Albany                                     | M.                 | 8.4        | 1,940   | 2,136   | 4,076                 | 1,003  |
| Albany                                     | R.D.               | 3,272      | 869     | 624     | 1,493                 | 399    |
| Broomehill                                 | R.D.               | 454        | 456     | 352     | 808                   | 204    |
| Cranbrook                                  | R.D.               | 1,211      | 487     | 319     | 806                   | 207    |
| Denmark                                    | R.D.               | 718        | 1,084   | 843     | 1,927                 | 446    |
| Dumbleyung                                 | R.D.               | 994        | 940     | 670     | 1,610                 | 376    |
| Gnowangerup                                | R.D.               | 2,499      | 874     | 699     | 1,573                 | 355    |
| Katanning                                  | R.D.               | 586        | 1,565   | 1,631   | 3,196                 | 721    |
| Kent                                       | R.D.               | 2,841      | 517     | 340     | 857                   | 201    |
| Kojonup                                    | R.D.               | 1,134      | 939     | 742     | 1,681                 | 426    |
| Lake Grace                                 | R.D.               | 3,523      | 903     | 564     | 1,467                 | 363    |
| Plantagenet                                | R.D.               | 1,780      | 1,676   | 896     | 2,572                 | 523    |
| Tambellup                                  | R.D.               | 554        | 466     | 361     | 827                   | 196    |
| Wagin                                      | M.                 | 5.3        | 596     | 649     | 1,245                 | 306    |
| Wagin                                      | R.D.               | 739        | 601     | 517     | 1,118                 | 237    |
| West Arthur                                | R.D.               | 1,091      | 621     | 426     | 1,047                 | 303    |
| Woodanilling                               | R.D.               | 437        | 386     | 285     | 671                   | 144    |
| Total                                      | ....               | 21,847     | 14,920  | 12,054  | 26,974                | 6,410  |

**CENSUS, 30 JUNE 1933—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—continued**  
(Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area                      |       |       |       |       |       |       | Area<br>(sq miles) | Population |         |         | Occupied dwellings |
|--------------------------------------------|-------|-------|-------|-------|-------|-------|--------------------|------------|---------|---------|--------------------|
|                                            |       |       |       |       |       |       |                    | Males      | Females | Persons |                    |
| CENTRAL AGRICULTURAL STATISTICAL DIVISION  |       |       |       |       |       |       |                    |            |         |         |                    |
| Beverley .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 904                | 1,059      | 933     | 1,992   | 460                |
| Brookton .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 464                | 637        | 551     | 1,188   | 259                |
| Bruce Rock .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,051              | 1,419      | 1,079   | 2,498   | 552                |
| Corrigin .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,196              | 1,088      | 757     | 1,845   | 421                |
| Cuballing .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 483                | 457        | 392     | 849     | 204                |
| Dowerin .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 811                | 845        | 630     | 1,475   | 305                |
| Goomalling .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 713                | 1,025      | 778     | 1,803   | 412                |
| Kellerberrin .....                         | ..... | ..... | ..... | ..... | ..... | R.D.  | 767                | 1,347      | 1,065   | 2,412   | 537                |
| Kondinin .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,500              | 805        | 463     | 1,268   | 309                |
| Koorda .....                               | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,107              | 728        | 464     | 1,192   | 297                |
| Kulin .....                                | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,831              | 770        | 504     | 1,274   | 316                |
| Kununoppin-Trayning .....                  | ..... | ..... | ..... | ..... | ..... | R.D.  | 648                | 727        | 486     | 1,213   | 276                |
| Meckering .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,048              | 1,572      | 1,173   | 2,745   | 623                |
| Merredin .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,309              | 1,972      | 1,473   | 3,445   | 827                |
| Mount Marshall .....                       | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,673              | 958        | 557     | 1,515   | 389                |
| Narembene .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,552              | 899        | 572     | 1,471   | 341                |
| Narrogin .....                             | ..... | ..... | ..... | ..... | ..... | M.    | 4.3                | 1,181      | 1,285   | 2,466   | 586                |
| Narrogin .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 625                | 688        | 529     | 1,217   | 270                |
| Northam .....                              | ..... | ..... | ..... | ..... | ..... | M.    | 2.1                | 2,422      | 2,395   | 4,817   | 1,052              |
| Northam .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 450                | 1,259      | 943     | 2,202   | 498                |
| Nungarin .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,708              | 1,016      | 608     | 1,624   | 401                |
| Pingelly .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 476                | 779        | 717     | 1,496   | 338                |
| Quairading .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 655                | 1,007      | 747     | 1,754   | 375                |
| Toodyay .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 681                | 786        | 676     | 1,462   | 355                |
| Wandering .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 755                | 254        | 196     | 450     | 97                 |
| Westonia .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,253              | 647        | 385     | 1,032   | 291                |
| Wickepin .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 768                | 907        | 691     | 1,598   | 364                |
| Williams .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 885                | 506        | 423     | 929     | 224                |
| Wyalkatchem .....                          | ..... | ..... | ..... | ..... | ..... | R.D.  | 543                | 903        | 630     | 1,533   | 322                |
| York .....                                 | ..... | ..... | ..... | ..... | ..... | M.    | 6.8                | 819        | 817     | 1,636   | 373                |
| York .....                                 | ..... | ..... | ..... | ..... | ..... | R.D.  | 864                | 714        | 529     | 1,243   | 278                |
| Total .....                                | ..... | ..... | ..... | ..... | ..... | ..... | 26,733             | 30,196     | 23,448  | 53,644  | 12,352             |
| NORTHERN AGRICULTURAL STATISTICAL DIVISION |       |       |       |       |       |       |                    |            |         |         |                    |
| Carnamah .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 2,668              | 811        | 562     | 1,373   | 304                |
| Chittering .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 483                | 366        | 299     | 665     | 154                |
| Dalwallinu .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 7,856              | 1,408      | 818     | 2,226   | 538                |
| Dandaragan .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 2,622              | 159        | 81      | 240     | 61                 |
| Geraldton .....                            | ..... | ..... | ..... | ..... | ..... | M.    | 3                  | 2,559      | 2,425   | 4,984   | 1,057              |
| Geraldton .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 326                | 550        | 309     | 859     | 201                |
| Gingin .....                               | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,272              | 518        | 545     | 1,063   | 149                |
| Greenough .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 334                | 388        | 309     | 697     | 143                |
| Irwin .....                                | ..... | ..... | ..... | ..... | ..... | R.D.  | 857                | 257        | 298     | 555     | 126                |
| Mingenew .....                             | ..... | ..... | ..... | ..... | ..... | R.D.  | 800                | 477        | 334     | 811     | 177                |
| Moorla .....                               | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,445              | 1,267      | 961     | 2,228   | 503                |
| Morawa .....                               | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,281              | 735        | 406     | 1,141   | 307                |
| Mullewa .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 4,231              | 995        | 627     | 1,622   | 386                |
| Northampton .....                          | ..... | ..... | ..... | ..... | ..... | R.D.  | 7,600              | 921        | 756     | 1,677   | 364                |
| Perenjori .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 2,781              | 816        | 459     | 1,275   | 307                |
| Three Springs .....                        | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,009              | 503        | 376     | 879     | 185                |
| Upper Chapman .....                        | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,474              | 870        | 598     | 1,468   | 346                |
| Victoria Plains .....                      | ..... | ..... | ..... | ..... | ..... | R.D.  | 965                | 730        | 511     | 1,241   | 269                |
| Wongan-Ballidu .....                       | ..... | ..... | ..... | ..... | ..... | R.D.  | 1,342              | 981        | 601     | 1,582   | 386                |
| Total .....                                | ..... | ..... | ..... | ..... | ..... | ..... | 39,349             | 15,311     | 11,275  | 26,586  | 5,963              |
| EASTERN GOLDFIELDS STATISTICAL DIVISION    |       |       |       |       |       |       |                    |            |         |         |                    |
| Boulder .....                              | ..... | ..... | ..... | ..... | ..... | M.    | 4.5                | 3,130      | 2,678   | 5,808   | 1,311              |
| Coolgardie .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 11,753             | 1,821      | 657     | 2,478   | 1,018              |
| Dundas .....                               | ..... | ..... | ..... | ..... | ..... | R.D.  | 41,730             | 697        | 404     | 1,101   | 317                |
| Esperance .....                            | ..... | ..... | ..... | ..... | ..... | R.D.  | 11,048             | 576        | 373     | 949     | 274                |
| Kalgoorlie .....                           | ..... | ..... | ..... | ..... | ..... | M.    | 2.1                | 5,002      | 4,086   | 9,088   | 1,986              |
| Kalgoorlie .....                           | ..... | ..... | ..... | ..... | ..... | R.D.  | 27,509             | 4,269      | 2,546   | 6,815   | 2,067              |
| Leonora .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 12,256             | 1,273      | 603     | 1,876   | 584                |
| Menzies .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 57,500             | 607        | 190     | 797     | 284                |
| Mount Margaret .....                       | ..... | ..... | ..... | ..... | ..... | R.D.  | 70,733             | 297        | 83      | 380     | 148                |
| Phillips River .....                       | ..... | ..... | ..... | ..... | ..... | R.D.  | 4,559              | 229        | 166     | 395     | 122                |
| Yilgarn .....                              | ..... | ..... | ..... | ..... | ..... | R.D.  | 13,196             | 2,310      | 1,230   | 3,540   | 1,160              |
| Total .....                                | ..... | ..... | ..... | ..... | ..... | ..... | 250,291            | 20,211     | 13,016  | 33,227  | 9,271              |

CENSUS, 30 JUNE 1933—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
 AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
 (Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area           |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |         |
|---------------------------------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|---------|
|                                 |      |      |      |      |      |                    | Males      | Females | Persons |                       |         |
| CENTRAL STATISTICAL DIVISION    |      |      |      |      |      |                    |            |         |         |                       |         |
| Black Range                     | .... | .... | .... | .... | .... | R.D.               | 10,862     | 284     | 120     | 404                   | 132     |
| Cue                             | .... | .... | .... | .... | .... | R.D.               | 5,226      | 505     | 266     | 771                   | 237     |
| Meekatharra                     | .... | .... | .... | .... | .... | R.D.               | 110,738    | 1,349   | 596     | 1,945                 | 557     |
| Mount Magnet                    | .... | .... | .... | .... | .... | R.D.               | 5,230      | 504     | 248     | 752                   | 236     |
| Murchison                       | .... | .... | .... | .... | .... | R.D.               | 17,551     | 248     | 88      | 336                   | 31      |
| Wiluna                          | .... | .... | .... | .... | .... | R.D.               | 55,369     | 2,150   | 889     | 3,039                 | 908     |
| Yalgoo                          | .... | .... | .... | .... | .... | R.D.               | 10,259     | 401     | 223     | 624                   | 146     |
| Total                           | .... | .... | .... | .... | .... | ....               | 215,235    | 5,441   | 2,430   | 7,871                 | 2,247   |
| NORTH-WEST STATISTICAL DIVISION |      |      |      |      |      |                    |            |         |         |                       |         |
| Ashburton                       | .... | .... | .... | .... | .... | R.D.               | 25,343     | 358     | 121     | 479                   | 90      |
| Carnarvon                       | .... | .... | .... | .... | .... | M.                 | 1          | 494     | 351     | 845                   | 237     |
| Gascoyne-Minilya                | .... | .... | .... | .... | .... | R.D.               | 21,928     | 420     | 197     | 617                   | 94      |
| Shark Bay                       | .... | .... | .... | .... | .... | R.D.               | 7,314      | 160     | 97      | 257                   | 56      |
| Upper Gascoyne                  | .... | .... | .... | .... | .... | R.D.               | 20,826     | 336     | 78      | 414                   | 49      |
| Total                           | .... | .... | .... | .... | .... | ....               | 75,412     | 1,768   | 844     | 2,612                 | 526     |
| PILBARA STATISTICAL DIVISION    |      |      |      |      |      |                    |            |         |         |                       |         |
| Marble Bar                      | .... | .... | .... | .... | .... | R.D.               | 67,751     | 332     | 91      | 423                   | 52      |
| Nullagine                       | .... | .... | .... | .... | .... | R.D.               | 94,573     | 143     | 30      | 173                   | 28      |
| Port Hedland                    | .... | .... | .... | .... | .... | R.D.               | 9,319      | 467     | 136     | 603                   | 95      |
| Roebourne                       | .... | .... | .... | .... | .... | R.D.               | 7,656      | 334     | 145     | 479                   | 120     |
| Tableland                       | .... | .... | .... | .... | .... | R.D.               | 15,404     | 126     | 35      | 161                   | 28      |
| Total                           | .... | .... | .... | .... | .... | ....               | 194,703    | 1,402   | 437     | 1,839                 | 323     |
| KIMBERLEY STATISTICAL DIVISION  |      |      |      |      |      |                    |            |         |         |                       |         |
| Broome (a)                      | .... | .... | .... | .... | .... | R.D.               | 20,740     | 521     | 417     | 938                   | 274     |
| Halls Creek                     | .... | .... | .... | .... | .... | R.D.               | 31,874     | 139     | 29      | 168                   | 46      |
| West Kimberley                  | .... | .... | .... | .... | .... | R.D.               | 39,655     | 328     | 125     | 453                   | 126     |
| Wyndham                         | .... | .... | .... | .... | .... | R.D.               | 46,791     | 423     | 145     | 568                   | 102     |
| Total (a)                       | .... | .... | .... | .... | .... | ....               | 139,060    | 1,411   | 716     | 2,127                 | 548     |
| MIGRATORY                       |      |      |      |      |      |                    |            |         |         |                       |         |
| Migratory (a)                   | .... | .... | .... | .... | .... | n.a.               | n.a.       | 2,857   | 341     | 3,198                 | n.a.    |
| STATE SUMMARY                   |      |      |      |      |      |                    |            |         |         |                       |         |
| Perth Statistical Division      | .... | .... | .... | .... | .... | ....               | 2,061      | 112,151 | 118,189 | 230,340               | 53,394  |
| Other Divisions—                | .... | .... | .... | .... | .... | ....               | 11,229     | 28,269  | 22,165  | 50,434                | 12,544  |
| South-West                      | .... | .... | .... | .... | .... | ....               | 21,847     | 14,920  | 12,054  | 26,974                | 6,410   |
| Southern Agricultural           | .... | .... | .... | .... | .... | ....               | 26,733     | 30,196  | 23,448  | 53,644                | 12,352  |
| Central Agricultural            | .... | .... | .... | .... | .... | ....               | 39,349     | 15,311  | 11,275  | 26,586                | 5,963   |
| Northern Agricultural           | .... | .... | .... | .... | .... | ....               | 250,291    | 20,211  | 13,016  | 33,227                | 9,271   |
| Eastern Goldfields              | .... | .... | .... | .... | .... | ....               | 215,235    | 5,441   | 2,430   | 7,871                 | 2,247   |
| Central                         | .... | .... | .... | .... | .... | ....               | 75,412     | 1,768   | 844     | 2,612                 | 526     |
| North-West                      | .... | .... | .... | .... | .... | ....               | 194,703    | 1,402   | 437     | 1,839                 | 323     |
| Pilbara                         | .... | .... | .... | .... | .... | ....               | 139,060    | 1,411   | 716     | 2,127                 | 548     |
| Kimberley (a)                   | .... | .... | .... | .... | .... | ....               | 139,060    | 1,411   | 716     | 2,127                 | 548     |
| Total (a)                       | .... | .... | .... | .... | .... | ....               | 973,859    | 118,929 | 86,385  | 205,314               | 50,184  |
| Total, all Divisions (a)        | .... | .... | .... | .... | .... | ....               | 975,920    | 231,080 | 204,574 | 435,654               | 103,578 |
| Migratory (a)                   | .... | .... | .... | .... | .... | ....               | n.a.       | 2,857   | 341     | 3,198                 | n.a.    |
| WESTERN AUSTRALIA               | .... | .... | .... | .... | .... | ....               | 975,920    | 233,937 | 204,915 | 438,852               | 103,578 |

n.a. denotes 'not applicable'.

(a) See note *Migratory Population* on page 548.

**CENSUS, 30 JUNE 1947—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS**  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area                      |       | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |        |
|--------------------------------------------|-------|--------------------|------------|---------|---------|-----------------------|--------|
|                                            |       |                    | Males      | Females | Persons |                       |        |
| PERTH STATISTICAL DIVISION                 |       |                    |            |         |         |                       |        |
| Armadale-Kelmscott                         | ..... | R.D.               | 276        | 2,186   | 2,067   | 4,253                 | 1,086  |
| Bassendean                                 | ..... | R.D.               | 3·9        | 2,573   | 2,670   | 5,243                 | 1,322  |
| Bayswater                                  | ..... | R.D.               | 10·7       | 3,168   | 3,285   | 6,453                 | 1,635  |
| Belmont Park                               | ..... | R.D.               | 15·5       | 2,887   | 2,825   | 5,712                 | 1,385  |
| Canning                                    | ..... | R.D.               | 26·4       | 2,804   | 2,399   | 5,203                 | 1,165  |
| Claremont                                  | ..... | M.                 | 1·8        | 3,559   | 4,210   | 7,769                 | 1,919  |
| Cottesloe                                  | ..... | M.                 | 1·5        | 3,862   | 4,395   | 8,257                 | 2,249  |
| Darling Range                              | ..... | R.D.               | 137        | 2,095   | 2,018   | 4,113                 | 1,082  |
| East Fremantle                             | ..... | M.                 | 1·2        | 3,054   | 3,143   | 6,197                 | 1,561  |
| Fremantle                                  | ..... | M.                 | 5·9        | 9,490   | 9,301   | 18,791                | 4,552  |
| Fremantle                                  | ..... | R.D.               | 53         | 1,647   | 1,402   | 3,049                 | 767    |
| Gosnells                                   | ..... | R.D.               | 48         | 2,291   | 2,114   | 4,405                 | 1,116  |
| Guildford                                  | ..... | M.                 | 0·9        | 1,098   | 1,119   | 2,217                 | 564    |
| Melville                                   | ..... | R.D.               | 20·6       | 3,719   | 3,828   | 7,547                 | 1,844  |
| Midland Junction                           | ..... | M.                 | 2·5        | 3,104   | 3,078   | 6,182                 | 1,470  |
| Mosman Park                                | ..... | R.D.               | 1·3        | 2,563   | 2,879   | 5,442                 | 1,349  |
| Mundaring                                  | ..... | R.D.               | 259        | 3,043   | 3,029   | 6,072                 | 1,528  |
| Nedlands                                   | ..... | R.D.               | 8          | 9,038   | 9,188   | 18,226                | 4,145  |
| North Fremantle                            | ..... | M.                 | 1·3        | 1,439   | 1,507   | 2,946                 | 696    |
| Peppermint Grove                           | ..... | R.D.               | 0·4        | 646     | 828     | 1,474                 | 401    |
| Perth                                      | ..... | M.                 | 23·8       | 47,327  | 51,563  | 98,890                | 23,541 |
| Perth                                      | ..... | R.D.               | 44·4       | 14,838  | 16,151  | 30,989                | 7,872  |
| Rockingham                                 | ..... | R.D.               | 146        | 921     | 859     | 1,780                 | 553    |
| Serpentine-Jarrahdale                      | ..... | R.D.               | 288        | 943     | 766     | 1,709                 | 441    |
| South Perth                                | ..... | R.D.               | 5·7        | 7,402   | 7,864   | 15,266                | 3,904  |
| Subiaco                                    | ..... | M.                 | 2·7        | 8,611   | 10,178  | 18,789                | 4,913  |
| Swan                                       | ..... | R.D.               | 367·6      | 2,852   | 2,195   | 5,047                 | 1,161  |
| Wanneroo                                   | ..... | R.D.               | 308        | 575     | 372     | 947                   | 257    |
| Total                                      | ..... | .....              | 2,061      | 147,735 | 155,233 | 302,968               | 74,478 |
| SOUTH-WEST STATISTICAL DIVISION            |       |                    |            |         |         |                       |        |
| Augusta-Margaret River                     | ..... | R.D.               | 915        | 1,568   | 1,222   | 2,790                 | 777    |
| Balingup                                   | ..... | R.D.               | 281        | 577     | 475     | 1,052                 | 288    |
| Bridgetown                                 | ..... | R.D.               | 450        | 1,418   | 1,190   | 2,608                 | 685    |
| Bunbury                                    | ..... | M.                 | 3·2        | 3,008   | 3,232   | 6,240                 | 1,488  |
| Bunbury                                    | ..... | R.D.               | 77         | 718     | 623     | 1,341                 | 328    |
| Busselton                                  | ..... | M.                 | 1·4        | 486     | 522     | 1,008                 | 244    |
| Capel                                      | ..... | R.D.               | 181        | 669     | 600     | 1,269                 | 308    |
| Collie                                     | ..... | M.                 | 8·8        | 2,433   | 2,074   | 4,507                 | 1,063  |
| Collie                                     | ..... | R.D.               | 350        | 1,178   | 1,025   | 2,203                 | 527    |
| Dardanup                                   | ..... | R.D.               | 208        | 674     | 551     | 1,225                 | 310    |
| Drakesbrook                                | ..... | R.D.               | 322        | 901     | 735     | 1,636                 | 431    |
| Greenbushes                                | ..... | R.D.               | 73         | 350     | 303     | 653                   | 184    |
| Harvey                                     | ..... | R.D.               | 927        | 3,123   | 2,466   | 5,589                 | 1,568  |
| Manjimup                                   | ..... | R.D.               | 2,646      | 3,568   | 2,756   | 6,324                 | 1,722  |
| Marradong                                  | ..... | R.D.               | 738        | 745     | 530     | 1,275                 | 375    |
| Murray                                     | ..... | R.D.               | 769        | 2,168   | 1,950   | 4,118                 | 1,190  |
| Nannup                                     | ..... | R.D.               | 1,140      | 621     | 521     | 1,142                 | 298    |
| Preston                                    | ..... | R.D.               | 326        | 1,127   | 999     | 2,126                 | 537    |
| Sussex                                     | ..... | R.D.               | 506        | 1,633   | 1,383   | 3,016                 | 797    |
| Upper Blackwood                            | ..... | R.D.               | 1,104      | 1,074   | 777     | 1,851                 | 491    |
| Total                                      | ..... | .....              | 11,026     | 28,039  | 23,934  | 51,973                | 13,611 |
| SOUTHERN AGRICULTURAL STATISTICAL DIVISION |       |                    |            |         |         |                       |        |
| Albany                                     | ..... | M.                 | 8·4        | 2,253   | 2,506   | 4,759                 | 1,275  |
| Albany                                     | ..... | R.D.               | 1,692      | 810     | 726     | 1,536                 | 438    |
| Broomehill                                 | ..... | R.D.               | 454        | 368     | 283     | 651                   | 162    |
| Cranbrook                                  | ..... | R.D.               | 1,414      | 441     | 334     | 775                   | 208    |
| Denmark                                    | ..... | R.D.               | 718        | 793     | 695     | 1,488                 | 399    |
| Dumbleyung                                 | ..... | R.D.               | 994        | 695     | 551     | 1,246                 | 331    |
| Gnowangerup                                | ..... | R.D.               | 4,079      | 838     | 682     | 1,520                 | 371    |
| Katanning                                  | ..... | R.D.               | 586        | 1,526   | 1,635   | 3,161                 | 774    |
| Kent                                       | ..... | R.D.               | 2,841      | 536     | 238     | 574                   | 163    |
| Kojonup                                    | ..... | R.D.               | 1,134      | 856     | 737     | 1,593                 | 432    |
| Lake Grace                                 | ..... | R.D.               | 3,523      | 648     | 505     | 1,153                 | 306    |
| Plantagenet                                | ..... | R.D.               | 1,780      | 1,279   | 1,100   | 2,379                 | 618    |
| Tambellup                                  | ..... | R.D.               | 554        | 320     | 275     | 595                   | 164    |
| Wagin                                      | ..... | M.                 | 5·3        | 556     | 583     | 1,139                 | 287    |
| Wagin                                      | ..... | R.D.               | 739        | 429     | 377     | 806                   | 216    |
| West Arthur                                | ..... | R.D.               | 1,091      | 500     | 376     | 876                   | 244    |
| Woodanilling                               | ..... | R.D.               | 437        | 357     | 340     | 697                   | 134    |
| Total                                      | ..... | .....              | 22,050     | 13,005  | 11,943  | 24,948                | 6,522  |

CENSUS, 30 JUNE 1947—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|-----------------------|--------------------|------------|---------|---------|-----------------------|
|                       |                    | Males      | Females | Persons |                       |

|                                           |            |        |        |        |        |
|-------------------------------------------|------------|--------|--------|--------|--------|
| CENTRAL AGRICULTURAL STATISTICAL DIVISION |            |        |        |        |        |
| Beverley .....                            | R.D. 892   | 883    | 796    | 1,679  | 431    |
| Brookton .....                            | R.D. 464   | 506    | 428    | 934    | 247    |
| Bruce Rock .....                          | R.D. 1,051 | 1,030  | 867    | 1,897  | 461    |
| Corrigin .....                            | R.D. 1,196 | 776    | 669    | 1,445  | 380    |
| Cuballing .....                           | R.D. 483   | 363    | 314    | 677    | 185    |
| Cunderdin .....                           | R.D. 1,065 | 1,300  | 1,145  | 2,445  | 599    |
| Dowerin .....                             | R.D. 806   | 645    | 507    | 1,152  | 280    |
| Goomalling .....                          | R.D. 713   | 794    | 609    | 1,403  | 340    |
| Kellerberrin .....                        | R.D. 765   | 1,110  | 966    | 2,076  | 503    |
| Kondinin .....                            | R.D. 1,644 | 514    | 372    | 886    | 256    |
| Koorda .....                              | R.D. 1,107 | 330    | 263    | 593    | 161    |
| Kulin .....                               | R.D. 1,828 | 528    | 347    | 875    | 232    |
| Kununoppin-Trayning .....                 | R.D. 640   | 462    | 372    | 834    | 203    |
| Merredin .....                            | R.D. 1,309 | 1,665  | 1,358  | 3,023  | 737    |
| Mount Marshall .....                      | R.D. 4,202 | 389    | 282    | 671    | 176    |
| Mukinbudin .....                          | R.D. 1,318 | 280    | 190    | 470    | 116    |
| Narembeen .....                           | R.D. 1,411 | 543    | 434    | 977    | 246    |
| Narrogin .....                            | M. 4.3     | 1,230  | 1,328  | 2,558  | 617    |
| Narrogin .....                            | R.D. 625   | 495    | 349    | 844    | 204    |
| Northam .....                             | M. 2.1     | 2,245  | 2,407  | 4,652  | 1,096  |
| Northam .....                             | R.D. 450   | 1,320  | 962    | 2,282  | 542    |
| Nungarin .....                            | R.D. 431   | 428    | 285    | 713    | 186    |
| Pingelly .....                            | R.D. 476   | 623    | 607    | 1,230  | 339    |
| Quairading .....                          | R.D. 655   | 785    | 639    | 1,424  | 349    |
| Toodyay .....                             | R.D. 681   | 660    | 577    | 1,237  | 325    |
| Wandering .....                           | R.D. 755   | 241    | 178    | 419    | 115    |
| Westonia .....                            | R.D. 1,253 | 310    | 237    | 547    | 145    |
| Wickepin .....                            | R.D. 768   | 633    | 520    | 1,153  | 290    |
| Williams .....                            | R.D. 885   | 510    | 423    | 933    | 212    |
| Wyalkatchem .....                         | R.D. 533   | 604    | 490    | 1,094  | 265    |
| York .....                                | M. 6.8     | 813    | 810    | 1,623  | 392    |
| York .....                                | R.D. 876   | 595    | 449    | 1,044  | 246    |
| Total .....                               | ....       | 29,295 | 23,610 | 43,790 | 10,872 |

|                                            |            |        |        |        |        |
|--------------------------------------------|------------|--------|--------|--------|--------|
| NORTHERN AGRICULTURAL STATISTICAL DIVISION |            |        |        |        |        |
| Carnamah .....                             | R.D. 2,668 | 576    | 449    | 1,025  | 264    |
| Chittering .....                           | R.D. 483   | 556    | 429    | 985    | 272    |
| Dalwallinu .....                           | R.D. 5,318 | 973    | 730    | 1,703  | 391    |
| Dandaragan .....                           | R.D. 2,622 | 122    | 69     | 191    | 52     |
| Geraldton .....                            | M. 3.1     | 3,072  | 2,900  | 5,972  | 1,204  |
| Geraldton .....                            | R.D. 326   | 623    | 410    | 1,033  | 266    |
| Gingin .....                               | R.D. 1,272 | 374    | 377    | 751    | 155    |
| Greenough .....                            | R.D. 334   | 309    | 225    | 534    | 127    |
| Irwin .....                                | R.D. 857   | 207    | 258    | 465    | 113    |
| Mingenew .....                             | R.D. 800   | 409    | 281    | 690    | 156    |
| Moora .....                                | R.D. 1,445 | 1,101  | 905    | 2,006  | 471    |
| Morawa .....                               | R.D. 1,275 | 548    | 395    | 943    | 237    |
| Mullewa .....                              | R.D. 4,231 | 779    | 546    | 1,325  | 307    |
| Northampton .....                          | R.D. 7,213 | 786    | 683    | 1,469  | 353    |
| Perenjori .....                            | R.D. 2,757 | 552    | 404    | 956    | 254    |
| Three Springs .....                        | R.D. 1,015 | 405    | 325    | 730    | 155    |
| Upper Chapman .....                        | R.D. 1,474 | 712    | 521    | 1,233  | 314    |
| Victoria Plains .....                      | R.D. 965   | 643    | 481    | 1,124  | 228    |
| Wongan-Ballidu .....                       | R.D. 1,342 | 847    | 683    | 1,530  | 372    |
| Total .....                                | ....       | 36,400 | 13,594 | 11,071 | 24,665 |

|                                         |             |         |        |        |        |
|-----------------------------------------|-------------|---------|--------|--------|--------|
| EASTERN GOLDFIELDS STATISTICAL DIVISION |             |         |        |        |        |
| Boulder .....                           | M. 4.6      | 3,381   | 3,082  | 6,463  | 1,661  |
| Coolgardie .....                        | R.D. 11,753 | 1,358   | 744    | 2,102  | 870    |
| Dundas .....                            | R.D. 41,509 | 1,596   | 1,245  | 2,841  | 817    |
| Esperance .....                         | R.D. 11,048 | 427     | 369    | 796    | 233    |
| Kalgoorlie .....                        | M. 2.1      | 6,265   | 5,635  | 11,900 | 2,903  |
| Kalgoorlie .....                        | R.D. 27,509 | 4,690   | 3,883  | 8,573  | 2,518  |
| Leonora .....                           | R.D. 12,256 | 1,055   | 663    | 1,718  | 537    |
| Menzies .....                           | R.D. 57,500 | 502     | 181    | 683    | 286    |
| Mount Margaret .....                    | R.D. 70,733 | 208     | 138    | 346    | 118    |
| Phillips River .....                    | R.D. 4,901  | 154     | 107    | 261    | 78     |
| Yilgarn .....                           | R.D. 13,075 | 1,203   | 836    | 2,039  | 593    |
| Total .....                             | ....        | 250,291 | 20,839 | 16,883 | 37,722 |

CENSUS, 30 JUNE 1947—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area           |      |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|---------------------------------|------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|
|                                 |      |      |      |      |      |      |                    | Males      | Females | Persons |                       |
| CENTRAL STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |
| Black Range                     | .... | .... | .... | .... | .... | R.D. | 10,862             | 105        | 69      | 174     | 50                    |
| Cue                             | .... | .... | .... | .... | .... | R.D. | 5,296              | 1,520      | 974     | 2,494   | 606                   |
| Meekatharra                     | .... | .... | .... | .... | .... | R.D. | 38,509             | 687        | 382     | 1,069   | 279                   |
| Mount Magnet                    | .... | .... | .... | .... | .... | R.D. | 5,215              | 541        | 396     | 937     | 261                   |
| Murchison                       | .... | .... | .... | .... | .... | R.D. | 17,309             | 166        | 62      | 228     | 27                    |
| Wiluna                          | .... | .... | .... | .... | .... | R.D. | 127,909            | 600        | 465     | 1,065   | 298                   |
| Yalgoo                          | .... | .... | .... | .... | .... | R.D. | 10,369             | 240        | 163     | 403     | 107                   |
| Total                           | .... | .... | .... | .... | .... | .... | 215,469            | 3,859      | 2,511   | 6,370   | 1,628                 |
| NORTH-WEST STATISTICAL DIVISION |      |      |      |      |      |      |                    |            |         |         |                       |
| Ashburton                       | .... | .... | .... | .... | .... | R.D. | 25,281             | 279        | 118     | 397     | 80                    |
| Carnarvon                       | .... | .... | .... | .... | .... | M.   | 1.1                | 537        | 442     | 979     | 232                   |
| Gascoyne-Minilya                | .... | .... | .... | .... | .... | R.D. | 21,736             | 524        | 208     | 732     | 106                   |
| Shark Bay                       | .... | .... | .... | .... | .... | R.D. | 7,893              | 116        | 67      | 183     | 50                    |
| Upper Gascoyne                  | .... | .... | .... | .... | .... | R.D. | 20,592             | 270        | 77      | 347     | 38                    |
| Total                           | .... | .... | .... | .... | .... | .... | 75,503             | 1,726      | 912     | 2,638   | 506                   |
| PILBARA STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |
| Marble Bar                      | .... | .... | .... | .... | .... | R.D. | 69,526             | 268        | 128     | 396     | 90                    |
| Nullagine                       | .... | .... | .... | .... | .... | R.D. | 92,568             | 154        | 45      | 199     | 51                    |
| Port Hedland                    | .... | .... | .... | .... | .... | R.D. | 9,348              | 366        | 176     | 542     | 97                    |
| Roebourne                       | .... | .... | .... | .... | .... | R.D. | 8,452              | 228        | 90      | 318     | 64                    |
| Tableland                       | .... | .... | .... | .... | .... | R.D. | 14,871             | 160        | 36      | 196     | 20                    |
| Total                           | .... | .... | .... | .... | .... | .... | 194,765            | 1,176      | 475     | 1,651   | 322                   |
| KIMBERLEY STATISTICAL DIVISION  |      |      |      |      |      |      |                    |            |         |         |                       |
| Broome (a)                      | .... | .... | .... | .... | .... | R.D. | 20,740             | 572        | 449     | 1,021   | 205                   |
| Halls Creek                     | .... | .... | .... | .... | .... | R.D. | 31,874             | 199        | 83      | 282     | 51                    |
| West Kimberley                  | .... | .... | .... | .... | .... | R.D. | 39,655             | 611        | 251     | 862     | 187                   |
| Wyndham                         | .... | .... | .... | .... | .... | R.D. | 46,791             | 459        | 150     | 609     | 80                    |
| Total (a)                       | .... | .... | .... | .... | .... | .... | 139,060            | 1,841      | 933     | 2,774   | 523                   |
| MIGRATORY                       |      |      |      |      |      |      |                    |            |         |         |                       |
| Migratory (a)                   | .... | .... | .... | .... | .... | n.a. | n.a.               | 2,652      | 329     | 2,981   | n.a.                  |
| STATE SUMMARY                   |      |      |      |      |      |      |                    |            |         |         |                       |
| Perth Statistical Division      | .... | .... | .... | .... | .... | .... | 2,061              | 147,735    | 155,233 | 302,968 | 74,478                |
| Other Divisions—                | .... | .... | .... | .... | .... | .... | ....               | ....       | ....    | ....    | ....                  |
| South-West                      | .... | .... | .... | .... | .... | .... | 11,026             | 28,039     | 23,934  | 51,973  | 13,611                |
| Southern Agricultural           | .... | .... | .... | .... | .... | .... | 22,050             | 13,005     | 11,943  | 24,948  | 6,522                 |
| Central Agricultural            | .... | .... | .... | .... | .... | .... | 29,295             | 23,610     | 20,180  | 43,790  | 10,872                |
| Northern Agricultural           | .... | .... | .... | .... | .... | .... | 36,400             | 13,594     | 11,071  | 24,665  | 5,691                 |
| Eastern Goldfields              | .... | .... | .... | .... | .... | .... | 250,291            | 20,839     | 16,883  | 37,722  | 10,614                |
| Central                         | .... | .... | .... | .... | .... | .... | 215,469            | 3,859      | 2,511   | 6,370   | 1,628                 |
| North-West                      | .... | .... | .... | .... | .... | .... | 75,503             | 1,726      | 912     | 2,638   | 506                   |
| Pilbara                         | .... | .... | .... | .... | .... | .... | 194,765            | 1,176      | 475     | 1,651   | 322                   |
| Kimberley (a)                   | .... | .... | .... | .... | .... | .... | 139,060            | 1,841      | 933     | 2,774   | 523                   |
| Total (a)                       | .... | .... | .... | .... | .... | .... | 973,859            | 107,689    | 88,842  | 196,531 | 50,289                |
| Total, all Divisions (a)        | .... | .... | .... | .... | .... | .... | 975,920            | 255,424    | 244,075 | 499,499 | 124,767               |
| Migratory (a)                   | .... | .... | .... | .... | .... | .... | n.a.               | 2,652      | 329     | 2,981   | n.a.                  |
| WESTERN AUSTRALIA               | .... | .... | .... | .... | .... | .... | 975,920            | 258,076    | 244,404 | 502,480 | 124,767               |

n.a. denotes 'not applicable'.

(a) See note *Migratory Population* on page 548.

**CENSUS, 30 JUNE 1954—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS**  
**AREA, POPULATION AND OCCUPIED DWELLINGS**  
*(Exclusive of full-blood Aborigines and dwellings occupied solely by them)*

| Local government area | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|-----------------------|--------------------|------------|---------|---------|-----------------------|
|                       |                    | Males      | Females | Persons |                       |

|                                   |              |                |                |                |                |
|-----------------------------------|--------------|----------------|----------------|----------------|----------------|
| <b>PERTH STATISTICAL DIVISION</b> |              |                |                |                |                |
| Armada-Kelmscott                  | R.D. 276     | 2,956          | 2,797          | 5,753          | 1,500          |
| Bassendean                        | R.D. 3.9     | 3,552          | 3,600          | 7,152          | 1,861          |
| Bayswater                         | R.D. 10.7    | 7,214          | 7,341          | 14,555         | 3,791          |
| Belmont Park                      | R.D. 15.5    | 7,856          | 7,964          | 15,820         | 3,799          |
| Canning                           | R.D. 26.4    | 6,947          | 6,472          | 13,419         | 3,144          |
| Claremont                         | M. 1.9       | 4,120          | 4,523          | 8,643          | 2,231          |
| Cottesloe                         | M. 1.5       | 3,763          | 4,329          | 8,092          | 2,402          |
| Darling Range                     | R.D. 137     | 3,198          | 3,156          | 6,354          | 1,719          |
| East Fremantle                    | M. 1.2       | 3,127          | 3,245          | 6,372          | 1,785          |
| Fremantle                         | M. 5.9       | 11,757         | 11,038         | 22,795         | 5,591          |
| Fremantle                         | R.D. 53      | 2,722          | 2,325          | 5,047          | 1,236          |
| Gosnells                          | R.D. 48      | 3,745          | 3,621          | 7,366          | 1,958          |
| Guildford                         | M. 0.9       | 1,084          | 1,050          | 2,134          | 553            |
| Kwinana                           | R.D. 45      | 1,646          | 1,155          | 2,801          | 633            |
| Melville                          | R.D. 20.6    | 9,823          | 9,987          | 19,810         | 5,169          |
| Midland Junction                  | M. 2.5       | 4,355          | 4,161          | 8,496          | 2,110          |
| Mosman Park                       | R.D. 1.3     | 2,971          | 3,228          | 6,199          | 1,612          |
| Mundaring                         | R.D. 232     | 3,869          | 3,750          | 7,619          | 2,010          |
| Nedlands                          | R.D. 7.9     | 11,271         | 11,543         | 22,814         | 5,418          |
| North Fremantle                   | M. 1.3       | 1,486          | 1,404          | 2,890          | 748            |
| Peppermint Grove                  | R.D. 0.4     | 622            | 846            | 1,468          | 401            |
| Perth                             | M. 23.8      | 48,088         | 49,262         | 97,350         | 25,460         |
| Perth                             | R.D. 44.4    | 24,519         | 25,571         | 50,090         | 13,263         |
| Rockingham                        | R.D. 101     | 1,358          | 1,298          | 2,656          | 793            |
| Serpentine-Jarrahdale             | R.D. 288     | 1,011          | 822            | 1,833          | 489            |
| South Perth                       | R.D. 5.7     | 10,334         | 10,880         | 21,214         | 5,787          |
| Subiaco                           | M. 2.7       | 8,073          | 9,569          | 17,642         | 5,184          |
| Swan                              | R.D. 394.2   | 4,031          | 3,335          | 7,366          | 1,754          |
| Wanneroo                          | R.D. 308     | 724            | 575            | 1,299          | 344            |
| <b>Total</b>                      | <b>2,061</b> | <b>196,202</b> | <b>198,847</b> | <b>395,049</b> | <b>102,745</b> |

|                                        |               |               |               |               |               |
|----------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>SOUTH-WEST STATISTICAL DIVISION</b> |               |               |               |               |               |
| Augusta-Margaret River                 | R.D. 915      | 1,950         | 1,675         | 3,625         | 954           |
| Balingup                               | R.D. 281      | 654           | 556           | 1,210         | 328           |
| Bridgetown                             | R.D. 450      | 1,702         | 1,505         | 3,207         | 805           |
| Bunbury                                | M. 20.9       | 4,929         | 4,940         | 9,869         | 2,508         |
| Busselton                              | R.D. 507      | 2,720         | 2,545         | 5,265         | 1,418         |
| Capel                                  | R.D. 216      | 932           | 819           | 1,751         | 440           |
| Collie Coalfields                      | R.D. 375      | 5,320         | 4,562         | 9,882         | 2,398         |
| Dardanup                               | R.D. 205      | 713           | 621           | 1,334         | 334           |
| Drakesbrook                            | R.D. 322      | 1,044         | 890           | 1,934         | 487           |
| Greenbushes                            | R.D. 73       | 421           | 386           | 807           | 219           |
| Harvey                                 | R.D. 949      | 3,659         | 3,072         | 6,731         | 1,686         |
| Mandurah                               | R.D. 54       | 847           | 840           | 1,687         | 591           |
| Manjimup                               | R.D. 2,646    | 5,449         | 4,358         | 9,807         | 2,358         |
| Marradong                              | R.D. 737      | 702           | 548           | 1,250         | 322           |
| Murray                                 | R.D. 716      | 2,116         | 1,781         | 3,897         | 947           |
| Nannup                                 | R.D. 1,140    | 834           | 667           | 1,501         | 378           |
| Preston                                | R.D. 314      | 1,244         | 1,094         | 2,338         | 584           |
| Upper Blackwood                        | R.D. 1,104    | 1,371         | 1,087         | 2,458         | 579           |
| <b>Total</b>                           | <b>11,025</b> | <b>36,607</b> | <b>31,946</b> | <b>68,553</b> | <b>17,336</b> |

|                                                   |               |               |               |               |              |
|---------------------------------------------------|---------------|---------------|---------------|---------------|--------------|
| <b>SOUTHERN AGRICULTURAL STATISTICAL DIVISION</b> |               |               |               |               |              |
| Albany                                            | M. 13.2       | 4,059         | 4,206         | 8,265         | 2,234        |
| Albany                                            | R.D. 1,637    | 1,204         | 1,049         | 2,253         | 621          |
| Broomehill                                        | R.D. 452      | 493           | 372           | 865           | 219          |
| Cranbrook                                         | R.D. 1,414    | 616           | 422           | 1,038         | 264          |
| Denmark                                           | R.D. 718      | 995           | 913           | 1,908         | 511          |
| Dumbleyung                                        | R.D. 994      | 835           | 658           | 1,493         | 383          |
| Gnowangerup                                       | R.D. 4,079    | 1,278         | 977           | 2,255         | 528          |
| Katanning                                         | R.D. 588      | 1,884         | 2,014         | 3,898         | 945          |
| Kent                                              | R.D. 2,808    | 472           | 333           | 805           | 186          |
| Kojonup                                           | R.D. 1,134    | 1,359         | 1,093         | 2,452         | 604          |
| Lake Grace                                        | R.D. 3,556    | 910           | 696           | 1,606         | 395          |
| Plantagenet                                       | R.D. 1,780    | 2,148         | 1,840         | 3,988         | 965          |
| Tambellup                                         | R.D. 554      | 474           | 353           | 827           | 213          |
| Wagin                                             | M. 5.3        | 769           | 757           | 1,526         | 367          |
| Wagin                                             | R.D. 739      | 582           | 451           | 1,033         | 252          |
| West Arthur                                       | R.D. 1,091    | 732           | 563           | 1,295         | 329          |
| Woodanilling                                      | R.D. 437      | 330           | 288           | 618           | 143          |
| <b>Total</b>                                      | <b>22,050</b> | <b>19,140</b> | <b>16,985</b> | <b>36,125</b> | <b>9,159</b> |



CENSUS, 30 JUNE 1954—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
 AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
 (Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area                      |      |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |        |
|--------------------------------------------|------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|--------|
|                                            |      |      |      |      |      |      |                    | Males      | Females | Persons |                       |        |
| CENTRAL AGRICULTURAL STATISTICAL DIVISION  |      |      |      |      |      |      |                    |            |         |         |                       |        |
| Beverley                                   | .... | .... | .... | .... | .... | .... | R.D.               | 892        | 1,043   | 925     | 1,968                 | 515    |
| Brookton                                   | .... | .... | .... | .... | .... | .... | R.D.               | 464        | 745     | 631     | 1,376                 | 324    |
| Bruce Rock                                 | .... | .... | .... | .... | .... | .... | R.D.               | 1,051      | 1,327   | 1,057   | 2,384                 | 587    |
| Corrigin                                   | .... | .... | .... | .... | .... | .... | R.D.               | 1,195      | 1,063   | 831     | 1,894                 | 466    |
| Cuballing                                  | .... | .... | .... | .... | .... | .... | R.D.               | 483        | 492     | 398     | 890                   | 238    |
| Cunderdin                                  | .... | .... | .... | .... | .... | .... | R.D.               | 721        | 1,145   | 985     | 2,130                 | 528    |
| Dowerin                                    | .... | .... | .... | .... | .... | .... | R.D.               | 843        | 769     | 542     | 1,311                 | 325    |
| Goomalling                                 | .... | .... | .... | .... | .... | .... | R.D.               | 713        | 949     | 772     | 1,721                 | 393    |
| Kellerberrin                               | .... | .... | .... | .... | .... | .... | R.D.               | 716        | 1,229   | 1,118   | 2,347                 | 540    |
| Kondinin                                   | .... | .... | .... | .... | .... | .... | R.D.               | 1,623      | 660     | 473     | 1,133                 | 282    |
| Koorda                                     | .... | .... | .... | .... | .... | .... | R.D.               | 1,107      | 478     | 345     | 823                   | 212    |
| Kulin                                      | .... | .... | .... | .... | .... | .... | R.D.               | 1,851      | 705     | 463     | 1,168                 | 305    |
| Kununoppin-Trayning                        | .... | .... | .... | .... | .... | .... | R.D.               | 630        | 545     | 436     | 981                   | 223    |
| Merredin                                   | .... | .... | .... | .... | .... | .... | R.D.               | 1,310      | 2,086   | 1,711   | 3,797                 | 890    |
| Mount Marshall                             | .... | .... | .... | .... | .... | .... | R.D.               | 4,202      | 513     | 349     | 862                   | 226    |
| Mukinbudin                                 | .... | .... | .... | .... | .... | .... | R.D.               | 1,318      | 337     | 252     | 589                   | 156    |
| Narembeen                                  | .... | .... | .... | .... | .... | .... | R.D.               | 1,475      | 753     | 576     | 1,329                 | 326    |
| Narrogin                                   | .... | .... | .... | .... | .... | .... | M.                 | 4.3        | 1,902   | 1,866   | 3,768                 | 874    |
| Narrogin                                   | .... | .... | .... | .... | .... | .... | R.D.               | 625        | 546     | 420     | 966                   | 245    |
| Northam                                    | .... | .... | .... | .... | .... | .... | M.                 | 2.1        | 2,842   | 2,883   | 5,725                 | 1,400  |
| Northam                                    | .... | .... | .... | .... | .... | .... | R.D.               | 450        | 2,720   | 1,862   | 4,582                 | 815    |
| Nnnngarin                                  | .... | .... | .... | .... | .... | .... | R.D.               | 442        | 406     | 268     | 674                   | 161    |
| Pingelly                                   | .... | .... | .... | .... | .... | .... | R.D.               | 476        | 788     | 731     | 1,519                 | 389    |
| Quairading                                 | .... | .... | .... | .... | .... | .... | R.D.               | 655        | 916     | 805     | 1,721                 | 417    |
| Tammin                                     | .... | .... | .... | .... | .... | .... | R.D.               | 420        | 474     | 421     | 895                   | 221    |
| Toodyay                                    | .... | .... | .... | .... | .... | .... | R.D.               | 681        | 808     | 717     | 1,525                 | 369    |
| Wandering                                  | .... | .... | .... | .... | .... | .... | R.D.               | 755        | 295     | 262     | 557                   | 125    |
| Westonia                                   | .... | .... | .... | .... | .... | .... | R.D.               | 1,253      | 284     | 203     | 487                   | 130    |
| Wickepin                                   | .... | .... | .... | .... | .... | .... | R.D.               | 768        | 729     | 605     | 1,334                 | 322    |
| Williams                                   | .... | .... | .... | .... | .... | .... | R.D.               | 886        | 803     | 610     | 1,413                 | 327    |
| Wyalkatchem                                | .... | .... | .... | .... | .... | .... | R.D.               | 505        | 674     | 561     | 1,235                 | 312    |
| York                                       | .... | .... | .... | .... | .... | .... | M.                 | 6.8        | 874     | 846     | 1,720                 | 448    |
| York                                       | .... | .... | .... | .... | .... | .... | R.D.               | 876        | 602     | 498     | 1,100                 | 287    |
| Total                                      | .... | .... | .... | .... | .... | .... | ....               | 29,399     | 30,502  | 25,422  | 55,924                | 13,378 |
| NORTHERN AGRICULTURAL STATISTICAL DIVISION |      |      |      |      |      |      |                    |            |         |         |                       |        |
| Carnamah                                   | .... | .... | .... | .... | .... | .... | R.D.               | 2,668      | 730     | 557     | 1,287                 | 324    |
| Chittering                                 | .... | .... | .... | .... | .... | .... | R.D.               | 483        | 791     | 528     | 1,319                 | 308    |
| Dalwallinu                                 | .... | .... | .... | .... | .... | .... | R.D.               | 5,318      | 1,217   | 931     | 2,148                 | 505    |
| Dandaragan                                 | .... | .... | .... | .... | .... | .... | R.D.               | 2,622      | 187     | 116     | 303                   | 78     |
| Geraldton                                  | .... | .... | .... | .... | .... | .... | M.                 | 10.4       | 4,241   | 4,068   | 8,309                 | 1,861  |
| Geraldton-Greenough                        | .... | .... | .... | .... | .... | .... | R.D.               | 652        | 798     | 573     | 1,371                 | 352    |
| Gingin                                     | .... | .... | .... | .... | .... | .... | R.D.               | 1,272      | 393     | 364     | 757                   | 187    |
| Irwin                                      | .... | .... | .... | .... | .... | .... | R.D.               | 857        | 289     | 322     | 611                   | 147    |
| Mingenew                                   | .... | .... | .... | .... | .... | .... | R.D.               | 778        | 541     | 419     | 960                   | 227    |
| Moora                                      | .... | .... | .... | .... | .... | .... | R.D.               | 1,445      | 1,610   | 1,286   | 2,896                 | 693    |
| Morawa                                     | .... | .... | .... | .... | .... | .... | R.D.               | 1,305      | 725     | 498     | 1,223                 | 300    |
| Mullewa                                    | .... | .... | .... | .... | .... | .... | R.D.               | 4,223      | 964     | 693     | 1,657                 | 332    |
| Northampton                                | .... | .... | .... | .... | .... | .... | R.D.               | 7,213      | 938     | 815     | 1,753                 | 393    |
| Perenjori                                  | .... | .... | .... | .... | .... | .... | R.D.               | 2,757      | 713     | 521     | 1,234                 | 291    |
| Three Springs                              | .... | .... | .... | .... | .... | .... | R.D.               | 1,015      | 462     | 370     | 832                   | 192    |
| Upper Chapman                              | .... | .... | .... | .... | .... | .... | R.D.               | 1,474      | 853     | 697     | 1,550                 | 387    |
| Victoria Plains                            | .... | .... | .... | .... | .... | .... | R.D.               | 965        | 1,071   | 739     | 1,810                 | 335    |
| Wongan-Ballidu                             | .... | .... | .... | .... | .... | .... | R.D.               | 1,306      | 1,140   | 908     | 2,048                 | 491    |
| Total                                      | .... | .... | .... | .... | .... | .... | ....               | 36,363     | 17,663  | 14,405  | 32,068                | 7,403  |
| EASTERN GOLDFIELDS STATISTICAL DIVISION    |      |      |      |      |      |      |                    |            |         |         |                       |        |
| Boulder                                    | .... | .... | .... | .... | .... | .... | M.                 | 4.6        | 3,209   | 3,070   | 6,279                 | 1,707  |
| Coolgardie                                 | .... | .... | .... | .... | .... | .... | R.D.               | 11,753     | 916     | 624     | 1,540                 | 436    |
| Dundas                                     | .... | .... | .... | .... | .... | .... | R.D.               | 41,509     | 1,685   | 1,354   | 3,039                 | 746    |
| Esperance                                  | .... | .... | .... | .... | .... | .... | R.D.               | 11,048     | 616     | 471     | 1,087                 | 342    |
| Kalgoorlie                                 | .... | .... | .... | .... | .... | .... | M.                 | 2.1        | 5,093   | 4,869   | 9,962                 | 2,738  |
| Kalgoorlie                                 | .... | .... | .... | .... | .... | .... | R.D.               | 27,509     | 3,970   | 3,586   | 7,556                 | 2,206  |
| Laverton                                   | .... | .... | .... | .... | .... | .... | R.D.               | 70,733     | 213     | 127     | 340                   | 95     |
| Leonora                                    | .... | .... | .... | .... | .... | .... | R.D.               | 12,256     | 766     | 456     | 1,222                 | 379    |
| Menzies                                    | .... | .... | .... | .... | .... | .... | R.D.               | 57,500     | 374     | 164     | 538                   | 152    |
| Phillips River                             | .... | .... | .... | .... | .... | .... | R.D.               | 4,901      | 142     | 103     | 245                   | 79     |
| Yilgarn                                    | .... | .... | .... | .... | .... | .... | R.D.               | 13,009     | 1,576   | 1,194   | 2,770                 | 727    |
| Total                                      | .... | .... | .... | .... | .... | .... | ....               | 250,225    | 18,560  | 16,018  | 34,578                | 9,607  |

CENSUS, 30 JUNE 1954—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area           |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |         |
|---------------------------------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|---------|
|                                 |      |      |      |      |      |                    | Males      | Females | Persons |                       |         |
| CENTRAL STATISTICAL DIVISION    |      |      |      |      |      |                    |            |         |         |                       |         |
| Black Range                     | .... | .... | .... | .... | .... | R.D.               | 10,862     | 69      | 43      | 112                   | 31      |
| Cue                             | .... | .... | .... | .... | .... | R.D.               | 5,296      | 866     | 601     | 1,467                 | 414     |
| Meekatharra                     | .... | .... | .... | .... | .... | R.D.               | 39,088     | 663     | 437     | 1,100                 | 292     |
| Mount Magnet                    | .... | .... | .... | .... | .... | R.D.               | 5,215      | 571     | 363     | 934                   | 227     |
| Murchison                       | .... | .... | .... | .... | .... | R.D.               | 16,730     | 228     | 105     | 333                   | 3       |
| Wiluna                          | .... | .... | .... | .... | .... | R.D.               | 127,909    | 215     | 152     | 367                   | 107     |
| Yalgoo                          | .... | .... | .... | .... | .... | R.D.               | 10,369     | 318     | 163     | 481                   | 101     |
| Total                           | .... | .... | .... | .... | .... | ....               | 215,469    | 2,930   | 1,864   | 4,794                 | 1,205   |
| NORTH-WEST STATISTICAL DIVISION |      |      |      |      |      |                    |            |         |         |                       |         |
| Ashburton                       | .... | .... | .... | .... | .... | R.D.               | 24,264     | 410     | 202     | 612                   | 98      |
| Carnarvon                       | .... | .... | .... | .... | .... | M.                 | 8.2        | 838     | 615     | 1,453                 | 318     |
| Gascoyne-Minilya                | .... | .... | .... | .... | .... | R.D.               | 21,484     | 1,112   | 490     | 1,602                 | 260     |
| Shark Bay                       | .... | .... | .... | .... | .... | R.D.               | 7,893      | 147     | 86      | 233                   | 35      |
| Upper Gascoyne                  | .... | .... | .... | .... | .... | R.D.               | 21,854     | 244     | 76      | 320                   | 38      |
| Total                           | .... | .... | .... | .... | .... | ....               | 75,503     | 2,751   | 1,469   | 4,220                 | 749     |
| PILBARA STATISTICAL DIVISION    |      |      |      |      |      |                    |            |         |         |                       |         |
| Marble Bar                      | .... | .... | .... | .... | .... | R.D.               | 69,526     | 272     | 120     | 392                   | 84      |
| Nullagine                       | .... | .... | .... | .... | .... | R.D.               | 92,568     | 190     | 46      | 236                   | 39      |
| Port Hedland                    | .... | .... | .... | .... | .... | R.D.               | 9,348      | 603     | 291     | 894                   | 191     |
| Roebourne                       | .... | .... | .... | .... | .... | R.D.               | 8,452      | 315     | 144     | 459                   | 99      |
| Tableland                       | .... | .... | .... | .... | .... | R.D.               | 14,871     | 415     | 254     | 669                   | 151     |
| Total                           | .... | .... | .... | .... | .... | ....               | 194,765    | 1,795   | 855     | 2,650                 | 564     |
| KIMBERLEY STATISTICAL DIVISION  |      |      |      |      |      |                    |            |         |         |                       |         |
| Broome (a)                      | .... | .... | .... | .... | .... | R.D.               | 20,740     | 766     | 495     | 1,261                 | 237     |
| Halls Creek                     | .... | .... | .... | .... | .... | R.D.               | 31,874     | 249     | 124     | 373                   | 59      |
| West Kimberley                  | .... | .... | .... | .... | .... | R.D.               | 39,655     | 686     | 374     | 1,060                 | 258     |
| Wyndham                         | .... | .... | .... | .... | .... | R.D.               | 46,791     | 602     | 247     | 849                   | 123     |
| Total (a)                       | .... | .... | .... | .... | .... | ....               | 139,060    | 2,303   | 1,240   | 3,543                 | 677     |
| MIGRATORY                       |      |      |      |      |      |                    |            |         |         |                       |         |
| Migratory (a)                   | .... | .... | .... | .... | .... | n.a.               | n.a.       | 1,905   | 362     | 2,267                 | n.a.    |
| STATE SUMMARY                   |      |      |      |      |      |                    |            |         |         |                       |         |
| Perth Statistical Division      | .... | .... | .... | .... | .... | ....               | 2,061      | 196,202 | 198,847 | 395,049               | 102,745 |
| Other Divisions—                | .... | .... | .... | .... | .... | ....               | 11,025     | 36,607  | 31,946  | 68,553                | 17,336  |
| South-West                      | .... | .... | .... | .... | .... | ....               | 22,050     | 19,140  | 16,985  | 36,125                | 9,159   |
| Southern Agricultural           | .... | .... | .... | .... | .... | ....               | 29,399     | 30,502  | 25,422  | 55,924                | 13,378  |
| Central Agricultural            | .... | .... | .... | .... | .... | ....               | 36,363     | 17,663  | 14,405  | 32,068                | 7,403   |
| Northern Agricultural           | .... | .... | .... | .... | .... | ....               | 250,225    | 18,560  | 16,018  | 34,578                | 9,607   |
| Eastern Goldfields              | .... | .... | .... | .... | .... | ....               | 215,469    | 2,930   | 1,864   | 4,794                 | 1,205   |
| Central                         | .... | .... | .... | .... | .... | ....               | 75,503     | 2,751   | 1,469   | 4,220                 | 749     |
| North-West                      | .... | .... | .... | .... | .... | ....               | 194,765    | 1,795   | 855     | 2,650                 | 564     |
| Pilbara                         | .... | .... | .... | .... | .... | ....               | 139,060    | 2,303   | 1,240   | 3,543                 | 677     |
| Kimberley (a)                   | .... | .... | .... | .... | .... | ....               | 973,859    | 132,251 | 110,204 | 242,455               | 60,078  |
| Total (a)                       | .... | .... | .... | .... | .... | ....               | 975,920    | 328,453 | 309,051 | 637,504               | 162,823 |
| Total, all Divisions (a)        | .... | .... | .... | .... | .... | ....               | n.a.       | 1,905   | 362     | 2,267                 | n.a.    |
| Migratory (a)                   | .... | .... | .... | .... | .... | ....               | 975,920    | 330,358 | 309,413 | 639,771               | 162,823 |
| WESTERN AUSTRALIA               | .... | .... | .... | .... | .... | ....               | 975,920    | 330,358 | 309,413 | 639,771               | 162,823 |

n.a. denotes 'not applicable'.

(a) See note *Migratory Population* on page 548.

**CENSUS, 30 JUNE 1961—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS**

*(Exclusive of full-blood Aborigines and dwellings occupied solely by them)*

| Local government area                      |      |      |      |      |      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |         |
|--------------------------------------------|------|------|------|------|------|--------------------|------------|---------|---------|-----------------------|---------|
|                                            |      |      |      |      |      |                    | Males      | Females | Persons |                       |         |
| PERTH STATISTICAL DIVISION                 |      |      |      |      |      |                    |            |         |         |                       |         |
| Armadale-Kelmscott                         | .... | .... | .... | .... | .... | S.                 | 276.0      | 3,253   | 3,216   | 6,469                 | 1,774   |
| Bassendean                                 | .... | .... | .... | .... | .... | S.                 | 3.9        | 4,150   | 4,160   | 8,310                 | 2,236   |
| Bayswater                                  | .... | .... | .... | .... | .... | S.                 | 10.7       | 9,601   | 9,695   | 19,296                | 5,120   |
| Belmont                                    | .... | .... | .... | .... | .... | S.                 | 15.5       | 10,154  | 10,239  | 20,393                | 5,205   |
| Canning                                    | .... | .... | .... | .... | .... | S.                 | 24.6       | 8,857   | 8,844   | 17,701                | 4,508   |
| Claremont                                  | .... | .... | .... | .... | .... | T.                 | 1.9        | 4,039   | 4,562   | 8,601                 | 2,376   |
| Cockburn                                   | .... | .... | .... | .... | .... | S.                 | 53.2       | 3,686   | 3,321   | 7,007                 | 1,779   |
| Cottesloe                                  | .... | .... | .... | .... | .... | T.                 | 1.5        | 3,648   | 4,179   | 7,827                 | 2,628   |
| East Fremantle                             | .... | .... | .... | .... | .... | T.                 | 1.2        | 3,193   | 3,349   | 6,542                 | 1,907   |
| Fremantle                                  | .... | .... | .... | .... | .... | C.                 | 5.9        | 11,290  | 10,690  | 21,980                | 5,686   |
| Gosnells                                   | .... | .... | .... | .... | .... | S.                 | 48.3       | 4,797   | 4,707   | 9,504                 | 2,610   |
| Kalamunda                                  | .... | .... | .... | .... | .... | S.                 | 136.8      | 3,757   | 3,767   | 7,524                 | 2,039   |
| Kwinana                                    | .... | .... | .... | .... | .... | S.                 | 45.1       | 2,342   | 2,321   | 4,663                 | 1,132   |
| Melville                                   | .... | .... | .... | .... | .... | S.                 | 20.6       | 19,387  | 19,820  | 39,207                | 10,229  |
| Midland                                    | .... | .... | .... | .... | .... | T.                 | 2.5        | 4,683   | 4,573   | 9,256                 | 2,404   |
| Mosman Park                                | .... | .... | .... | .... | .... | S.                 | 1.3        | 2,717   | 3,145   | 5,862                 | 1,657   |
| Mundaring                                  | .... | .... | .... | .... | .... | S.                 | 247.3      | 4,083   | 4,021   | 8,104                 | 2,236   |
| Nedlands                                   | .... | .... | .... | .... | .... | C.                 | 7.9        | 11,520  | 11,698  | 23,218                | 5,894   |
| North Fremantle                            | .... | .... | .... | .... | .... | T.                 | 1.3        | 1,169   | 1,194   | 2,363                 | 682     |
| Peppermint Grove                           | .... | .... | .... | .... | .... | S.                 | 0.4        | 582     | 920     | 1,502                 | 450     |
| Perth                                      | .... | .... | .... | .... | .... | C.                 | 24.5       | 45,614  | 48,894  | 94,508                | 26,845  |
| Perth                                      | .... | .... | .... | .... | .... | S.                 | 44.3       | 41,094  | 42,951  | 84,045                | 22,495  |
| Rockingham                                 | .... | .... | .... | .... | .... | S.                 | 100.9      | 1,285   | 1,298   | 2,583                 | 834     |
| Serpentine-Jarrahdale                      | .... | .... | .... | .... | .... | S.                 | 287.6      | 994     | 836     | 1,830                 | 480     |
| South Perth                                | .... | .... | .... | .... | .... | C.                 | 7.6        | 14,491  | 15,450  | 29,941                | 8,354   |
| Subiaco                                    | .... | .... | .... | .... | .... | C.                 | 2.7        | 7,136   | 8,897   | 16,033                | 5,225   |
| Swan-Guildford                             | .... | .... | .... | .... | .... | S.                 | 396.3      | 5,139   | 4,258   | 9,397                 | 2,264   |
| Wanneroo                                   | .... | .... | .... | .... | .... | S.                 | 308.0      | 923     | 809     | 1,732                 | 439     |
| Total                                      | .... | .... | .... | .... | .... | ....               | 2,078      | 233,584 | 241,814 | 475,398               | 129,488 |
| SOUTH-WEST STATISTICAL DIVISION            |      |      |      |      |      |                    |            |         |         |                       |         |
| Augusta-Margaret River                     | .... | .... | .... | .... | .... | S.                 | 915        | 1,906   | 1,684   | 3,590                 | 925     |
| Balingup                                   | .... | .... | .... | .... | .... | S.                 | 280        | 661     | 582     | 1,243                 | 332     |
| Boddington                                 | .... | .... | .... | .... | .... | S.                 | 737        | 499     | 468     | 967                   | 268     |
| Bridgetown                                 | .... | .... | .... | .... | .... | S.                 | 450        | 1,571   | 1,400   | 2,971                 | 794     |
| Bunbury                                    | .... | .... | .... | .... | .... | T.                 | 20.2       | 6,557   | 6,629   | 13,186                | 3,393   |
| Busselton                                  | .... | .... | .... | .... | .... | S.                 | 507        | 3,091   | 3,029   | 6,120                 | 1,677   |
| Capel                                      | .... | .... | .... | .... | .... | S.                 | 216        | 993     | 884     | 1,877                 | 477     |
| Collie                                     | .... | .... | .... | .... | .... | S.                 | 375        | 4,342   | 4,144   | 8,486                 | 2,220   |
| Dardanup                                   | .... | .... | .... | .... | .... | S.                 | 206        | 856     | 750     | 1,606                 | 410     |
| Donnybrook                                 | .... | .... | .... | .... | .... | S.                 | 314        | 1,208   | 1,050   | 2,258                 | 592     |
| Greenbushes                                | .... | .... | .... | .... | .... | S.                 | 73         | 344     | 322     | 666                   | 177     |
| Harvey                                     | .... | .... | .... | .... | .... | S.                 | 949        | 3,677   | 3,157   | 6,834                 | 1,703   |
| Mandurah                                   | .... | .... | .... | .... | .... | S.                 | 55         | 1,115   | 1,121   | 2,236                 | 825     |
| Manjimup                                   | .... | .... | .... | .... | .... | S.                 | 2,656      | 5,482   | 4,713   | 10,195                | 2,511   |
| Murray                                     | .... | .... | .... | .... | .... | S.                 | 714        | 1,884   | 1,708   | 3,592                 | 902     |
| Nannup                                     | .... | .... | .... | .... | .... | S.                 | 1,140      | 921     | 715     | 1,636                 | 428     |
| Upper Blackwood                            | .... | .... | .... | .... | .... | S.                 | 1,095      | 1,289   | 1,092   | 2,381                 | 617     |
| Waroona                                    | .... | .... | .... | .... | .... | S.                 | 322        | 918     | 875     | 1,793                 | 463     |
| Total                                      | .... | .... | .... | .... | .... | ....               | 11,025     | 37,314  | 34,323  | 71,637                | 18,714  |
| SOUTHERN AGRICULTURAL STATISTICAL DIVISION |      |      |      |      |      |                    |            |         |         |                       |         |
| Albany                                     | .... | .... | .... | .... | .... | T.                 | 13.2       | 5,208   | 5,318   | 10,526                | 2,802   |
| Albany                                     | .... | .... | .... | .... | .... | S.                 | 1,716      | 1,469   | 1,280   | 2,749                 | 760     |
| Broomehill                                 | .... | .... | .... | .... | .... | S.                 | 452        | 436     | 347     | 783                   | 194     |
| Cranbrook                                  | .... | .... | .... | .... | .... | S.                 | 1,315      | 788     | 572     | 1,360                 | 335     |
| Denmark                                    | .... | .... | .... | .... | .... | S.                 | 711        | 965     | 899     | 1,864                 | 505     |
| Dumbleyung                                 | .... | .... | .... | .... | .... | S.                 | 985        | 781     | 663     | 1,444                 | 380     |
| Gnowangerup                                | .... | .... | .... | .... | .... | S.                 | 4,061      | 1,776   | 1,414   | 3,190                 | 820     |
| Katanning                                  | .... | .... | .... | .... | .... | S.                 | 588        | 2,133   | 2,160   | 4,293                 | 1,086   |
| Kojonup                                    | .... | .... | .... | .... | .... | S.                 | 1,134      | 1,435   | 1,232   | 2,667                 | 693     |
| Lake Grace                                 | .... | .... | .... | .... | .... | S.                 | 3,562      | 1,048   | 795     | 1,843                 | 441     |
| Nyabing-Pingrup                            | .... | .... | .... | .... | .... | S.                 | 2,819      | 485     | 349     | 834                   | 205     |
| Plantagenet                                | .... | .... | .... | .... | .... | S.                 | 1,864      | 2,450   | 2,052   | 4,502                 | 1,117   |
| Tambellup                                  | .... | .... | .... | .... | .... | S.                 | 554        | 521     | 419     | 940                   | 250     |
| Wagin                                      | .... | .... | .... | .... | .... | S.                 | 750        | 1,387   | 1,240   | 2,627                 | 650     |
| West Arthur                                | .... | .... | .... | .... | .... | S.                 | 1,091      | 793     | 605     | 1,398                 | 384     |
| Woodanilling                               | .... | .... | .... | .... | .... | S.                 | 435        | 324     | 279     | 603                   | 153     |
| Total                                      | .... | .... | .... | .... | .... | ....               | 22,050     | 21,999  | 19,624  | 41,623                | 10,775  |

CENSUS, 30 JUNE 1961—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
 AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
 (Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area                      | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |        |
|--------------------------------------------|--------------------|------------|---------|---------|-----------------------|--------|
|                                            |                    | Males      | Females | Persons |                       |        |
| CENTRAL AGRICULTURAL STATISTICAL DIVISION  |                    |            |         |         |                       |        |
| Beverley .....                             | S.                 | 892        | 985     | 914     | 1,899                 | 524    |
| Brookton .....                             | S.                 | 464        | 700     | 619     | 1,319                 | 316    |
| Bruce Rock .....                           | S.                 | 1,051      | 1,256   | 1,035   | 2,291                 | 543    |
| Corrigin .....                             | S.                 | 1,195      | 1,195   | 928     | 2,123                 | 521    |
| Cuballing .....                            | S.                 | 483        | 455     | 378     | 833                   | 222    |
| Cunderdin .....                            | S.                 | 723        | 1,074   | 940     | 2,014                 | 516    |
| Dowerin .....                              | S.                 | 841        | 799     | 593     | 1,392                 | 339    |
| Goomalling .....                           | S.                 | 712        | 820     | 747     | 1,567                 | 362    |
| Kellerberrin .....                         | S.                 | 716        | 1,258   | 1,162   | 2,420                 | 562    |
| Kondinin .....                             | S.                 | 1,622      | 755     | 523     | 1,278                 | 302    |
| Koorda .....                               | S.                 | 1,092      | 552     | 383     | 935                   | 219    |
| Kulin .....                                | S.                 | 1,850      | 738     | 523     | 1,261                 | 323    |
| Merredin .....                             | S.                 | 1,302      | 2,432   | 2,131   | 4,563                 | 1,086  |
| Mount Marshall .....                       | S.                 | 3,913      | 632     | 459     | 1,091                 | 274    |
| Mukinbudin .....                           | S.                 | 1,318      | 408     | 299     | 707                   | 167    |
| Narembeen .....                            | S.                 | 1,475      | 857     | 701     | 1,558                 | 369    |
| Narrogin .....                             | T.                 | 4·3        | 2,340   | 2,280   | 4,620                 | 1,112  |
| Narrogin .....                             | S.                 | 625        | 560     | 412     | 972                   | 222    |
| Northam .....                              | T.                 | 9·0        | 3,650   | 3,550   | 7,200                 | 1,773  |
| Northam .....                              | S.                 | 443        | 1,571   | 1,222   | 2,793                 | 653    |
| Nungarin .....                             | S.                 | 442        | 338     | 270     | 608                   | 157    |
| Pingelly .....                             | S.                 | 476        | 843     | 796     | 1,639                 | 404    |
| Quairading .....                           | S.                 | 655        | 985     | 804     | 1,789                 | 426    |
| Tammin .....                               | S.                 | 420        | 456     | 391     | 847                   | 215    |
| Toodyay .....                              | S.                 | 681        | 717     | 652     | 1,369                 | 368    |
| Trayning-Kununoppin-Yelbeni .....          | S.                 | 630        | 505     | 430     | 935                   | 217    |
| Wandering .....                            | S.                 | 755        | 361     | 300     | 661                   | 142    |
| Westonia .....                             | S.                 | 1,261      | 271     | 164     | 435                   | 108    |
| Wickepin .....                             | S.                 | 768        | 703     | 573     | 1,276                 | 323    |
| Williams .....                             | S.                 | 886        | 699     | 631     | 1,330                 | 330    |
| Wyalkatchem .....                          | S.                 | 504        | 764     | 619     | 1,383                 | 327    |
| York .....                                 | T.                 | 6·8        | 766     | 758     | 1,524                 | 434    |
| York .....                                 | S.                 | 860        | 519     | 443     | 962                   | 241    |
| Total .....                                | .....              | 29,075     | 30,964  | 26,630  | 57,594                | 14,097 |
| NORTHERN AGRICULTURAL STATISTICAL DIVISION |                    |            |         |         |                       |        |
| Carnamah .....                             | S.                 | 2,662      | 1,013   | 728     | 1,741                 | 416    |
| Chapman Valley .....                       | S.                 | 1,474      | 800     | 669     | 1,469                 | 359    |
| Chittering .....                           | S.                 | 483        | 569     | 435     | 1,004                 | 269    |
| Dalwallinu .....                           | S.                 | 5,670      | 1,297   | 921     | 2,218                 | 546    |
| Dandaragan .....                           | S.                 | 2,676      | 295     | 161     | 456                   | 122    |
| Geraldton .....                            | T.                 | 10·7       | 5,562   | 5,332   | 10,894                | 2,511  |
| Geraldton-Greenough .....                  | S.                 | 652        | 705     | 616     | 1,321                 | 329    |
| Gingin .....                               | S.                 | 1,156      | 406     | 363     | 769                   | 211    |
| Irwin .....                                | S.                 | 857        | 321     | 336     | 657                   | 158    |
| Mingenew .....                             | S.                 | 758        | 566     | 419     | 985                   | 242    |
| Moora .....                                | S.                 | 1,464      | 1,707   | 1,375   | 3,082                 | 736    |
| Morawa .....                               | S.                 | 1,302      | 751     | 566     | 1,317                 | 300    |
| Mullewa .....                              | S.                 | 4,255      | 970     | 657     | 1,627                 | 356    |
| Northampton .....                          | S.                 | 7,097      | 993     | 828     | 1,821                 | 427    |
| Perenjori .....                            | S.                 | 3,028      | 733     | 544     | 1,277                 | 298    |
| Three Springs .....                        | S.                 | 1,015      | 539     | 433     | 972                   | 217    |
| Victoria Plains .....                      | S.                 | 973        | 1,149   | 881     | 2,030                 | 352    |
| Wongan-Ballidu .....                       | S.                 | 1,307      | 1,202   | 943     | 2,145                 | 489    |
| Total .....                                | .....              | 36,840     | 19,578  | 16,207  | 35,785                | 8,338  |
| EASTERN GOLDFIELDS STATISTICAL DIVISION    |                    |            |         |         |                       |        |
| Boulder .....                              | T.                 | 4·6        | 2,983   | 2,790   | 5,773                 | 1,590  |
| Coolgardie .....                           | S.                 | 11,753     | 616     | 427     | 1,043                 | 325    |
| Dundas .....                               | S.                 | 41,509     | 1,618   | 1,319   | 2,937                 | 734    |
| Esperance .....                            | S.                 | 11,013     | 1,294   | 991     | 2,285                 | 667    |
| Kalgoorlie .....                           | T.                 | 2·1        | 4,960   | 4,736   | 9,696                 | 2,649  |
| Kalgoorlie .....                           | S.                 | 27,509     | 3,886   | 3,408   | 7,294                 | 2,049  |
| Laverton .....                             | S.                 | 70,733     | 142     | 74      | 216                   | 42     |
| Leonora .....                              | S.                 | 12,256     | 774     | 467     | 1,241                 | 336    |
| Menzies .....                              | S.                 | 57,500     | 362     | 150     | 512                   | 159    |
| Ravensthorpe .....                         | S.                 | 4,936      | 367     | 220     | 587                   | 159    |
| Yilgarn .....                              | S.                 | 13,009     | 1,428   | 1,130   | 2,558                 | 679    |
| Total .....                                | .....              | 250,225    | 18,430  | 15,712  | 34,142                | 9,389  |

CENSUS, 30 JUNE 1961—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(*Exclusive of full-blood Aborigines and dwellings occupied solely by them*)

| Local government area            |      |         |         |         |         |         | Area<br>(sq miles) | Population |         |         | Occupied<br>dwellings |
|----------------------------------|------|---------|---------|---------|---------|---------|--------------------|------------|---------|---------|-----------------------|
|                                  |      |         |         |         |         |         |                    | Males      | Females | Persons |                       |
| CENTRAL STATISTICAL DIVISION     |      |         |         |         |         |         |                    |            |         |         |                       |
| Cue .....                        | S.   | 5,296   | 281     | 185     | 466     | 140     |                    |            |         |         |                       |
| Meekatharra .....                | S.   | 39,348  | 607     | 464     | 1,071   | 251     |                    |            |         |         |                       |
| Mount Magnet .....               | S.   | 5,215   | 664     | 443     | 1,107   | 308     |                    |            |         |         |                       |
| Murchison .....                  | S.   | 16,347  | 206     | 114     | 320     | 65      |                    |            |         |         |                       |
| Sandstone .....                  | S.   | 10,862  | 97      | 66      | 163     | 45      |                    |            |         |         |                       |
| Wiluna .....                     | S.   | 127,909 | 181     | 135     | 316     | 85      |                    |            |         |         |                       |
| Yalgoo .....                     | S.   | 10,093  | 329     | 187     | 516     | 121     |                    |            |         |         |                       |
| Total .....                      | .... | 215,070 | 2,365   | 1,594   | 3,959   | 1,015   |                    |            |         |         |                       |
| NORTH-WEST STATISTICAL DIVISION  |      |         |         |         |         |         |                    |            |         |         |                       |
| Ashburton ....                   | S.   | 24,264  | 378     | 191     | 569     | 104     |                    |            |         |         |                       |
| Carnarvon ....                   | T.   | 8.3     | 985     | 824     | 1,809   | 417     |                    |            |         |         |                       |
| Gascoyne-Minilya .....           | S.   | 21,386  | 894     | 550     | 1,444   | 275     |                    |            |         |         |                       |
| Shark Bay .....                  | S.   | 8,009   | 254     | 133     | 387     | 74      |                    |            |         |         |                       |
| Upper Gascoyne .....             | S.   | 22,064  | 243     | 111     | 354     | 52      |                    |            |         |         |                       |
| Total .....                      | .... | 75,732  | 2,754   | 1,809   | 4,563   | 922     |                    |            |         |         |                       |
| PILBARA STATISTICAL DIVISION     |      |         |         |         |         |         |                    |            |         |         |                       |
| Marble Bar .....                 | S.   | 46,223  | 287     | 117     | 404     | 94      |                    |            |         |         |                       |
| Nullagine ....                   | S.   | 92,568  | 140     | 31      | 171     | 34      |                    |            |         |         |                       |
| Port Hedland .....               | S.   | 9,348   | 679     | 441     | 1,120   | 224     |                    |            |         |         |                       |
| Roeboorne ....                   | S.   | 8,452   | 342     | 226     | 568     | 106     |                    |            |         |         |                       |
| Tableland ....                   | S.   | 14,871  | 671     | 309     | 980     | 185     |                    |            |         |         |                       |
| Total .....                      | .... | 171,462 | 2,119   | 1,124   | 3,243   | 643     |                    |            |         |         |                       |
| KIMBERLEY STATISTICAL DIVISION   |      |         |         |         |         |         |                    |            |         |         |                       |
| Broome (a) .....                 | S.   | 20,740  | 882     | 580     | 1,462   | 277     |                    |            |         |         |                       |
| Halls Creek .....                | S.   | 55,177  | 271     | 165     | 436     | 62      |                    |            |         |         |                       |
| West Kimberley .....             | S.   | 39,655  | 1,539   | 710     | 2,249   | 370     |                    |            |         |         |                       |
| Wyndham-East Kimberley .....     | S.   | 46,791  | 1,124   | 397     | 1,521   | 227     |                    |            |         |         |                       |
| Total (a) ....                   | .... | 162,363 | 3,816   | 1,852   | 5,668   | 936     |                    |            |         |         |                       |
| MIGRATORY                        |      |         |         |         |         |         |                    |            |         |         |                       |
| Migratory (a) ....               | n.a. | n.a.    | 2,529   | 488     | 3,017   | n.a.    |                    |            |         |         |                       |
| STATE SUMMARY                    |      |         |         |         |         |         |                    |            |         |         |                       |
| Perth Statistical Division ..... |      | 2,078   | 233,584 | 241,814 | 475,398 | 129,488 |                    |            |         |         |                       |
| Other Divisions—                 |      |         |         |         |         |         |                    |            |         |         |                       |
| South-West .....                 |      | 11,025  | 37,314  | 34,323  | 71,637  | 18,714  |                    |            |         |         |                       |
| Southern Agricultural .....      |      | 22,050  | 21,999  | 19,624  | 41,623  | 10,775  |                    |            |         |         |                       |
| Central Agricultural .....       |      | 29,075  | 30,964  | 26,630  | 57,594  | 14,097  |                    |            |         |         |                       |
| Northern Agricultural .....      |      | 36,840  | 19,578  | 16,207  | 35,785  | 8,338   |                    |            |         |         |                       |
| Eastern Goldfields .....         |      | 250,225 | 18,430  | 15,712  | 34,142  | 9,389   |                    |            |         |         |                       |
| Central .....                    |      | 215,070 | 2,365   | 1,594   | 3,959   | 1,015   |                    |            |         |         |                       |
| North-West .....                 |      | 75,732  | 2,754   | 1,809   | 4,563   | 922     |                    |            |         |         |                       |
| Pilbara .....                    |      | 171,462 | 2,119   | 1,124   | 3,243   | 643     |                    |            |         |         |                       |
| Kimberley (a) .....              |      | 162,363 | 3,816   | 1,852   | 5,668   | 936     |                    |            |         |         |                       |
| Total (a) .....                  |      | 973,842 | 139,339 | 118,875 | 258,214 | 64,829  |                    |            |         |         |                       |
| Total, all Divisions (a) .....   |      | 975,920 | 372,923 | 360,689 | 733,612 | 194,317 |                    |            |         |         |                       |
| Migratory (a) .....              |      | n.a.    | 2,529   | 488     | 3,017   | n.a.    |                    |            |         |         |                       |
| WESTERN AUSTRALIA .....          |      | 975,920 | 375,452 | 361,177 | 736,629 | 194,317 |                    |            |         |         |                       |

n.a. denotes 'not applicable'.

(a) See note *Migratory Population* on page 548.

CENSUS, 30 JUNE 1966—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS  
(Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area | Area<br>(sq miles) | Population |         |         | Occupied dwellings |
|-----------------------|--------------------|------------|---------|---------|--------------------|
|                       |                    | Males      | Females | Persons |                    |

**PERTH STATISTICAL DIVISION**

|                       |       |       |         |         |         |         |
|-----------------------|-------|-------|---------|---------|---------|---------|
| Armada-Kelmscott      | S.    | 275.5 | 3,934   | 3,906   | 7,840   | 2,108   |
| Bassendean            | S.    | 3.9   | 4,866   | 4,881   | 9,747   | 2,651   |
| Bayswater             | S.    | 10.7  | 12,932  | 13,180  | 26,112  | 6,926   |
| Belmont               | S.    | 15.4  | 13,366  | 13,612  | 26,978  | 6,877   |
| Canning               | S.    | 24.9  | 11,806  | 11,798  | 23,604  | 6,012   |
| Claremont             | T.    | 1.9   | 4,224   | 4,714   | 8,938   | 2,562   |
| Cockburn              | S.    | 53.2  | 7,048   | 6,799   | 13,847  | 3,477   |
| Cottesloe             | T.    | 1.5   | 3,769   | 4,353   | 8,122   | 2,918   |
| East Fremantle        | T.    | 1.2   | 3,462   | 3,446   | 6,908   | 1,997   |
| Fremantle             | C.    | 6.9   | 13,045  | 12,239  | 25,284  | 6,808   |
| Gosnells              | S.    | 48.3  | 5,726   | 5,648   | 11,374  | 3,049   |
| Kalamunda             | S.    | 135.4 | 4,847   | 4,938   | 9,785   | 2,597   |
| Kwinana               | S.    | 45.6  | 2,951   | 2,826   | 5,777   | 1,351   |
| Melville              | T.    | 20.6  | 23,561  | 24,326  | 47,887  | 12,831  |
| Midland               | T.    | 2.5   | 4,766   | 4,569   | 9,335   | 2,479   |
| Mosman Park           | T.    | 1.7   | 2,647   | 3,146   | 5,793   | 1,733   |
| Mundaring             | S.    | 247.3 | 4,511   | 4,414   | 8,925   | 2,483   |
| Nedlands              | C.    | 7.9   | 11,349  | 11,971  | 23,320  | 6,115   |
| Peppermint Grove      | S.    | 0.4   | 619     | 982     | 1,601   | 458     |
| Perth                 | C.    | 24.4  | 46,691  | 49,532  | 96,223  | 28,466  |
| Perth                 | S.    | 44.3  | 56,086  | 58,324  | 114,410 | 30,848  |
| Rockingham            | S.    | 100.9 | 2,220   | 2,163   | 4,383   | 1,376   |
| Serpentine-Jarrahdale | S.    | 287.6 | 990     | 738     | 1,728   | 437     |
| South Perth           | C.    | 7.6   | 15,421  | 16,621  | 32,042  | 9,836   |
| Subiaco               | C.    | 2.7   | 7,449   | 9,172   | 16,621  | 5,605   |
| Swan-Guildford        | S.    | 396.3 | 5,348   | 4,452   | 9,800   | 2,339   |
| Wanneroo              | S.    | 303.8 | 1,238   | 1,199   | 2,437   | 646     |
| Total                 | ..... | 2,072 | 274,872 | 283,949 | 558,821 | 154,985 |

**SOUTH-WEST STATISTICAL DIVISION**

|                        |       |        |        |        |        |        |
|------------------------|-------|--------|--------|--------|--------|--------|
| Augusta-Margaret River | S.    | 915    | 1,689  | 1,549  | 3,238  | 906    |
| Balingup               | S.    | 280    | 628    | 567    | 1,195  | 319    |
| Boddington             | S.    | 737    | 389    | 372    | 761    | 216    |
| Bridgetown             | S.    | 450    | 1,456  | 1,346  | 2,802  | 784    |
| Bunbury                | T.    | 20.2   | 7,789  | 7,670  | 15,459 | 4,019  |
| Busselton              | S.    | 507    | 3,427  | 3,406  | 6,833  | 1,894  |
| Capel                  | S.    | 215    | 1,112  | 1,020  | 2,132  | 533    |
| Collie                 | S.    | 374    | 4,339  | 4,205  | 8,544  | 2,301  |
| Dardanup               | S.    | 207    | 845    | 820    | 1,665  | 432    |
| Donnybrook             | S.    | 314    | 1,113  | 1,025  | 2,138  | 569    |
| Greenbushes            | S.    | 73     | 366    | 314    | 680    | 185    |
| Harvey                 | S.    | 949    | 3,464  | 3,079  | 6,543  | 1,655  |
| Mandurah               | S.    | 55     | 1,473  | 1,535  | 3,008  | 1,196  |
| Manjimup               | S.    | 2,662  | 4,799  | 4,369  | 9,168  | 2,371  |
| Murray                 | S.    | 714    | 1,699  | 1,630  | 3,329  | 897    |
| Nannup                 | S.    | 1,140  | 727    | 545    | 1,272  | 320    |
| Upper Blackwood        | S.    | 1,095  | 1,210  | 1,017  | 2,227  | 624    |
| Warroona               | S.    | 322    | 935    | 894    | 1,829  | 482    |
| Total                  | ..... | 11,030 | 37,460 | 35,363 | 72,823 | 19,703 |

**SOUTHERN AGRICULTURAL STATISTICAL DIVISION**

|                 |       |        |        |        |        |        |
|-----------------|-------|--------|--------|--------|--------|--------|
| Albany          | T.    | 13.3   | 5,598  | 5,821  | 11,419 | 3,097  |
| Albany          | S.    | 1,708  | 1,714  | 1,533  | 3,247  | 898    |
| Broomehill      | S.    | 452    | 390    | 355    | 745    | 190    |
| Cranbrook       | S.    | 1,310  | 820    | 599    | 1,419  | 382    |
| Denmark         | S.    | 711    | 926    | 849    | 1,775  | 504    |
| Dumbleyung      | S.    | 985    | 799    | 659    | 1,458  | 387    |
| Gnowangerup     | S.    | 4,348  | 2,076  | 1,739  | 3,815  | 926    |
| Katanning       | S.    | 588    | 2,278  | 2,210  | 4,488  | 1,134  |
| Kojonup         | S.    | 1,134  | 1,458  | 1,253  | 2,711  | 717    |
| Lake Grace      | S.    | 3,551  | 1,119  | 867    | 1,986  | 496    |
| Nyabing-Pingrup | S.    | 2,530  | 625    | 442    | 1,067  | 272    |
| Plantagenet     | S.    | 1,864  | 2,483  | 2,183  | 4,666  | 1,221  |
| Tambellup       | S.    | 554    | 503    | 448    | 951    | 260    |
| Wagin           | S.    | 750    | 1,457  | 1,317  | 2,774  | 689    |
| West Arthur     | S.    | 1,092  | 782    | 645    | 1,427  | 374    |
| Woodanilling    | S.    | 435    | 317    | 263    | 580    | 141    |
| Total           | ..... | 22,025 | 23,345 | 21,183 | 44,528 | 11,688 |

CENSUS, 30 JUNE 1966—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
 AREA, POPULATION AND OCCUPIED DWELLINGS—continued  
 (Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area                      | Area<br>(sq miles) | Population |         |         | Occupied dwellings |        |
|--------------------------------------------|--------------------|------------|---------|---------|--------------------|--------|
|                                            |                    | Males      | Females | Persons |                    |        |
| CENTRAL AGRICULTURAL STATISTICAL DIVISION  |                    |            |         |         |                    |        |
| Beverley .....                             | S.                 | 892        | 922     | 851     | 1,773              | 500    |
| Brookton .....                             | S.                 | 464        | 729     | 612     | 1,341              | 341    |
| Bruce Rock .....                           | S.                 | 1,051      | 1,146   | 996     | 2,142              | 535    |
| Corrigin .....                             | S.                 | 1,195      | 1,157   | 942     | 2,099              | 529    |
| Cuballing .....                            | S.                 | 483        | 410     | 322     | 732                | 196    |
| Cunderdin .....                            | S.                 | 723        | 1,159   | 955     | 2,114              | 516    |
| Dowerin .....                              | S.                 | 841        | 727     | 573     | 1,300              | 315    |
| Goomalling .....                           | S.                 | 712        | 829     | 738     | 1,567              | 384    |
| Kellerberrin .....                         | S.                 | 716        | 1,224   | 1,143   | 2,367              | 580    |
| Kondinin .....                             | S.                 | 2,834      | 700     | 562     | 1,262              | 292    |
| Koorda .....                               | S.                 | 1,092      | 642     | 438     | 1,080              | 241    |
| Kulin .....                                | S.                 | 1,850      | 820     | 573     | 1,393              | 362    |
| Merredin .....                             | S.                 | 1,302      | 2,941   | 2,356   | 5,297              | 1,207  |
| Mount Marshall .....                       | S.                 | 3,913      | 759     | 546     | 1,305              | 329    |
| Mukinbudin .....                           | S.                 | 1,318      | 499     | 370     | 869                | 222    |
| Narembeen .....                            | S.                 | 1,475      | 868     | 722     | 1,590              | 379    |
| Narrogin .....                             | T.                 | 4.3        | 2,396   | 2,465   | 4,861              | 1,242  |
| Narrogin .....                             | S.                 | 625        | 592     | 418     | 1,010              | 229    |
| Northam .....                              | T.                 | 9.0        | 3,825   | 3,575   | 7,400              | 1,832  |
| Northam .....                              | S.                 | 548        | 1,486   | 1,208   | 2,694              | 627    |
| Nungarin .....                             | S.                 | 442        | 294     | 245     | 539                | 142    |
| Pingelly .....                             | S.                 | 476        | 726     | 727     | 1,453              | 395    |
| Quairading .....                           | S.                 | 655        | 893     | 794     | 1,687              | 427    |
| Tammin .....                               | S.                 | 420        | 440     | 388     | 828                | 217    |
| Toodyay .....                              | S.                 | 650        | 722     | 666     | 1,388              | 366    |
| Trayning .....                             | S.                 | 630        | 533     | 447     | 980                | 232    |
| Wandering .....                            | S.                 | 755        | 325     | 286     | 611                | 136    |
| Westonia .....                             | S.                 | 1,261      | 371     | 241     | 612                | 146    |
| Wickepin .....                             | S.                 | 768        | 773     | 607     | 1,380              | 347    |
| Williams .....                             | S.                 | 886        | 641     | 552     | 1,193              | 313    |
| Wyalkatchem .....                          | S.                 | 504        | 660     | 592     | 1,252              | 324    |
| York .....                                 | S.                 | 776        | 1,193   | 1,084   | 2,277              | 637    |
| Total .....                                | .....              | 30,270     | 31,402  | 26,994  | 58,396             | 14,540 |
| NORTHERN AGRICULTURAL STATISTICAL DIVISION |                    |            |         |         |                    |        |
| Carnamah .....                             | S.                 | 1,094      | 548     | 448     | 996                | 239    |
| Chapman Valley .....                       | S.                 | 1,472      | 442     | 364     | 806                | 206    |
| Chittering .....                           | S.                 | 469        | 596     | 479     | 1,075              | 277    |
| Coorow .....                               | S.                 | 1,597      | 447     | 361     | 808                | 197    |
| Dalwallinu .....                           | S.                 | 2,775      | 1,381   | 1,044   | 2,425              | 578    |
| Dandaragan .....                           | S.                 | 2,606      | 384     | 235     | 619                | 175    |
| Geraldton .....                            | T.                 | 10.9       | 6,245   | 5,880   | 12,125             | 2,971  |
| Gingin .....                               | S.                 | 1,245      | 541     | 480     | 1,021              | 265    |
| Greenough .....                            | S.                 | 675        | 865     | 729     | 1,594              | 424    |
| Irwin .....                                | S.                 | 858        | 423     | 387     | 810                | 212    |
| Mingenew .....                             | S.                 | 774        | 568     | 410     | 978                | 239    |
| Moora .....                                | S.                 | 1,464      | 1,642   | 1,339   | 2,981              | 778    |
| Morawa .....                               | S.                 | 1,314      | 965     | 753     | 1,718              | 394    |
| Mullewa .....                              | S.                 | 4,205      | 1,077   | 748     | 1,825              | 400    |
| Northampton .....                          | S.                 | 7,097      | 1,093   | 928     | 2,021              | 506    |
| Perenjori .....                            | S.                 | 2,953      | 758     | 553     | 1,311              | 321    |
| Three Springs .....                        | S.                 | 1,015      | 546     | 492     | 1,038              | 246    |
| Victoria Plains .....                      | S.                 | 990        | 992     | 793     | 1,785              | 368    |
| Wongan-Ballidu .....                       | S.                 | 1,307      | 1,321   | 1,012   | 2,333              | 549    |
| Total .....                                | .....              | 33,921     | 20,834  | 17,435  | 38,269             | 9,345  |
| EASTERN GOLDFIELDS STATISTICAL DIVISION    |                    |            |         |         |                    |        |
| Boulder .....                              | T.                 | 4.6        | 2,685   | 2,549   | 5,234              | 1,497  |
| Coolgardie .....                           | S.                 | 11,753     | 428     | 334     | 762                | 219    |
| Dundas .....                               | S.                 | 41,509     | 1,547   | 1,235   | 2,782              | 649    |
| Esperance .....                            | S.                 | 11,013     | 2,669   | 2,185   | 4,854              | 1,246  |
| Kalgoorlie .....                           | T.                 | 2.1        | 4,831   | 4,343   | 9,174              | 2,565  |
| Kalgoorlie .....                           | S.                 | 27,509     | 3,568   | 3,095   | 6,663              | 1,895  |
| Laverton .....                             | S.                 | 70,733     | 118     | 88      | 206                | 54     |
| Leonora .....                              | S.                 | 12,256     | 375     | 248     | 623                | 194    |
| Menzies .....                              | S.                 | 57,500     | 275     | 129     | 404                | 150    |
| Ravensthorpe .....                         | S.                 | 4,958      | 476     | 306     | 782                | 206    |
| Yilgarn .....                              | S.                 | 11,798     | 1,444   | 1,002   | 2,446              | 582    |
| Total .....                                | .....              | 249,035    | 18,416  | 15,514  | 33,930             | 9,257  |

CENSUS, 30 JUNE 1966—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS  
AREA, POPULATION AND OCCUPIED DWELLINGS—*continued*  
(Exclusive of full-blood Aborigines and dwellings occupied solely by them)

| Local government area | Area<br>(sq miles) | Population |         |         | Occupied dwellings |
|-----------------------|--------------------|------------|---------|---------|--------------------|
|                       |                    | Males      | Females | Persons |                    |

|                              |      |         |       |       |       |     |
|------------------------------|------|---------|-------|-------|-------|-----|
| CENTRAL STATISTICAL DIVISION |      |         |       |       |       |     |
| Cue ....                     | S.   | 5,296   | 256   | 174   | 430   | 128 |
| Meekatharra ....             | S.   | 39,348  | 574   | 437   | 1,011 | 249 |
| Mount Magnet ....            | S.   | 5,358   | 590   | 426   | 1,016 | 296 |
| Murchison ....               | S.   | 16,347  | 177   | 106   | 283   | 49  |
| Sandstone ....               | S.   | 10,862  | 83    | 52    | 135   | 43  |
| Wiluna ....                  | S.   | 127,909 | 114   | 105   | 219   | 64  |
| Yalgoo ....                  | S.   | 12,890  | 246   | 146   | 392   | 97  |
| Total ....                   | .... | 218,011 | 2,040 | 1,446 | 3,486 | 926 |

|                                 |      |        |       |       |       |       |
|---------------------------------|------|--------|-------|-------|-------|-------|
| NORTH-WEST STATISTICAL DIVISION |      |        |       |       |       |       |
| Ashburton ....                  | S.   | 24,264 | 421   | 213   | 634   | 114   |
| Carnarvon ....                  | S.   | 20,602 | 2,570 | 2,076 | 4,646 | 1,060 |
| Exmouth ....                    | S.   | 792    | 1,841 | 407   | 2,248 | 270   |
| Shark Bay ....                  | S.   | 8,009  | 305   | 168   | 473   | 98    |
| Upper Gascoyne ....             | S.   | 22,064 | 246   | 108   | 354   | 82    |
| Total ....                      | .... | 75,731 | 5,383 | 2,972 | 8,355 | 1,624 |

|                              |      |         |       |       |       |       |
|------------------------------|------|---------|-------|-------|-------|-------|
| PILBARA STATISTICAL DIVISION |      |         |       |       |       |       |
| Marble Bar ....              | S.   | 46,223  | 369   | 198   | 567   | 122   |
| Nullagine ....               | S.   | 92,568  | 170   | 41    | 211   | 40    |
| Port Hedland ....            | S.   | 9,348   | 2,149 | 859   | 3,008 | 462   |
| Roebourne ....               | S.   | 8,452   | 1,443 | 339   | 1,782 | 194   |
| Tableland ....               | S.   | 14,871  | 1,416 | 399   | 1,815 | 229   |
| Total ....                   | .... | 171,462 | 5,547 | 1,836 | 7,383 | 1,047 |

|                                |      |         |       |       |       |       |
|--------------------------------|------|---------|-------|-------|-------|-------|
| KIMBERLEY STATISTICAL DIVISION |      |         |       |       |       |       |
| Broome (a) ....                | S.   | 20,740  | 1,184 | 739   | 1,923 | 357   |
| Halls Creek ....               | S.   | 55,177  | 380   | 197   | 577   | 106   |
| West Kimberley ....            | S.   | 39,655  | 1,668 | 1,027 | 2,695 | 567   |
| Wyndham-East Kimberley ....    | S.   | 46,791  | 1,652 | 797   | 2,449 | 518   |
| Total (a) ....                 | .... | 162,363 | 4,884 | 2,760 | 7,644 | 1,548 |

|                    |      |      |       |     |       |      |
|--------------------|------|------|-------|-----|-------|------|
| MIGRATORY          |      |      |       |     |       |      |
| Migratory (a) .... | n.a. | n.a. | 2,508 | 530 | 3,038 | n.a. |

|                                 |         |         |         |         |         |  |
|---------------------------------|---------|---------|---------|---------|---------|--|
| STATE SUMMARY                   |         |         |         |         |         |  |
| Perth Statistical Division .... | 2,072   | 274,872 | 283,949 | 558,821 | 154,985 |  |
| Other Divisions—                |         |         |         |         |         |  |
| South-West ....                 | 11,030  | 37,460  | 35,363  | 72,823  | 19,703  |  |
| Southern Agricultural ....      | 22,025  | 23,345  | 21,183  | 44,528  | 11,688  |  |
| Central Agricultural ....       | 30,270  | 31,402  | 26,994  | 58,396  | 14,540  |  |
| Northern Agricultural ....      | 33,921  | 20,834  | 17,435  | 38,269  | 9,345   |  |
| Eastern Goldfields ....         | 249,035 | 18,416  | 15,514  | 33,930  | 9,257   |  |
| Central ....                    | 218,011 | 2,040   | 1,446   | 3,486   | 926     |  |
| North-West ....                 | 75,731  | 5,383   | 2,972   | 8,355   | 1,624   |  |
| Pilbara ....                    | 171,462 | 5,547   | 1,836   | 7,383   | 1,047   |  |
| Kimberley (a) ....              | 162,363 | 4,884   | 2,760   | 7,644   | 1,548   |  |
| Total (a) ....                  | 973,848 | 149,311 | 125,503 | 274,814 | 69,678  |  |
| Total, all Divisions (a) ....   | 975,920 | 424,183 | 409,452 | 833,635 | 224,663 |  |
| Migratory (a) ....              | n.a.    | 2,508   | 530     | 3,038   | n.a.    |  |
| WESTERN AUSTRALIA ....          | 975,920 | 426,691 | 409,982 | 836,673 | 224,663 |  |

n.a. denotes 'not applicable'.

(a) See note *Migratory Population* on page 548.



**CENSUSES, 1911 TO 1966—POPULATION AND OCCUPIED DWELLINGS (a)**  
**STATISTICAL DIVISIONS**

*(Exclusive of full-blood Aborigines and dwellings occupied solely by them)*

| Statistical Division            | Census date     |                 |                 |                 |                 |                 |                 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                 | 1911<br>3 April | 1921<br>4 April | 1933<br>30 June | 1947<br>30 June | 1954<br>30 June | 1961<br>30 June | 1966<br>30 June |
| <b>POPULATION ('000)</b>        |                 |                 |                 |                 |                 |                 |                 |
| Perth Statistical Division .... | 116.2           | 170.2           | 230.3           | 303.0           | 395.0           | 475.4           | 558.8           |
| Other Divisions—                |                 |                 |                 |                 |                 |                 |                 |
| South-West .....                | 27.0            | 34.4            | 50.4            | 52.0            | 68.6            | 71.6            | 72.8            |
| Southern Agricultural .....     | 15.9            | 20.5            | 27.0            | 24.9            | 36.1            | 41.6            | 44.5            |
| Central Agricultural .....      | 31.5            | 40.5            | 53.6            | 43.8            | 55.9            | 57.6            | 58.4            |
| Northern Agricultural .....     | 13.4            | 17.7            | 26.6            | 24.7            | 32.1            | 35.8            | 38.3            |
| Eastern Goldfields .....        | 55.0            | 33.7            | 33.2            | 37.7            | 34.6            | 34.1            | 33.9            |
| Central .....                   | 9.57            | 4.97            | 7.87            | 6.37            | 4.79            | 3.96            | 3.49            |
| North-West .....                | 2.13            | 2.07            | 2.61            | 2.64            | 4.22            | 4.56            | 8.36            |
| Pilbara .....                   | 2.46            | 1.41            | 1.84            | 1.65            | 2.65            | 3.24            | 7.38            |
| Kimberley (b) .....             | 1.96            | 2.18            | 2.13            | 2.77            | 3.54            | 5.67            | 7.64            |
| Total (b) .....                 | 158.9           | 157.3           | 205.3           | 196.5           | 242.5           | 258.2           | 274.8           |
| Total, all Divisions (b) .....  | 275.1           | 327.5           | 435.7           | 499.5           | 637.5           | 733.6           | 833.6           |
| Migratory (b) .....             | 7.02            | 5.19            | 3.20            | 2.98            | 2.27            | 3.02            | 3.04            |
| WESTERN AUSTRALIA ....          | 282.1           | 332.7           | 438.9           | 502.5           | 639.8           | 736.6           | 836.7           |

**POPULATION—PROPORTION OF STATE TOTAL (per cent)**

|                                 |        |        |        |        |        |        |        |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Perth Statistical Division .... | 41.18  | 51.16  | 52.49  | 60.29  | 61.75  | 64.54  | 66.79  |
| Other Divisions—                |        |        |        |        |        |        |        |
| South-West .....                | 9.57   | 10.33  | 11.49  | 10.34  | 10.72  | 9.72   | 8.70   |
| Southern Agricultural .....     | 5.63   | 6.16   | 6.15   | 4.96   | 5.65   | 5.65   | 5.32   |
| Central Agricultural .....      | 11.16  | 12.16  | 12.22  | 8.71   | 8.74   | 7.82   | 6.98   |
| Northern Agricultural .....     | 4.75   | 5.32   | 6.06   | 4.91   | 5.01   | 4.86   | 4.57   |
| Eastern Goldfields .....        | 19.51  | 10.13  | 7.57   | 7.51   | 5.40   | 4.63   | 4.06   |
| Central .....                   | 3.39   | 1.49   | 1.79   | 1.27   | 0.75   | 0.54   | 0.42   |
| North-West .....                | 0.75   | 0.62   | 0.60   | 0.52   | 0.66   | 0.62   | 1.00   |
| Pilbara .....                   | 0.87   | 0.42   | 0.42   | 0.33   | 0.41   | 0.44   | 0.88   |
| Kimberley (b) .....             | 0.70   | 0.65   | 0.48   | 0.55   | 0.55   | 0.77   | 0.91   |
| Total (b) .....                 | 56.33  | 47.28  | 46.78  | 39.11  | 37.90  | 35.05  | 32.85  |
| Total, all Divisions (b) .....  | 97.51  | 98.44  | 99.27  | 99.41  | 99.65  | 99.59  | 99.64  |
| Migratory (b) .....             | 2.49   | 1.56   | 0.73   | 0.59   | 0.35   | 0.41   | 0.36   |
| WESTERN AUSTRALIA ....          | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

**OCCUPIED DWELLINGS (a)**

|                                 |        |        |         |         |         |         |         |
|---------------------------------|--------|--------|---------|---------|---------|---------|---------|
| Perth Statistical Division .... | 24,358 | 35,190 | 53,394  | 74,478  | 102,745 | 129,488 | 154,985 |
| Other Divisions—                |        |        |         |         |         |         |         |
| South-West .....                | 7,381  | 8,319  | 12,544  | 13,611  | 17,336  | 18,714  | 19,703  |
| Southern Agricultural .....     | 3,903  | 4,654  | 6,410   | 6,522   | 9,159   | 10,775  | 11,688  |
| Central Agricultural .....      | 8,115  | 9,026  | 12,352  | 10,872  | 13,378  | 14,097  | 14,540  |
| Northern Agricultural .....     | 2,953  | 3,846  | 5,963   | 5,691   | 7,403   | 8,338   | 9,345   |
| Eastern Goldfields .....        | 17,058 | 9,808  | 9,271   | 10,614  | 9,607   | 9,389   | 9,257   |
| Central .....                   | 3,261  | 1,344  | 2,247   | 1,628   | 1,205   | 1,015   | 926     |
| North-West .....                | 416    | 389    | 526     | 506     | 749     | 922     | 1,624   |
| Pilbara .....                   | 856    | 414    | 323     | 322     | 564     | 643     | 1,047   |
| Kimberley (b) .....             | 569    | 558    | 548     | 523     | 677     | 936     | 1,548   |
| Total (b) .....                 | 44,512 | 38,358 | 50,184  | 50,289  | 60,078  | 64,829  | 69,678  |
| Total, all Divisions (b) .....  | 68,870 | 73,548 | 103,578 | 124,767 | 162,823 | 194,317 | 224,663 |
| Migratory (b) .....             | n.a.   | n.a.   | n.a.    | n.a.    | n.a.    | n.a.    | n.a.    |
| WESTERN AUSTRALIA ....          | 68,870 | 73,548 | 103,578 | 124,767 | 162,823 | 194,317 | 224,663 |

n.a. denotes 'not applicable'.

(a) See note *Occupied Dwellings* on page 548.

(b) See note *Migratory Population* on page 548.

## METRIC CONVERSION FOR AUSTRALIA

### Weights and Measures in Australia

Australia inherits from the United Kingdom the 'Imperial' system of weights and measures. The Commonwealth of Australia Constitution Act of 1900 provided the newly formed Commonwealth Parliament with powers to make laws governing weights and measures (section 51 (XV)). This power was not exercised until 1948 when a *Weights and Measures (National Standards) Act* was passed. This Act provided '... for the establishment and use throughout Australia of uniform units of measurement, and uniform standards of measurement, of physical quantities . . .'.

The Act transferred to the Commonwealth the power to specify particular units for particular purposes. In 1960, because the Commonwealth felt that the States should be able to exercise certain of these powers, the 1948 Act was repealed and replaced by an Act which allowed the States to legislate in certain areas without conflicting with the Commonwealth legislation.

### The National Standards Commission

The need for a more extensive and accurate system of weights and measures had been seen as far back as 1940 when the Commonwealth established the National Standards Laboratory under the Commonwealth Scientific and Industrial Research Organization. In the demands of wartime and the increasing technological complexity of the postwar era this Laboratory has played a vital role in the development and control of measurement standards.

The weights and measures legislation later introduced by the Commonwealth validated many of the diverse standards maintained in the Laboratory, the current statute being the *Weights and Measures (National Standards) Act* 1960-1966. Under this Act, units prescribed in the Commonwealth's *Weights and Measures (National Standards) Regulations* have a much wider application than those covered by previous State legislation.

Significantly, this legislation includes a full range of metric units as well as the imperial units in common use. It defines the imperial units used in Australia directly in terms of metric units which are identical with the internationally defined metric units. Thus, Australian weights and measures are already closely related to the metric system by definition.

### The Decision to Change

In April 1967 a Senate Select Committee was appointed to inquire into the metric system of weights and measures. Between then and May 1968, the Committee, under the chairmanship of Senator K. A. Laught, heard evidence in all capital cities from 141 witnesses and received written submissions from fifty-four persons or organisations.

The Committee reported unanimous agreement that it was practicable and desirable for Australia to adopt the metric system of weights and measures at an early date.

The Committee's findings were as follows:

Evidence from a wide segment of the community overwhelmingly supported an early change to the sole use of the metric system and indicated that there would be no insuperable difficulties.

About 90 per cent of the world's population already use metric measurements and this use is increasing.

About 75 per cent of world trade is carried out in metric terms. Some 70 per cent of Australia's export trade is to countries using or converting to metric weights and measures. This proportion will increase as Australia's trade with Japan and South-East Asian countries grows.

A metric system would improve the teaching of mathematics and science, reduce errors and save time.

A metric system would provide an opportunity to improve industrial and manufacturing efficiency by rationalising existing practices and reducing unnecessary varieties in sizes and components.

Introduction of a metric system was widely regarded as a natural consequence of Australia's earlier conversion to decimal currency. The full advantages of decimal currency would not be experienced until decimal weights and measures were also used.

### **The Metric Conversion Board**

The *Metric Conversion Act* 1970 was assented to on 12 June 1970 and states, in section 5, that its object is 'to bring about progressively the use of the metric system of measurement in Australia as the sole system of measurement of physical quantities'. It provides the Minister with powers on behalf of the Commonwealth, to do such things, make such arrangements and enter into such agreements as he thinks conducive to the attainment of this objective. It extends to all the Territories of the Commonwealth except the Territory of Papua and New Guinea.

The Metric Conversion Act established a Metric Conversion Board and on 1 July 1970 a Board of fourteen members was appointed under the chairmanship of Mr J. D. Norgard, B.E., F.S.A.S.M. (Met.). The Board held its first meeting on 4 July 1970. It comprises members who are experienced in many of the sectors for which conversion will be important. They are drawn from all States of the Commonwealth and include representatives of industry and commerce, and State and Commonwealth administrations.

### **Committees of the Board**

The Government has made it clear that the metric change will be predominantly a voluntary one, planned and implemented by those who will themselves be affected by it. Accordingly the Board's first major task has been to establish a committee structure to assist in the development and implementation of conversion programmes. To do this, all the major activities within the community likely to be affected by metric conversion have been identified and grouped so that each such activity will have a committee responsible for its metrication.

Sector Committees, comprising nominees from appropriate organisations, national associations and institutes and Government departments, have been established to cover relatively coherent groups of activities. Where a specific aspect of conversion requires detailed consideration a Panel may be appointed to report to one or more Sector Committees.

Sector Committees, in their turn, report (usually through their chairmen) to Advisory Committees, of which there are eleven, each concerned with a broad area of activity, such as primary industry, education or engineering.

The Advisory Committees are each chaired by a Board Member and have the task of co-ordinating programmes and proposals for conversion before submitting these to the Board for consideration for inclusion in overall conversion plans.

By June 1971 all eleven Advisory Committees had been active for some time and some eighty Sector Committees had been established. In all, more than 500 individual members, drawn from virtually all relevant business, professional, technical and government fields, had been appointed to Advisory and Sector Committees, filling some 800 committee positions. It is expected that as the conversion proceeds these committees will be dissolved starting with the Sector Committees. For many of these, their work is already nearing completion.

### **The SI System of Units**

In general, Australia is adopting the *Système International* (SI) system of units. This is the system adopted by the international General Conference on Weights and Measures. It is based on the metre, kilogram and second.

The International System of Units comprises a set of seven base units, some supplementary units for angular measurement and derived units. The base units are the metre (length), kilogram (mass), second (time), ampere (electrical current), kelvin (temperature), candela (luminous intensity) and mole (amount of substance).

A striking advantage of the SI system over the older system is that there is only one SI unit for each physical quantity and there are no odd multiplying factors to be remembered. Some of the units have special names (*e.g.* the joule), and the watt, while for others the names are derived from the units comprising them (*e.g.* the metre per second).

In addition to the SI unit for any physical quantity there is a range of other units available which are decimal multiples or submultiples of the SI unit. The names of each of these is obtained by combining a prefix with the name of the unit, the same prefix being always used for a particular decimal multiple. The more common prefixes, with their symbols and values, are as follows:

| <i>Prefix</i> | <i>Symbol</i> | <i>Value</i>   |
|---------------|---------------|----------------|
| mega          | M             | one million    |
| kilo          | k             | one thousand   |
| hecto         | h             | one hundred    |
| deka          | da            | ten            |
| deci          | d             | one-tenth      |
| centi         | c             | one-hundredth  |
| milli         | m             | one-thousandth |
| micro         | u             | one-millionth  |

Some units are not decimally related to basic SI units but are of such significance that their continued use is necessary. Notable examples are the minute and hour of time interval and the degree, minute and second of angular measurement. Other non-SI units such as the nautical mile (1,852 metres) are the subject of international agreements so their use must be continued for particular applications. There are other non-SI units for which it would seem to be in the public interest to make provision, such as the kilometre per hour for car speeds, where the SI unit would be the metre per second.

Special names of SI units which are being recommended by the Metric Conversion Board for general use include the litre, the tonne (1,000 kilograms) and the hectare (10,000 square metres). The millibar has been recommended for the measurement of pressure for meteorological purposes only, because of international meteorological practice. Non-SI units recommended for restricted use include the nautical mile and knot for marine and aerial navigation and the kilowatt hour for the measurement of electrical energy.

The table on page 574 lists the most important everyday units in both the Imperial and SI systems. The table also shows the conversion ratios between the two systems.

### **Programme and Planning**

Conversion is expected to proceed simultaneously throughout many different sectors of the community. Unlike the decimal currency change there will be no single starting or finishing date for the change. In fact, for some activities such as for pharmaceuticals, the change has already been made.

Each sector is expected to develop the programme appropriate to its activities and circumstances, but in doing so account must be taken of related activities in other sectors. The structure of Sector and Advisory Committees established by the Board is intended to facilitate the development of individual programmes and their integration into an overall conversion programme.

The broad aim laid down by the Government in 1970 was that conversion should be substantially complete by 1980. Within this broad objective the following stages of implementation have been established:

|         |                                                     |
|---------|-----------------------------------------------------|
| 1970-71 | Planning and co-ordination                          |
| 1972    | Increasing public awareness                         |
| 1973-75 | Major implementation                                |
| 1976    | 70-80 per cent of nation's activity to be converted |

Progress on metric conversion in Australia is generally on schedule. Programmes are being issued for many sectors of commerce and industry, while conversion has already been achieved in limited areas.

### Detailed Programmes

Some of the programmes which will have most immediate impact are listed below:

|                                            |      |      |      |      |      |                |
|--------------------------------------------|------|------|------|------|------|----------------|
| Wool sales                                 | .... | .... | .... | .... | .... | converted 1971 |
| Education, primary                         | .... | .... | .... | .... | .... | 1973           |
| Education, secondary                       | .... | .... | .... | .... | .... | 1974           |
| Meteorology forecasts—                     |      |      |      |      |      |                |
| Temperature, pressure                      | .... | .... | .... | .... | .... | September 1972 |
| Windspeed                                  | .... | .... | .... | .... | .... | April 1973     |
| Rainfall, river heights                    | .... | .... | .... | .... | .... | January 1974   |
| Racing classics                            | .... | .... | .... | .... | .... | 1972-73 season |
| Customs and Excise tariffs                 | .... | .... | .... | .... | .... | July 1972      |
| Packaged goods—sole metric marking allowed | .... | .... | .... | .... | .... | mid 1972       |
| progressive size-rationalisation           | .... | .... | .... | .... | .... | 1972-1977      |
| New land titles (most States)              | .... | .... | .... | .... | .... | mid 1972       |

### METRIC CONVERSION FACTORS

| Quantity        | Imperial unit                              | Metric unit                                                            | Conversion factors (approximate)              |                                                         |
|-----------------|--------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------|
|                 |                                            |                                                                        | Imperial to metric units                      | Metric to imperial units                                |
| LENGTH          | inch (in)                                  | millimetre (mm) or centimetre (cm)                                     | 1 in = 25.4 mm                                | 1 cm = 0.394 in                                         |
|                 | foot (ft)                                  | centimetre or metre (m)                                                | 1 ft = 30.5 cm                                | 1 m = 3.28 ft                                           |
|                 | yard (yd)                                  | metre (m)                                                              | 1 yd = 0.914 m                                | 1 m = 1.09 yd                                           |
|                 | mile                                       | kilometre (km)                                                         | 1 mile = 1.61 km                              | 1 km = 0.621 mile                                       |
| MASS            | ounce (oz)                                 | gram (g)                                                               | 1 oz = 28.3 g                                 | 1 g = 0.0353 oz                                         |
|                 | pound (lb)                                 | gram (g) or kilogram (kg)                                              | 1 lb = 454 g                                  | 1 kg = 2.20 lb                                          |
|                 | ton                                        | tonne (t)                                                              | 1 ton = 1.02 tonne                            | 1 tonne = 0.984 ton                                     |
| AREA            | square inch (in <sup>2</sup> )             | square centimetre (cm <sup>2</sup> )                                   | 1 in <sup>2</sup> = 6.45 cm <sup>2</sup>      | 1 cm <sup>2</sup> = 0.155 in <sup>2</sup>               |
|                 | square foot (ft <sup>2</sup> )             | square centimetre (cm <sup>2</sup> ) or square metre (m <sup>2</sup> ) | 1 ft <sup>2</sup> = 929 cm <sup>2</sup>       | 1 m <sup>2</sup> = 10.8 ft <sup>2</sup>                 |
|                 | square yard (yd <sup>2</sup> )             | square metre (m <sup>2</sup> )                                         | 1 yd <sup>2</sup> = 0.836 m <sup>2</sup>      | 1 m <sup>2</sup> = 1.20 yd <sup>2</sup>                 |
|                 | acre (ac)                                  | hectare (ha)                                                           | 1 ac = 0.405 ha                               | 1 ha = 2.47 ac                                          |
| VOLUME          | cubic inch (in <sup>3</sup> )              | cubic centimetre (cm <sup>3</sup> )                                    | 1 in <sup>3</sup> = 16.4 cm <sup>3</sup>      | 1 cm <sup>3</sup> = 0.0610 in <sup>3</sup>              |
|                 | cubic foot (ft <sup>3</sup> )              | cubic decimetre (dm <sup>3</sup> ) or cubic metre (m <sup>3</sup> )    | 1 ft <sup>3</sup> = 28.3 dm <sup>3</sup>      | 1 m <sup>3</sup> = 35.3 ft <sup>3</sup>                 |
|                 | cubic yard (yd <sup>3</sup> )              | cubic metre (m <sup>3</sup> )                                          | 1 yd <sup>3</sup> = 0.765 m <sup>3</sup>      | 1 m <sup>3</sup> = 1.31 yd <sup>3</sup>                 |
|                 | bushel (bus)                               | cubic metre (m <sup>3</sup> )                                          | 1 bus = 0.0364 m <sup>3</sup>                 | 1 m <sup>3</sup> = 27.5 bus                             |
| VOLUME (fluids) | fluid ounce (fl oz)                        | millilitre (ml)                                                        | 1 fl oz = 28.4 ml                             | 1 ml = 0.0352 fl oz                                     |
|                 | pint (pt)                                  | millilitre (ml) or litre (l)                                           | 1 pint = 568 ml                               | 1 litre = 1.76 pint                                     |
|                 | gallon (gal)                               | litre (l) or cubic metre (m <sup>3</sup> )                             | 1 gal = 4.55 litre                            | 1 m <sup>3</sup> = 220 gallons                          |
| FORCE           | pound-force (lbf)                          | newton (N)                                                             | 1 lbf = 4.45 N                                | 1 N = 0.225 lbf                                         |
| PRESSURE        | pound per square inch (psi)                | kilopascal (kPa)                                                       | 1 psi = 6.89 kPa                              | 1 kPa = 0.145 psi                                       |
| VELOCITY        | mile per hour (mph)                        | kilometre per hour (km/h)                                              | 1 mph = 1.61 km/h                             | 1 km/h = 0.621 mph                                      |
| TEMPERATURE     | Fahrenheit temp (°F)                       | Celsius temp (°C)                                                      | °C = $\frac{5}{9} (°F - 32)$                  | °F = $\frac{9}{5} °C + 32$                              |
| DENSITY         | pound per cubic inch (lb/in <sup>3</sup> ) | gram per cubic centimetre (g/cm <sup>3</sup> )                         | 1 lb/in <sup>3</sup> = 27.7 g/cm <sup>3</sup> | 1 g/cm <sup>3</sup> = 0.0361 lb/in <sup>3</sup>         |
|                 | ton per cubic yard                         | tonne per cubic metre (t/m <sup>3</sup> )                              | 1 ton/yd <sup>3</sup> = 1.33 t/m <sup>3</sup> | 1 t/m <sup>3</sup> = 0.752 ton/yd <sup>3</sup>          |
| ENERGY          | British thermal unit (Btu) therm           | kilojoule (kJ) megajoule (MJ)                                          | 1 Btu = 1.06 kJ<br>1 therm = 106 MJ           | 1 kJ = 0.948 Btu<br>1 MJ = 9.48 × 10 <sup>3</sup> therm |
| POWER           | horsepower (hp)                            | kilowatt (kW)                                                          | 1 hp = 0.746 kW                               | 1 kW = 1.34 hp                                          |

# LIST OF SPECIAL ARTICLES AND MISCELLANEOUS MATTER CONTAINED IN PREVIOUS ISSUES

(Commencing with New Series: No. 1-1957)

This list refers to special articles and other more or less important miscellaneous matter which have appeared in previous issues of the Year Book but which are not included, or are included in an abbreviated form only, in the present issue. Owing to considerations of space, the deletions are necessary to make room for new material and the list will be revised each year to provide readers with a cumulative index of special articles or topics. In cases where an article was published in more than one previous issue, the reference to its last appearance only is given, as earlier references can be traced back in the List of Special Articles in the 1969 or 1970 Year Book.

| Article or Topic                                                | Year Book              |
|-----------------------------------------------------------------|------------------------|
| Albany, Port of ....                                            | 1971, pp. 449-51       |
| Basic wage, historical summary—                                 |                        |
| Commonwealth ....                                               | 1968, pp. 396-401      |
| State ....                                                      | 1968, pp. 403-5        |
| Computer Service Centre, Perth ....                             | 1969, p. 504           |
| Conservation of the flora ....                                  | 1970, pp. 59-61        |
| Cyclones, tropical ....                                         | 1969, pp. 43-50        |
| Electoral Divisions (Commonwealth) ....                         | 1971, pp. 97-8         |
| Electoral Divisions (Commonwealth), origin of names of ....     | 1970, p. 530           |
| Electoral Provinces and Electoral Districts (State) ....        | 1969, pp. 102-3        |
| Flora of Western Australia—                                     |                        |
| Acacia ....                                                     | 1965, pp. 59-60        |
| 'Christmas tree' ( <i>Nuytsia floribunda</i> ) ....             | 1962, p. 51            |
| Economic value of the flora ....                                | 1968, pp. 54-5         |
| Orchids ....                                                    | 1968, pp. 48-9         |
| Special features of the flora ....                              | 1962, pp. 51-2         |
| Governors and Administrators of Western Australia—              |                        |
| 1828 to 1951 ....                                               | 1957, p. 65            |
| 1901 to 1959 ....                                               | 1960, p. 81            |
| 1901 to 1963 ....                                               | 1968, p. 89            |
| Governor Stirling's Commission dated 4 March 1831, text of .... | 1965, pp. 452-4        |
| Historical review—chronological notes from 1829 ....            | 1957, pp. 2-18         |
|                                                                 | 1960, pp. 2-22         |
|                                                                 | 1962, pp. 2-24, 404-9  |
|                                                                 | 1964, pp. 2-32         |
|                                                                 | 1965, pp. 2-31, 444-51 |
|                                                                 | 1967, pp. 2-33         |
| Integrated Economic Censuses, 1968-69 ....                      | 1971, pp. 552-64       |
| Land—methods of alienation ....                                 | 1969, pp. 276-8        |
| Land—methods of leasing ....                                    | 1969, pp. 278-83       |
| Land settlement schemes, government ....                        | 1968, pp. 244-6        |
| Land tenure system, origin and development of ....              | 1960, pp. 198-9        |
| Legislation, summary of—                                        |                        |
| 1957 and 1958 ....                                              | 1960, pp. 87-9         |
| 1959 and 1960 ....                                              | 1962, pp. 89-96        |
| 1961 and 1962 ....                                              | 1964, pp. 104-11       |
| 1963 and 1964 ....                                              | 1965, pp. 107-14       |
| 1965 ....                                                       | 1967, pp. 111-15       |
| 1966 ....                                                       | 1968, pp. 99-106       |
| 1967 ....                                                       | 1969, pp. 108-15       |
| 1968 ....                                                       | 1970, pp. 111-17       |
| 1969 ....                                                       | 1971, pp. 105-8        |
| Local government in Western Australia, development of ....      | 1971, pp. 565-70       |

# LIST OF SPECIAL ARTICLES AND MISCELLANEOUS MATTER CONTAINED IN PREVIOUS ISSUES—*continued*

| Article or Topic                                          | Year Book         |
|-----------------------------------------------------------|-------------------|
| McNess Housing Trust ....                                 | 1969, p. 205      |
| Meteorological services—                                  |                   |
| History of ....                                           | 1960, pp. 34-5    |
| Provision of....                                          | 1966, pp. 46-7    |
| Parliamentary procedure and administrative machinery .... | 1970, pp. 106-9   |
| Pesticides, effect on beneficial forms of life ....       | 1969, pp. 90-1    |
| Poisonous plants of Western Australia ....                | 1970, pp. 56-9    |
| Principal events of 1970 ....                             | 1971, p. 571      |
| Public Works Department, history of ....                  | 1971, pp. 116-19  |
| Railways—                                                 |                   |
| Origin and development ....                               | 1968, pp. 360-1   |
| Private ....                                              | 1965, p. 365      |
| Timber ....                                               | 1968, pp. 363-4   |
| Rainfall in agricultural areas, 1969 ....                 | 1970, p. 529      |
| Sporting organisations ....                               | 1970, pp. 196-200 |
| Tornadoes ....                                            | 1970, pp. 48-51   |
| Trade, historical summary of ....                         | 1967, pp. 346-7   |
| University—principal benefactions ....                    | 1969, p. 173      |
| Use of pesticides in Western Australia ....               | 1971, pp. 87-90   |
| Wheat, development of production ....                     | 1968, p. 270      |

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(Commencing with New Series: No. 1-1957)

| Map ( <sup>1</sup> )                                     | Year Book                                 |
|----------------------------------------------------------|-------------------------------------------|
| Air routes at 31 December 1956 ....                      | 1957, p. 289                              |
| Air routes at 30 June 1969 ....                          | 1970, <i>between</i> p. 448<br>and p. 449 |
| Areas of current development ....                        | 1970, <i>facing</i> p. 336                |
| Electoral Divisions (Commonwealth) ....                  | 1971, <i>between</i> p. 96<br>and p. 97   |
| Electoral Provinces and Electoral Districts (State) .... | 1969, <i>between</i> p. 96<br>and p. 97   |
| Electricity supplies ....                                | 1967, <i>facing</i> p. 320                |
| Epicentres of large earthquakes ....                     | 1971, p. 33                               |
| Perth Statistical Division ....                          | 1968, <i>facing</i> p. 112                |
| Port of Fremantle (Outer and Inner Harbour) ....         | 1970, <i>facing</i> p. 448                |
| Production, main areas of ....                           | 1957, p. 73                               |
| Railways and road services—routes operated ....          | 1967, <i>facing</i> p. 384                |
| Railways road services—routes operated ....              | 1964, p. 354                              |
| Rainfall ....                                            | 1969 <i>facing</i> p. 32                  |
| Rainfall in agricultural areas, 1969 ....                | 1970, p. 529                              |
| Roads, main and important secondary ....                 | 1968, <i>facing</i> p. 368                |
| Vegetation Provinces ....                                | 1968, p. 51                               |

(<sup>1</sup>) All maps listed refer to Western Australia.

## NOTE ON STATISTICAL DIVISIONS

Western Australia is divided into a number of municipal districts for the purposes of local government administration. At 31 December 1969 there were 143 such districts, which are used as the basis of presentation of data derived not only from the population census but also from many of the regular statistical collections. Information presented in this way is valuable when considering activities in particular local government areas but is often more detailed than is required for a broader geographical assessment. For this reason, the municipal districts are combined into Statistical Divisions which provide significant areas for the publication of statistics in a convenient and readily appreciable summary form.

The partition of the Australian States into Statistical Divisions originated from a resolution of a conference of 1928 between the Federal Health Council of Australia and the Statisticians of the Commonwealth and the States concerning the need for the delineation of areas appropriate for the purposes of statistical tabulation. They first became operative in 1929 after consultation between the Commonwealth Statistician, the Statisticians of the States in collaboration with the State health authorities, and the Commonwealth Department of Health. Although Statistical Divisions were devised initially for use in the compilation and presentation of vital statistics, the advantages of extending the system to other fields of statistical investigation were recognised at once and it soon came to have general application in cases where consideration of geographic areas was relevant.

The Statistical Divisions of Western Australia and their component local government areas at 31 December 1969 are listed on the following pages and are shown on the map of the State inside the back cover. The population of each Division as recorded at each of the five most recent Population Censuses is shown in the following table. The areas of the Divisions at 30 June 1971 are also given.

STATISTICAL DIVISIONS—POPULATION (a) AND AREA

| Statistical Division       | Population at Census of 30 June— |         |         |         |           | Area at 30 June 1971 |
|----------------------------|----------------------------------|---------|---------|---------|-----------|----------------------|
|                            | 1947                             | 1954    | 1961    | 1966    | 1971 (b)  |                      |
|                            | persons                          | persons | persons | persons | persons   | square miles         |
| Perth ....                 | 302,968                          | 395,049 | 475,398 | 559,298 | 701,392   | 2,073                |
| South-West ....            | 51,973                           | 68,553  | 71,637  | 72,983  | 77,504    | 11,031               |
| Southern Agricultural .... | 24,948                           | 36,125  | 41,623  | 44,808  | 45,267    | 22,046               |
| Central Agricultural ....  | 43,790                           | 55,924  | 57,594  | 58,820  | 53,989    | 30,270               |
| Northern Agricultural .... | 24,665                           | 32,068  | 35,785  | 38,817  | 42,653    | 32,040               |
| Eastern Goldfields ....    | 37,722                           | 34,578  | 34,142  | 35,062  | 42,539    | 249,013              |
| Central ....               | 6,370                            | 4,794   | 3,959   | 4,620   | 6,135     | 218,010              |
| North-West ....            | 2,638                            | 4,220   | 4,563   | 9,046   | 11,557    | 77,612               |
| Pilbara ....               | 1,651                            | 2,650   | 3,243   | 8,907   | 29,469    | 171,462              |
| Kimberley ....             | 2,774                            | 3,543   | 5,668   | 12,700  | 14,136    | 162,363              |
| Migratory (c) ....         | 2,981                            | 2,267   | 3,017   | 3,039   | 2,731     | ....                 |
| WHOLE STATE ....           | 502,480                          | 639,771 | 736,629 | 848,100 | 1,027,372 | 975,920              |

(a) Figures for 30 June 1961 and earlier exclude full-blood Aborigines; those for 1966 and 1971 refer to total population (*i.e.* including Aborigines). See NOTE on page 128. (b) Preliminary figures based on field count. (c) Refers to persons (both passengers and crew) who, at midnight on Census night, were enumerated on board ships in Western Australian ports, or ships which had left an Australian port before Census night for a next port of call in Western Australia. It includes also those who were enumerated on long-distance trains, motor coaches or aircraft.



# **LIST OF STATISTICAL DIVISIONS** **with component Local Government Areas at 31 December 1969**

(See also pages 124 and 542)

**PERTH****Cities**

FREMANTLE  
 MELVILLE  
 NEDLANDS  
 PERTH  
 SOUTH PERTH  
 SUBIACO

**Towns**

CLAREMONT  
 COTTESLOE  
 EAST FREMANTLE  
 MIDLAND  
 MOSMAN PARK

**Shires**

Armadale-Kelmscott  
 Bassendean  
 Bayswater  
 Belmont  
 Canning  
 Cockburn  
 Gosnells  
 Kalamunda  
 Kwinana  
 Mundaring  
 Peppermint Grove  
 Perth  
 Rockingham  
 Serpentine-Jarrahdale  
 Swan-Guildford  
 Wanneroo

**SOUTH-WEST****Town**

BUNBURY

**Shires**

Augusta-Margaret River  
 Balingup  
 Boddington  
 Bridgetown  
 Busselton  
 Capel  
 Collie  
 Dardanup  
 Donnybrook  
 Greenbushes  
 Harvey  
 Mandurah  
 Manjimup  
 Murray  
 Nannup  
 Upper Blackwood  
 Waroona

**SOUTHERN AGRICULTURAL****Town**

ALBANY

**Shires**

Albany  
 Broomehill  
 Cranbrook  
 Denmark  
 Dumbleyung  
 Gnowangerup  
 Katanning  
 Kojonup  
 Lake Grace  
 Nyabing-Pingrup  
 Plantagenet  
 Tambellup  
 Wagin  
 West Arthur  
 Woodanilling

**CENTRAL AGRICULTURAL****Towns**

NARROGIN  
 NORTHAM

**Shires**

Beverley  
 Brookton  
 Bruce Rock  
 Corrigin  
 Cuballing  
 Cunderdin  
 Dowerin  
 Goomalling  
 Kellerberrin  
 Kondinin  
 Koorda  
 Kulin  
 Merredin  
 Mount Marshall  
 Mukinbudin  
 Narembeen  
 Narrogin  
 Northam  
 Nungarin  
 Pingelly  
 Quairading  
 Tammin  
 Toodyay  
 Trayning  
 Wandering  
 Westonia  
 Wickepin  
 Williams  
 Wyalkatchem  
 York

**NORTHERN AGRICULTURAL****Town**

GERALDTON

**Shires**

Carnamah  
 Chapman Valley  
 Chittering  
 Coorow  
 Dalwallinu  
 Dandaragan  
 Gingin  
 Greenough  
 Irwin  
 Mingenew  
 Moora  
 Morawa  
 Mullewa  
 Northampton  
 Perenjori  
 Three Springs  
 Victoria Plains  
 Wongan-Ballidu

**EASTERN GOLDFIELDS****Town**

KALGOORLIE

**Shires**

Coolgardie  
 Dundas  
 Esperance  
 Kalgoorlie  
 Laverton  
 Leonora  
 Menzies  
 Ravensthorp  
 Yilgarn

**CENTRAL****Shires**

Cue  
 Meekatharra  
 Mount Magnet  
 Murchison  
 Sandstone  
 Wiluna  
 Yalgoo

**NORTH-WEST****Shires**

Ashburton  
 Carnarvon  
 Exmouth  
 Shark Bay  
 Upper Gascoyne

**PILBARA****Shires**

Marble Bar  
 Nullagine  
 Port Hedland  
 Roebourne  
 Tableland

**KIMBERLEY****Shires**

Broome  
 Halls Creek  
 West Kimberley  
 Wyndham-East Kimberley

## LIST OF LOCAL GOVERNMENT AREAS

at 31 December 1969

(See also pages 124 and 542)

| Local government area       | City (C)<br>Town (T)<br>Shire (S) | Statistical Division in which situated | Local government area       | City (C)<br>Town (T)<br>Shire (S) | Statistical Division in which situated |
|-----------------------------|-----------------------------------|----------------------------------------|-----------------------------|-----------------------------------|----------------------------------------|
| ALBANY ....                 | T.                                | Southern Agricultural                  | Marble Bar ....             | S.                                | Pilbara                                |
| Albany ....                 | S.                                | Southern Agricultural                  | Meekatharra ....            | S.                                | Central                                |
| Armada-Kelmscott ....       | S.                                | Perth                                  | MELVILLE ....               | C.                                | Perth                                  |
| Ashburton ....              | S.                                | North-West                             | Menzies ....                | C.                                | Eastern Goldfields                     |
| Augusta-Margaret River .... | S.                                | South-West                             | Merredin ....               | S.                                | Central Agricultural                   |
| Balingup ....               | S.                                | South-West                             | MIDLAND ....                | T.                                | Perth                                  |
| Bassendean ....             | S.                                | Perth                                  | Mingenew ....               | S.                                | Northern Agricultural                  |
| Bayswater ....              | S.                                | Perth                                  | Moora ....                  | S.                                | Northern Agricultural                  |
| Belmont ....                | S.                                | Perth                                  | Morawa ....                 | S.                                | Northern Agricultural                  |
| Beverley ....               | S.                                | Central Agricultural                   | MOSMAN PARK ....            | T.                                | Perth                                  |
| Boddington ....             | S.                                | South-West                             | Mount Magnet ....           | S.                                | Central                                |
| Bridgetown ....             | S.                                | South-West                             | Mount Marshall ....         | S.                                | Central Agricultural                   |
| Brookton ....               | S.                                | Central Agricultural                   | Mukinbudin ....             | S.                                | Central Agricultural                   |
| Broome ....                 | S.                                | Kimberley                              | Mullewa ....                | S.                                | Northern Agricultural                  |
| Broomehill ....             | S.                                | Southern Agricultural                  | Mundaring ....              | S.                                | Perth                                  |
| Bruce Rock ....             | S.                                | Central Agricultural                   | Murchison ....              | S.                                | Central                                |
| BUNBURY ....                | T.                                | South-West                             | Murray ....                 | S.                                | South-West                             |
| Busselton ....              | S.                                | South-West                             | Nannup ....                 | S.                                | South-West                             |
| Canning ....                | S.                                | Perth                                  | Naremben ....               | S.                                | Central Agricultural                   |
| Capel ....                  | S.                                | South-West                             | NARROGIN ....               | T.                                | Central Agricultural                   |
| Carnamah ....               | S.                                | Northern Agricultural                  | Narrogin ....               | S.                                | Central Agricultural                   |
| Carnarvon ....              | S.                                | North-West                             | NEDLANDS ....               | C.                                | Perth                                  |
| Chapman Valley ....         | S.                                | Northern Agricultural                  | NORTHAM ....                | T.                                | Central Agricultural                   |
| Chittering ....             | S.                                | Northern Agricultural                  | Northam ....                | S.                                | Central Agricultural                   |
| CLAREMONT ....              | T.                                | Perth                                  | Northampton ....            | S.                                | Northern Agricultural                  |
| Cockburn ....               | S.                                | Perth                                  | Nullagine ....              | S.                                | Pilbara                                |
| Collie ....                 | S.                                | South-West                             | Nungarin ....               | S.                                | Central Agricultural                   |
| Coolgardie ....             | S.                                | Eastern Goldfields                     | Nyabing-Pingrup ....        | S.                                | Southern Agricultural                  |
| Coorow ....                 | S.                                | Northern Agricultural                  | Peppermint Grove ....       | S.                                | Perth                                  |
| Corrigin ....               | S.                                | Central Agricultural                   | Perenjori ....              | S.                                | Northern Agricultural                  |
| COTTESLOE ....              | T.                                | Perth                                  | PERTH ....                  | C.                                | Perth                                  |
| Cranbrook ....              | S.                                | Southern Agricultural                  | Perth ....                  | S.                                | Perth                                  |
| Cuballing ....              | S.                                | Central Agricultural                   | Pingelly ....               | S.                                | Central Agricultural                   |
| Cue ....                    | S.                                | Central                                | Plantagenet ....            | S.                                | Southern Agricultural                  |
| Cunderdin ....              | S.                                | Central Agricultural                   | Port Hedland ....           | S.                                | Pilbara                                |
| Dalwallinu ....             | S.                                | Northern Agricultural                  | Quairading ....             | S.                                | Central Agricultural                   |
| Dandaragan ....             | S.                                | Northern Agricultural                  | Ravensthorpe ....           | S.                                | Eastern Goldfields                     |
| Dardanup ....               | S.                                | South-West                             | Rockingham ....             | S.                                | Perth                                  |
| Denmark ....                | S.                                | Southern Agricultural                  | Roebourne ....              | S.                                | Pilbara                                |
| Donnybrook ....             | S.                                | South-West                             | Sandstone ....              | S.                                | Central                                |
| Dowerin ....                | S.                                | Central Agricultural                   | Serpentine-Jarrahdale ....  | S.                                | Perth                                  |
| Dumbleyung ....             | S.                                | Southern Agricultural                  | Shark Bay ....              | S.                                | North-West                             |
| Dundas ....                 | S.                                | Eastern Goldfields                     | SOUTH PERTH ....            | C.                                | Perth                                  |
| EAST FREMANTLE ....         | T.                                | Perth                                  | SUBIACO ....                | C.                                | Perth                                  |
| Esperance ....              | S.                                | Eastern Goldfields                     | Swan-Guildford ....         | S.                                | Perth                                  |
| Exmouth ....                | S.                                | North-West                             | Tableland ....              | S.                                | Pilbara                                |
| FREMANTLE ....              | C.                                | Perth                                  | Tambellup ....              | S.                                | Southern Agricultural                  |
| GERALDTON ....              | T.                                | Northern Agricultural                  | Tammin ....                 | S.                                | Central Agricultural                   |
| Gingin ....                 | S.                                | Northern Agricultural                  | Three Springs ....          | S.                                | Northern Agricultural                  |
| Gnowangerup ....            | S.                                | Southern Agricultural                  | Toodyay ....                | S.                                | Central Agricultural                   |
| Goomalling ....             | S.                                | Central Agricultural                   | Trayning ....               | S.                                | Central Agricultural                   |
| Gosnells ....               | S.                                | Perth                                  | Upper Blackwood ....        | S.                                | South-West                             |
| Greenbushes ....            | S.                                | South-West                             | Upper Gascoyne ....         | S.                                | North-West                             |
| Greenough ....              | S.                                | Northern Agricultural                  | Victoria Plains ....        | S.                                | Northern Agricultural                  |
| Halls Creek ....            | S.                                | Kimberley                              | Wagin ....                  | S.                                | Southern Agricultural                  |
| Harvey ....                 | S.                                | South-West                             | Wandering ....              | S.                                | Central Agricultural                   |
| Irwin ....                  | S.                                | Northern Agricultural                  | Wanneroo ....               | S.                                | Perth                                  |
| Kalamunda ....              | S.                                | Perth                                  | Waroona ....                | S.                                | South-West                             |
| KALGOORLIE ....             | T.                                | Eastern Goldfields                     | West Arthur ....            | S.                                | Southern Agricultural                  |
| Kalgoorlie ....             | S.                                | Eastern Goldfields                     | West Kimberley ....         | S.                                | Kimberley                              |
| Katanning ....              | S.                                | Southern Agricultural                  | Westonia ....               | S.                                | Central Agricultural                   |
| Kellerberrin ....           | S.                                | Central Agricultural                   | Wickepin ....               | S.                                | Central Agricultural                   |
| Kojonup ....                | S.                                | Southern Agricultural                  | Williams ....               | S.                                | Central Agricultural                   |
| Kondinin ....               | S.                                | Central Agricultural                   | Wiluna ....                 | S.                                | Central                                |
| Koorda ....                 | S.                                | Central Agricultural                   | Wongan-Ballidu ....         | S.                                | Northern Agricultural                  |
| Kulin ....                  | S.                                | Central Agricultural                   | Woodanilling ....           | S.                                | Southern Agricultural                  |
| Kwinana ....                | S.                                | Perth                                  | Wyalkatchem ....            | S.                                | Central Agricultural                   |
| Lake Grace ....             | S.                                | Southern Agricultural                  | Wyndham-East Kimberley .... | S.                                | Kimberley                              |
| Laverton ....               | S.                                | Eastern Goldfields                     | Yalgoo ....                 | S.                                | Central                                |
| Leonora ....                | S.                                | Eastern Goldfields                     | Yilgarn ....                | S.                                | Eastern Goldfields                     |
| Mandurah ....               | S.                                | South-West                             | York ....                   | S.                                | Central Agricultural                   |
| Manjimup ....               | S.                                | South-West                             |                             |                                   |                                        |

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# STATISTICAL PUBLICATIONS

Issued by the Deputy Commonwealth Statistician and Government Statistician,  
1-3 St George's Terrace, Perth.

## PRINTED PUBLICATIONS

| Title of publication                                               | Latest issue at 31 August 1972 | Month of issue | Price              |                       |
|--------------------------------------------------------------------|--------------------------------|----------------|--------------------|-----------------------|
|                                                                    |                                |                | Ex-cluding postage | Including postage (a) |
| WESTERN AUSTRALIAN YEAR BOOK ....                                  | No. 10, 1971                   | Aug. 1971      | \$ 1.00            | \$ 1.61               |
| WESTERN AUSTRALIAN POCKET YEAR BOOK (b)....                        | No. 53, 1971                   | Dec. 1971      | 0.20               | 0.27                  |
| QUARTERLY STATISTICAL ABSTRACT ....                                | June 1972                      | June 1972      | 0.20               | 0.27                  |
| STATISTICS OF WESTERN AUSTRALIA (Annual) (c):                      |                                |                |                    |                       |
| Building and Housing (b) ....                                      | 1969-70                        | Nov. 1971      | 0.30               | 0.37                  |
| Demography (b) ....                                                | 1969                           | Feb. 1972      | 0.40               | 0.52                  |
| Finance ....                                                       | 1970-71                        | Aug. 1972      | 0.40               | 0.47                  |
| Labour and Prices ....                                             | 1970                           | Mar. 1972      | 0.60               | 0.67                  |
| Local Government (b) ....                                          | 1969-70                        | July 1972      | 0.50               | 0.57                  |
| Non-Rural Primary Industries ....                                  | 1968-69                        | May 1971       | 0.20               | 0.27                  |
| Rural Industries (b) ....                                          | 1969-70                        | June 1972      | 1.10               | 1.34                  |
| Social Statistics (b) ....                                         | 1970                           | May 1972       | 0.30               | 0.42                  |
| Summary from 1829 ....                                             | 1829-1970                      | Aug. 1971      | 0.20               | 0.27                  |
| Trade (overseas and interstate) ....                               | 1970-71                        | Aug. 1972      | 1.40               | 1.75(d)               |
| Transport and Communication ....                                   | 1968-69                        | Apr. 1972      | 0.30               | 0.37                  |
| ABSTRACT OF STATISTICS OF LOCAL GOVERNMENT AREAS (Annual) (b) .... | 1972                           | June 1972      | 0.50               | 0.68                  |

(a) Within Australia and to Christmas Island, Cocos Island, Lord Howe Island, Norfolk Island, Nauru and Papua-New Guinea.  
(b) Includes statistics for individual local government areas. (c) Replaces the *Statistical Register of Western Australia* for 1968-69 and subsequent years. (d) Within 30 miles of the General Post Office, Perth. Elsewhere in Western Australia and to Cocos Island and Christmas Island, postage is 45 cents; to South Australia and Northern Territory, 65 cents; to Victoria, 75 cents; elsewhere in Australia, etc., 85 cents.

## MIMEOGRAPHED PUBLICATIONS

(Available free of charge on application)

| Subject                                                                                                | Frequency of issue | Latest issue at 31 August 1972 | Month of issue |
|--------------------------------------------------------------------------------------------------------|--------------------|--------------------------------|----------------|
| ACCIDENTS—                                                                                             |                    |                                |                |
| Industrial Accidents ....                                                                              | Annually           | 1970-71                        | Jan. 1972      |
| Road Traffic Accidents involving Casualties ....                                                       | Quarterly          | Mar. qr 1972                   | July 1972      |
| Road Traffic Accidents involving Casualties (a) ....                                                   | Annually           | 1971                           | Aug. 1972      |
| BUILDING—                                                                                              |                    |                                |                |
| Building Operations (a) ....                                                                           | Quarterly          | Mar. qr 1972                   | June 1972      |
| Building Permits and Approvals (a) ....                                                                | Monthly            | July 1972                      | Aug. 1972      |
| Number of New Houses and Flats (preliminary estimates) ....                                            | Quarterly          | June qr 1972                   | July 1972      |
| EMPLOYMENT—                                                                                            |                    |                                |                |
| Wage and Salary Earners in Civilian Employment ....                                                    | Annually           | June 1966 to June 1971         | Oct. 1971      |
| FINANCE—                                                                                               |                    |                                |                |
| Fire, Marine and General Insurance Statistics ....                                                     | Annually           | 1970-71                        | Jan. 1972      |
| Local Government Finance Statistics ....                                                               | Annually           | 1969-70                        | Jan. 1972      |
| Local Government Revenue and Expenditure: Budget Estimates (a) ....                                    | Annually           | 1971-72                        | Jan. 1972      |
| MOTOR VEHICLES—                                                                                        |                    |                                |                |
| Motor Vehicle Registrations ....                                                                       | Monthly            | June 1972                      | Aug. 1972      |
| Motor Vehicle Registrations (a) ....                                                                   | Annually           | 1969                           | Aug. 1970      |
| POPULATION AND VITAL STATISTICS—                                                                       |                    |                                |                |
| Divorce ....                                                                                           | Annually           | 1971                           | June 1972      |
| Hospital In-patient Statistics (†) ....                                                                | Annually           | 1971                           | Aug. 1972      |
| Intercensal Changes in Population (a) ....                                                             | Irregular          | 1961-1966                      | June 1968      |
| Population and Occupied Dwellings: Censuses, 1911 to 1966 (a) ....                                     | Irregular          | 1911 to 1966                   | Feb. 1968      |
| Population, Dwellings and Vital Statistics (Local Government Areas and Statistical Divisions) (a) .... | Annually           | 1966-1970                      | Jan. 1971      |
| Projections of the Population ....                                                                     | Irregular          | 1967 to 1976                   | Feb. 1969      |

(a) Includes statistics for individual local government areas.

(†) New issue.

continued on next page

## STATISTICAL PUBLICATIONS—continued

## MIMEOGRAPHED PUBLICATIONS—continued

| Subject                                                                                   | Frequency of issue | Latest issue at 31 August 1972 | Month of issue |
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| <b>PRIMARY PRODUCTION—</b>                                                                |                    |                                |                |
| Agricultural and Pastoral Statistics (general summary) ....                               | Annually           | 1970-71                        | Sept. 1971     |
| Agricultural Census: Principal Statistics (preliminary statement) ....                    | Annually           | 1971-72                        | Aug. 1972      |
| Apples and Pears in Cool Stores ....                                                      | Monthly            | July 1972                      | Aug. 1972      |
| Artificial Fertiliser Used on Rural Holdings (a) ....                                     | Annually           | 1970-71                        | Oct. 1971      |
| Bee Keeping Statistics ....                                                               | Annually           | 1970-71                        | Oct. 1971      |
| Catch of Fish and Crustaceans ....                                                        | Monthly            | Feb. 1972                      | Aug. 1972      |
| Cattle and Pigs (a) ....                                                                  | Annually           | 1971                           | Sept. 1971     |
| Cereal Crop Forecast ....                                                                 | Annually           | 1971-72                        | Oct. 1971      |
| Chicks Hatched and Poultry Slaughtered ....                                               | Monthly            | June 1972                      | Aug. 1972      |
| Ewe Matings for Lambing ....                                                              | Triennially        | 1969 and 1970                  | Feb. 1971      |
| Fisheries ....                                                                            | Annually           | 1970-71                        | Aug. 1972      |
| Fruit (a) ....                                                                            | Annually           | 1970-71                        | Nov. 1971      |
| Grain and Other Crops and Cereal Varieties (a) ....                                       | Annually           | 1970-71                        | Sept. 1971     |
| Grain and Seed Harvesters on Rural Holdings (a) ....                                      | Triennially        | 1970                           | Mar. 1971      |
| Hay, Green Feed and Silage (a) ....                                                       | Annually           | 1970-71                        | Oct. 1971      |
| Irrigation (a) ....                                                                       | Annually           | 1970-71                        | Oct. 1971      |
| Livestock Slaughtered and Meat Produced ....                                              | Annually           | 1970-71                        | Dec. 1971      |
| Machinery on Rural Holdings (a) ....                                                      | Annually           | 1971                           | Oct. 1971      |
| Mineral Exploration ....                                                                  | Annually           | 1970-71                        | July 1972      |
| Pasture Seed (a) ....                                                                     | Annually           | 1970-71                        | Oct. 1971      |
| Rock Lobsters Held in Cold Stores and Exported ....                                       | Monthly            | July 1972                      | Aug. 1972      |
| Rural Land Utilisation (a) ....                                                           | Annually           | 1970-71                        | Aug. 1971      |
| Sheep, Lambing and Wool Clip (a) ....                                                     | Annually           | 1970-71                        | Sept. 1971     |
| Tractors on Rural Holdings (a) ....                                                       | Triennially        | 1969                           | Mar. 1970      |
| Value of Primary Production (excluding Mining and Quarrying) (preliminary statement) .... | Annually           | 1970-71                        | Apr. 1972      |
| Vegetables (a) ....                                                                       | Annually           | 1970-71                        | Oct. 1971      |
| Wheat for Grain (a) ....                                                                  | Annually           | 1971-72                        | Aug. 1972      |
| <b>TRADE (EXTERNAL)—</b>                                                                  |                    |                                |                |
| External Trade (Overseas and Interstate) ....                                             | Annually           | 1970-71                        | Dec. 1971      |
| Interstate Trade ....                                                                     | Annually           | 1970-71                        | Nov. 1971      |
| Quarterly Summary of Overseas Trade Statistics ....                                       | Quarterly          | To Mar. 1972                   | July 1972      |
| <b>TRADE (INTERNAL)—</b>                                                                  |                    |                                |                |
| Wholesale Sales and Stocks of Wine and Brandy ....                                        | Annually           | 1969-70 and 1970-71            | Nov. 1971      |
| <b>GENERAL—</b>                                                                           |                    |                                |                |
| Monthly Statistical Summary ....                                                          | Monthly            | Aug. 1972                      | Aug. 1972      |

(a) Includes statistics for individual local government areas.

NOTE. In addition to the preceding publications, a number of bulletins which deal exclusively with this State are produced by the Commonwealth Statistician, Canberra who also issues many publications which contain particulars for Western Australia as a component of Australian totals. A complete list of all publications currently issued by the Central and the various State Offices of this Bureau appears in 'Publications of the Commonwealth Bureau of Census and Statistics' issued by the Commonwealth Statistician, copies of which are available free of charge from the Western Australian Office at the address shown on page 600.



