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OFFICIAL YEAR BOOK
OF
WESTERN AUSTRALIA

No. 5

1965



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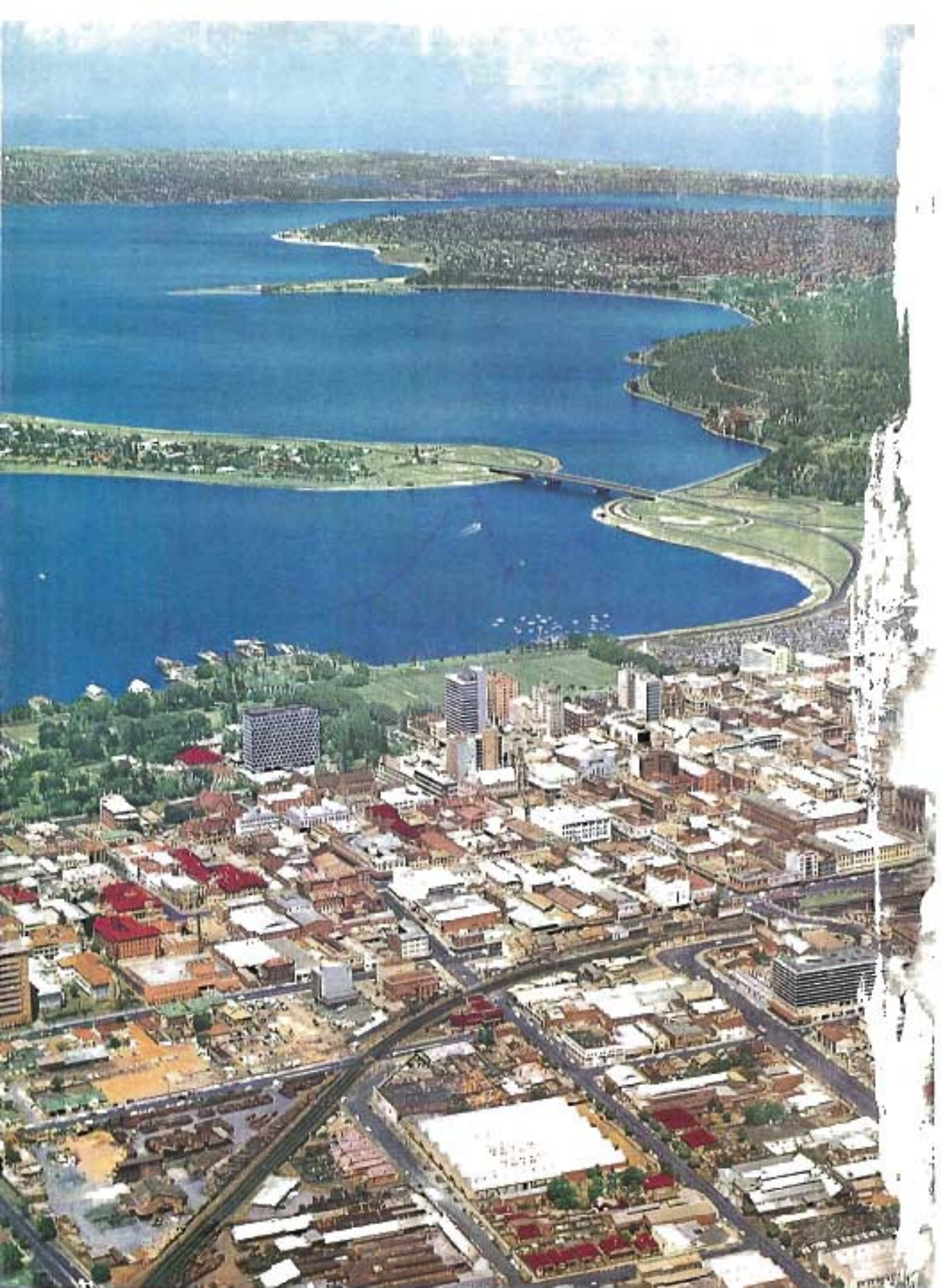
Users are warned that this historic issue of this publication series may contain language or views which, reflecting the authors' attitudes or that of the period in which the item was written, may be considered to be inappropriate or offensive today.



CITY OF PERTH

Aerial View looking South-West

Perth, the capital city of Western Australia, is situated on the right bank of the Swan River about 12 miles upstream from the Port of Fremantle. The town of Perth was founded on the 12th August, 1829. Perth was constituted a City on the 23rd September, 1856 when it became the seat of a Bishop. The status of Mayor of the City was raised to that of Lord Mayor in 1929 on the centenary of its foundation.



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COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
WESTERN AUSTRALIAN OFFICE

OFFICIAL YEAR BOOK
OF
WESTERN AUSTRALIA

No. 5—1965



R. J. LITTLE
Deputy Commonwealth Statistician
and
Government Statistician

ALEX. B. DAVIES, Government Printer, Western Australia

PREFACE

This issue of the *Official Year Book of Western Australia* is the fifth of a new series. The old series, originally published for the year 1886 and discontinued in 1905, developed from the Blue Books of the Colonial Office, London, which contain the early statistical records of Western Australia.

The aim of the Year Book is to provide a general description of the State of Western Australia and its development, in terms of its geography, climate and geology, the plants and trees which grow on its surface, its animal life, and the activities and social patterns of its people in relation to this physical environment. Ample use has been made of statistical tables to supplement the descriptive text and to give a numerical account of what has been happening in the several fields of production, trade and commerce, population and social condition, the functions of government, and so on. A list of illustrations, in the form of plates, graphs and maps, and a synopsis of the contents are given in the opening pages.

The statistical tables in this issue relate in the main to periods ended the 30th June, or the 31st December, 1964, but some of the descriptive matter incorporates the effect of later Commonwealth and State legislation or administrative decisions and other more recent developments. A wide range of current statistics is available in the periodical publications produced by this Office in printed or mimeographed form, and listed at the back of the Book, as well as in the various publications issued by the Commonwealth Statistician, Canberra and by the Deputy Commonwealth Statisticians in other States. Many of the statistical tables in the Year Book have been adapted from information appearing in the several Parts of the *Statistical Register of Western Australia*, to which reference should be made if more detail is required.

My thanks are again expressed to the many government officials and others who willingly collaborated in the preparation of letterpress or in the review of existing matter, to BP in Western Australia, Service Printing Company Proprietary Limited, the Royal Society of Western Australia, the Department of Agriculture, the Department of Industrial Development, the Western Australian Government Railways Commission, the National Parks Board and the Rural and Industries Bank for the loan of blocks used in some of the illustrations, and to the Government Printer and his staff for their continuing interest in the work and for assistance and advice freely given at all times.

The courtesy of the Library Board of Western Australia in providing the text of Governor Stirling's Commission for inclusion in the *Appendix* following the main Chapters is gratefully acknowledged.

The authors of the scientific articles appearing in Chapter II are especially thanked for contributions of new material and for their ready co-operation in revising the earlier text.

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

Although great care has been taken to ensure the accuracy of the information in the Year Book, it is possible that it may nevertheless contain some errors. The reader is requested to indicate any apparent inaccuracies and also to suggest any improvements which may be thought desirable.

R. J. LITTLE
Deputy Commonwealth Statistician
and
Government Statistician

Commonwealth Bureau of Census and Statistics
Western Australian Office
PERTH, W.A.
6th December, 1965

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Governor Stirling's Commission

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GENERAL MAP OF WESTERN AUSTRALIA (inside back cover)

Including : LOCAL GOVERNMENT AREAS

STATISTICAL DIVISIONS

PRINCIPAL AIR ROUTES

ISOHYETS

CORRIGENDUM

University of Western Australia—Degrees Conferred

The figures below should be substituted for those appearing in the table on page 152.

Particulars	1963	1964
Degrees (†) Conferred—		
Agriculture	15	10
Arts	197	193
Dental Science	0	11
Economics	15	22
Education	20	26
Engineering	46	36
Law	15	24
Medicine	39	45
Science	103	121
Total	459	488
Males	350	372
Females	109	116
Total	459	488

† Excluding honorary degrees.

CHAPTER 1 - HISTORICAL REVIEW

DISCOVERIES AND HISTORY UP TO COLONIZATION IN 1829

The first European known to have visited the western shores of the Australian continent, until then the legendary *Terra Australis Incognita*, was Dirk Hartogs, an officer of the Dutch East India Company. In October, 1616, while outward bound from Holland to the East Indies in the vessel "Eendracht," he entered the bay which Dampier later visited and named Shark Bay (*see map of Western Australia following Index*). Hartogs landed on part of its western arm, since named in his honour Dirk Hartogs Island. In July, 1618, the Dutch vessel "Mauritius" touched near North West Cape; in 1619 Frederik de Houtman discovered the group of reefs and islands, now known as Houtman Abrolhos, lying some fifty miles off shore from the present port of Geraldton, and in 1622 the Dutch ship "Leeuwin" rounded the cape (now Cape Leeuwin) at the south-western extremity of the Australian continent. Early in 1627, Thyssen in the Dutch vessel "Gulden Zeepaard" made a close examination of the southern coastline for a distance of about a thousand miles eastward from Cape Leeuwin.

In 1629, the "Batavia" under the command of Francis Pelsart was wrecked on one of the Abrolhos islands while on a voyage from Holland to the Indies. The vessel was a total loss, but most of the passengers and crew reached shore. Pelsart, with eight men, made his way to Batavia in a ship's boat and obtained a frigate in which he returned to rescue the remaining castaways. In his absence some of the crew, led by the supercargo, Jerome Cornelis, had mutinied and murdered most of the passengers. Pelsart executed the ringleaders and marooned two lesser offenders on the nearby mainland.

In 1644, Abel Tasman, instructed by the Dutch East India Company, made a voyage of exploration in command of the yachts "Limmen," "Zeemeeuw" and "De Brak" in the course of which he examined the northern and north-western coasts as far south as Exmouth Gulf and probably landed at points now named Carnot Bay and Roebuck Bay. To the western part of the continent he gave the name "New Holland." In April, 1656, the Dutch ship "Vergulde Draeck," laden with merchandise and considerable treasure, was wrecked on a reef on the west coast about latitude 30° 40' S. with the loss of 118 lives. Leaving 68 survivors on the mainland, a crew of seven set out for Batavia in a ship's boat. On their arrival an expedition was dispatched in search of the wreck and the castaways. This expedition and others sent later did not succeed in finding them but did, however, result in improved charts of parts of the Western Australian coast.

The first recorded visit by an Englishman was that of William Dampier in the small vessel "Cygnnet." In January, 1688, the crew, after having mutinied and seized the ship, beached her for overhauling at a place on the north-west coast now known as Cygnnet Bay.

In December, 1696, Commander Willem de Vlaming in the Dutch ship "Geelvinck," searching for a vessel overdue on a voyage from Holland to the Indies, came to an island which he named "Rottenest" (now spelt "Rottnest") lying about ten miles from the mainland. In January, 1697, he and a party of armed men landed on the adjacent coast probably near the present Cottesloe and marching eastward a short distance came upon a river which he named the Swan River on account of the presence of many black swans. A few days later his ship and two accompanying vessels anchored close to the mouth of the river and Vlaming is said to have explored its course for some distance. He saw no natives though a primitive hut and other signs of habitation were found and some footprints were seen. Vlaming examined the coast northward as far as North West Cape. On the whole his report on the country was not favourable.

In 1699, Dampier was sent by William III in the "Roebuck" under an Admiralty Commission to make further explorations on the north-west coast. On the 1st August, 1699, he entered and named Shark Bay and then explored the coast as far north as Roebuck Bay. So disgusted was he with the barren and waterless country that he abandoned his mission. As a result of his adverse report, England appears to have lost interest in Australian exploration for many years.

Between 1705 and 1765 there were several visits by Dutch ships, two of which were wrecked on Houtman Abrolhos.

In March, 1772, a French ship "Le Gros Ventre" under the command of Captain de St. Alouarn anchored off Cape Leeuwin.

The next known visit was made by the British when, on the 26th September, 1791, Captain George Vancouver in H.M.S. "Discovery," attended by H.M.S. "Chatham" with Captain Broughton in command, reached the coast about 100 miles south-east of Cape Leeuwin, near Point Nuyts. Proceeding

eastward, the expedition entered a fine natural harbour which was named "King George III Sound," now King George Sound. Vancouver took formal possession, in the name of the King, of the land he saw between his landfall at Chatham Island and his point of departure from the coast near the present port of Esperance.

Another visit by the French followed, Admiral d'Entrecasteaux arriving near Chatham Island in December, 1792, at a point now named Point D'Entrecasteaux. His fleet, comprising the vessels "Recherche" and "Esperance," was in search of an expedition under La Perouse which had not been heard of since 1788 when it sailed from Botany Bay, New South Wales, on the eastern coast of the continent. The visit of the fleet under d'Entrecasteaux is commemorated in several place names along the southern coast.

In 1801-02, Captain Matthew Flinders under orders from the Admiralty made a detailed survey of the south coast in the sloop "Investigator." He charted the coast eastward from Cape Leeuwin, as far as Bass Strait. It was Flinders who suggested in 1814 that the continent be named Australia.

A scientific expedition, comprising the vessels "Geographe" commanded by Commodore Nicolas Baudin and "Naturaliste" by Captain Hamelin with Lieutenant Louis de Freycinet, was dispatched by the French Government from Le Havre in October, 1800. They reached the south-west coast in 1801. Becoming separated in a storm they made their way independently to Timor, the "Geographe" by way of Shark Bay and Cape Leveque, the "Naturaliste" calling at Rottneest and the Swan River, which was carefully explored to a point beyond the confluence of the Helena River. Leaving Timor in November, 1801, the two vessels sailed to Van Diemen's Land (now Tasmania). A small ship, the "Casuarina," was later chartered in Sydney and placed under de Freycinet's command. The "Geographe" and the "Casuarina" then proceeded to examine the southern coast of the continent and continued along the western coast, touching at points from King George Sound to what is now the West Kimberley area. A great number of well-known place names resulted from these voyages.

In 1818, de Freycinet, in command of the "Uranie," again visited the western and north-western coasts and made a geographical survey of Shark Bay.

From 1818 to 1822, Lieutenant Philip Parker King under instructions from the Admiralty made a survey of the whole of the coast between King George Sound and Cambridge Gulf.

In October, 1826, the French vessel "Astrolabe," under Captain D'Urville, visited King George Sound and spent almost a month there. In November of the same year, Governor Darling of New South Wales had dispatched Major Edmund Lockyer from Sydney with a detachment of soldiers and a party of convicts to found a settlement at King George Sound. The move was designed primarily to forestall the French who, it was feared, planned to annex the territory. A landing was made by Lockyer on the 25th December and the first settlement in what is now Western Australia was established.

In 1827, Captain Stirling sailed from Sydney in H.M.S. "Success" to examine the country in the vicinity of the Swan River, where a settlement was contemplated. His report was favourable and Governor Darling recommended the British Government to proceed at once with the venture.

On the 2nd May, 1829, Captain Charles H. Fremantle in H.M.S. "Challenger" arrived at the mouth of the Swan River and, hoisting the British flag on the south head, took formal possession in the name of His Majesty King George IV of "all that part of New Holland which is not included within the territory of New South Wales." Thus with this annexation, embracing an area extending to the 129°E. meridian, the whole of the Australian continent became British territory.

On the 1st June, 1829, Captain Stirling returned from England in the transport "Parmelia" in command of an expedition appointed to establish the Colony of Western Australia which for some time afterwards was generally known as the Swan River Settlement. He was joined a few days later by H.M.S. "Sulphur" with a detachment of the 63rd Regiment. At first the colonists camped on Garden Island but shortly afterwards established settlements at Fremantle and Perth.

CHRONOLOGICAL NOTES FROM 1829

1829—Landing at Swan River in May of Captain Fremantle from H.M.S. "Challenger," and formal possession taken of territory in the name of His Majesty King George IV. Arrival from Spithead in June of transport "Parmelia" having on board the newly-appointed Lieutenant-Governor, Captain James Stirling, and his family, together with intending settlers, numbering in all some 70 persons. "Parmelia" followed a few days later by H.M.S. "Sulphur" with detachment of troops. Proclamation of Colony on Garden Island on 18th June. Townsites of Perth, the capital of the Colony, and Fremantle, the port, laid out. Official ceremony on 12th August to mark the foundation of Perth. Arrival in

December of the "Gilmore" with Thomas Peel and settlers. In all, 18 merchant ships arrived during the year.

1830—Exploration of hinterland south and east of Swan River. Military station established at Port Leschenault, near present site of Bunbury. Townsite of Augusta laid out and colonists settled there. Town of Guildford surveyed; townsite of Kelmscott proclaimed. Sites of towns of York and Beverley explored by Ensign R. Dale. Arrival of Rev. J. B. Wittenoom, first Colonial Chaplain. Postmasters appointed at Perth and Fremantle. First school and first hotels opened.

1831—Inauguration of monthly boat service between Fremantle and Guildford. Settlement of York district and exploration of lower Avon valley. First overland journey from Perth to King George Sound. Administration of settlement at King George Sound transferred to authorities at Perth. Townsite of Albany laid out. Arrival of Captain Stirling's commission as Governor and Commander-in-Chief and publication in December of Order of the King in Council constituting first Legislative Council. Production of first printed newspaper, "The Fremantle Observer," replacing earlier manuscript news-sheet. Wheat harvested from a total area of 160 acres. Vineyard established at Hamilton Hill. First meeting of Agricultural Society. Completion of Round House Gaol on Arthur's Head at Fremantle.

1832—In February, first sitting of Executive Council. First meeting of Legislative Council of five members comprising the Governor, Captain Stirling, the Commandant, Captain F. C. Irwin, the Colonial Secretary, Peter Broun, the Surveyor-General, J. S. Roe, and the Advocate-General, W. H. Mackie. Civil Court established. First sale of unoccupied Crown lands at auction, replacing earlier grants system. Further extension of settlement across Darling Range. In August, departure of Captain Stirling on visit to England.

1833—Journeys by Ensign Dale and Dr. Collie in vicinity of King George Sound. Examination of Vasse district by J. G. Bussell. Arrival of Sir Richard Spencer as Government Resident at Albany. First issue of "Perth Gazette." Rationing of food in the Colony; situation relieved by arrival of several ships later in year and bountiful harvest at end of year. Area under crop 600 acres. Erection of flour mills at Perth.

1834—Captain Sir James Stirling returned to Perth in August and first regulations for Civil Establishment proclaimed shortly afterwards. In October, an encounter near Pinjarra between a party, led by Sir James Stirling and Captain Ellis, and the natives of the Murray tribe resulted in the death of about 15 natives; Captain Ellis later died of a spear wound. Postal Department established. Agricultural Society held first agricultural show near Guildford. First export of wool, 7,585 lb., to England.

1835—Value of land and improvements estimated at nearly £250,000. Area of land under crop 1,800 acres. Livestock included 5,138 sheep and 646 cattle. Lack of interest in the Colony in London despite publication of Captain Irwin's "The State and Position of Western Australia." Estimates of receipts and expenditure for year laid before Legislative Council for the first time. Erection of Shenton's Mill at the Narrows on left bank of Swan River opposite Perth.

1836—First settlers took up residence in Bunbury district. Notable journeys east and north of Perth by J. S. Roe and G. F. Moore. Road between Perth and Albany surveyed by A. Hillman. Launching of first locally-built seagoing craft, the "Lady Stirling." First shipment of timber, "Western Australian mahogany" (jarrah), to England. First issue of "Government Gazette."

1837—Population 2,032; males 1,282, females 750. Sheep numbered over 10,000 and wheat production exceeded consumption. Bank of Western Australia commenced business. Perth Courthouse completed. Whaling operations begun in Cockburn Sound. Oil and whalebone valued at £3,000 exported.

1838—Captain George Grey explored country in vicinity of Prince Regent River while H.M.S. "Beagle" conducted coastal survey. Sir James Stirling left the Colony. First full plan of Perth issued by Surveyor-General. Rottnest Island first used as native prison.

1839—Grey's overland journey between Shark Bay and Perth. Government offered a reward of 2,560 acres of land for discovery of coal. Governor Hutt nominated four unofficial members to Legislative Council. Publication in London of Nathaniel Ogle's "The Colony of Western Australia" and in Perth of a vocabulary of the aboriginal language by George Grey.

1840—Construction of Perth causeway over Swan River begun. Departure of the "Shepherd" for London with cargo consisting wholly of colonial produce. Publication of "The Inquirer" newspaper. First full-time police constable appointed in Perth. First Master and Servant Act passed by Legislative Council.

1841—Population 2,760 ; males 1,706, females 1,054. Completion of coastal survey, begun in 1838, by Captains Wickham and Stokes in H.M.S. "Beagle." Edward John Eyre's journey overland from Fowler's Bay (South Australia) to Albany. Discovery by William Nairne Clark of hardwood forests between Albany and Point D'Entrecasteaux. Extension of mail services—weekly between Guildford and York and monthly between Guildford and Albany. Settlement established at Australind by the Western Australian Company following arrival of the "Parkfield" in March, this being the first substantial immigration since 1831. Absorption of Bank of Western Australia by Bank of Australasia, followed by the formation of a new locally-owned bank, the Western Australian Bank. Legislation providing for compulsory registration of births, deaths and marriages ; central registry office established at Perth.

1842—Number of sheep exceeded 60,000. Minimum price of Crown land raised to £1 per acre. Perth Town Trust constituted under Act of 1841. Opening of Wesleyan Church in Perth. Inauguration of scheme for immigration of boys from Parkhurst Prison, Isle of Wight. Net migration 673. Publication of first "Western Australian Almanack."

1843—Completion of Perth causeway. First bridge over Canning River opened. Pastoral industry adversely affected by fall in price of wool. News received of determination to wind up affairs of the Western Australian Company. Arrival in December of Very Rev. J. Brady to minister to the Roman Catholic community.

1844—Population 4,350 ; males 2,622, females 1,728. Sheep numbered 86,482 and cattle 5,376. Export of horses to India and of cattle to Mauritius. Sawmill and flour-mill, operated by steam, began production at Guildford. Regular exports of timber commenced. Lieutenant Helpman in the schooner "Champion" landed at the mouth of the Murchison River and reported good pastoral country. First execution of a European, for murder.

1845—First visit of a steam vessel, H.M.S. "Driver." First export of sandalwood. Departure of some settlers and closure of branch of Bank of Australasia. Petition by some settlers for introduction of convicts to relieve acute shortage of labour. First service held in Saint George's Church of England.

1846—Export of wool, 291,368 lb., more than double that of previous year. Formation of Western Australian Mining Company following reports of discovery of coal in Murray district. Discovery of coal at Irwin River by A. C., F. T. and C. Gregory. Launching at Fremantle of three vessels built of jarrah, the largest being of 260 tons cargo capacity. First Congregational Church opened in Perth. Foundation of New Norcia by the Benedictine missionaries Dom Serra and Dom Salvado.

1847—Membership of Legislative Council increased by appointment of the Collector of Revenue, H. C. Sutherland, as an official member. Appointment of General Board of Education and opening of Perth Boys' School and Perth Girls' School. First export of guano from Shark Bay. Birth of John Forrest at Bunbury.

1848—In October, first official census. Population 4,622 ; males 2,818, females 1,804. Livestock numbered 141,123 sheep, 10,919 cattle, 2,287 pigs and 2,095 horses. Area under crop more than 7,000 acres, including 3,317 acres of wheat. Discovery of lead by Gregory brothers in the Northampton district near Murchison River resulted in establishment of Geraldine Lead Mine. J. S. Roe's journey of 1,800 miles in the south-east as far as Russell Range ; reported discovery of coal at Fitzgerald River and of heavily-timbered areas. Twelve schools open with total enrolment of 400 scholars. Pastoral visit by Bishop Short from Adelaide.

1849—Following agitation by leading colonists for urgently-needed labour and public works, Order-in-Council published in October enabling British convicts to be transported to the Colony. Discovery of copper at Geraldine Mine. Publication of new regulations permitting the issue of pastoral leases.

1850—Arrival at Fremantle on 1st June of "Scindian" with first convicts, 75 in number, in the charge of Captain E. Y. W. Henderson, Comptroller-General of Convicts until 1863. The Australian Colonies Government Act precluded Western Australia from having "representative government" for the time being. Report by Lieutenant Helpman of discovery of pearls at Shark Bay. Survey of site of Geraldton.

1851—Programme of public works planned, to include roads, bridges and public buildings, using convict labour. Formation of Police Force. Swan River Mechanics' Institute founded.

1852—Construction of smelting furnace at Geraldine Mine. Establishment of coaling station at Albany and arrival of first mail steamer carrying mails between England and Australia. First export of colonial wine. Townsite of Dongara surveyed. Western Australian Turf Club established.

1853—Export of jarrah to Victoria. Ticket-of-leave depot established at Port Gregory, about 50 miles north of Geraldton, to aid mining industry.

1854—Second census of the Colony. Population 11,743; males 7,779, females 3,964. Livestock comprised 173,568 sheep, 20,436 cattle, 4,499 horses and 4,073 pigs. Area under crop approximated 14,000 acres, almost 6,000 acres being sown to wheat. Robert Austin's journey through the Murchison district; Mount Magnet area described as having "every appearance of being one of the finest goldfields in the world." Erection at Quindalup, near Busselton, of first large timber mill. Issue of first postage stamps, introducing prepayment for mail delivery.

1855—Discovery of copper at Bowes River, about 25 miles north of Geraldton, leading to the development of the Northampton mineral field. Inauguration by steamer "Les Trois Amis" of first regular service by steamer on Swan River between Perth and Fremantle. First wing of Fremantle Gaol completed.

1856—Perth constituted a city and arrival of Archdeacon M. B. Hale as Bishop-Designate of Perth. Expedition, led by A. C. Gregory, from Victoria River (Northern Territory) along Sturt Creek as far as Gregory's Salt Sea, west of the Musgrave Range. Deficit in public accounts, causing Government to institute economies. Completion of new Perth Gaol and courthouse north of city.

1857—Reports of good pastoral country on Upper Murchison River following F. T. Gregory's exploration of the area. Negotiations completed for sale of large number of horses in India. Introduction of statutory control of "scab" in sheep. Regular river steamer service extended to reach Guildford.

1858—F. T. Gregory's exploration of the Gascoyne district and discovery of good pastoral lands. First meeting of Perth City Council. Elevation of Saint George's Church of England to Cathedral status with installation of Bishop Hale. Opening of Bishop Hale's School, the first secondary school in the Colony.

1859—Third census taken. Population 14,837; males 9,522, females 5,315. Livestock included 234,815 sheep, 30,990 cattle, 11,430 pigs and 8,386 horses. Area under crop 25,114 acres, of which wheat represented 13,610 acres. Reduction in price of Crown land from £1 to 10s. per acre. Further copper and lead mines opened up in Northampton district.

1860—A total of 5,500 convicts had arrived and many had been engaged on the construction of public buildings, bridges and roads, the remainder being employed privately. Great public interest in commercial photography, recently introduced in the Colony.

1861—Supreme Court established; Mr. A. P. (later Sir Archibald) Burt appointed first Chief Justice. F. T. Gregory led an expedition in the North-West, in the course of which the Ashburton, Fortescue, De Grey and Oakover Rivers were discovered, the existence of good grazing lands reported and pearls found in the Nickol Bay area. Provision made for a volunteer defence force.

1862—Arrival of Dr. John Hampton, formerly Comptroller-General of Convicts in Tasmania, as sixth Governor of the Colony. Government offered a reward of £5,000 for discovery of payable goldfield within 150 miles of Perth. First regular export of pearl-shell. Severe floods in many parts of the Colony, causing much damage and the loss of several lives. Proclamation of special land regulations for the North and Eastern Districts. Foundation of Perth Benefit Building Investment and Loan Society. Money Order Office opened.

1863—First settlement in the North-West made by W. Padbury and J. Wellard in the De Grey district. Examination of Camden Harbour area near Collier Bay. H. M. Lefroy led an expedition to the Hampton Plains district east of the present site of Kalgoorlie. In January, E. H. Hargraves reported that the discovery of gold in the Colony was unlikely. Departure of last unit of British Regular Army. Governor Hampton took up residence in present Government House. Post Office Savings Bank opened at Perth.

1864—First shipment of wool from North-West pastoral areas. Formation of Camden Harbour Pastoral Association in Victoria and of Roebuck Bay Pastoral Association in Perth. Panter, Harding and Goldwyer killed by natives in the Roebuck Bay district. First of C. C. Hunt's expeditions, in this and the two following years, to the Hampton Plains district. City of Perth divided into three wards.

1865—Arrival at Camden Harbour of R. J. Sholl as Government Resident of the North District. Failure of Camden Harbour Pastoral Association and of the Denison Plains Pastoral Company to form permanent settlements. Captain E. A. Delisser's journey into the south-east corner of the Colony from South Australia and report of salt-bush country. Population of the Colony exceeded 20,000. Sheep numbered 445,000, cattle 45,000 and horses 16,000. Saint Mary's Roman Catholic Cathedral and Trinity Congregational Church opened in Perth.

1866—Town of Roebourne proclaimed and establishment there of headquarters of Government Resident and staff, transferred from Camden Harbour. Overland stock route from Geraldton to Nickol Bay opened by E. T. Hooley. Roebuck Bay Pastoral Association moved to Roebourne district. Pensioners' Barracks opened in Perth. Branch of National Bank of Australasia commenced business. Bridge over Swan River at Fremantle opened.

1867—Corner-stone of Perth Town Hall laid. Opening of new causeway over Swan River at Perth and of bridge over Helena River at Guildford. Legislative Council enlarged to comprise six officials and six colonists nominated by the Governor. Total area under pastoral leases in the North-West 5.8 million acres.

1868—On 10th January the last convicts sent to the Colony reached Fremantle on the "Hougoumont"; total arrivals since the beginning of transportation in 1850 numbered 9,668, all of whom were males. Increase in export of pearl-shell. Appearance of red rust in wheat crops in the Champion Bay district.

1869—Arrival of Sir Frederick Weld as seventh Governor of the Colony. Opening of first telegraph line, between Perth and Fremantle. John Forrest led an expedition, in search of Leichhardt's party, to a point east of Mount Margaret. Visit of H.R.H. the Duke of Edinburgh.

1870—Fourth official census taken. Population of Colony, 24,785 (15,375 males, 9,410 females) and of Perth, more than 5,000. Sheep numbered 654,054, cattle 47,263, horses 23,012 and pigs 16,120. Area under crop 50,263 acres, of which 25,963 acres sown to wheat. Inauguration of representative government; new Legislative Council comprised twelve elected members and six nominees. Severe drought affected both pastoral and agricultural districts. John and Alexander Forrest led an expedition from Perth to Adelaide (South Australia) by way of Kojonup, Esperance Bay and Eucla. Official opening of Perth Town Hall. Medical Board established for registration of medical practitioners. Government Printing Office opened. Opening of present Perth Wesley Church.

1871—First Loan Act passed authorizing, in addition to public works, a railway survey in the Champion Bay district and the purchase of the Perth-Fremantle telegraph line. Elementary Education Act vested control of education in a Central Board and in District Boards; annual government grants made to government and private schools. Municipalities of Perth, Fremantle, Guildford, Albany, Bunbury, Busselton, Geraldton and York proclaimed; Road Boards established. Opening by the Western Australian Timber Company of a private railway 12 miles in length near Busselton, using a steam locomotive.

1872—Cyclone in Nickol Bay area caused heavy stock losses and devastated the town of Roebourne. Flooding of the Avon and Swan Rivers caused extensive damage to property. Opening of telegraph line connecting Perth and Albany. Arrival of Lieutenant Archdeacon to conduct Admiralty surveys on the Western Australian coast.

1873—Major Warburton led a cross-country expedition from Alice Springs (Central Australia) to the De Grey River. Perth provided with street lighting, by means of oil lamps. Sheep numbered almost three-quarters of a million and cattle nearly 50,000.

1874—John and Alexander Forrest led a successful expedition from Geraldton to the overland telegraph line in Central Australia. Legislative Council increased to 21, of whom 14 were elected members. Work commenced on the Geraldton-Northampton railway. Export of timber, 4.1 million superficial feet valued at £24,192.

1875—Ernest Giles crossed the Colony from Port Augusta (South Australia) to Perth by way of Queen Victoria Springs. Work commenced on construction of overland telegraph line to Adelaide through Eucla. Introduction of Torrens system for land titles.

1876—Ernest Giles returned to South Australia by way of Rawlinson Ranges. Export of pearl-shell valued at £75,292. Six Fenian convicts escaped from Fremantle prison and were taken off by the American whaler "Catalpa." S.S. "Georgette" wrecked near Cape Leeuwin.

1877—Telegraph line between Perth and Eucla opened, thus establishing communication with Adelaide and London. First direct shipment of wool from the North-West to London. Visit of Baron Ferdinand von Mueller, the eminent botanist.

1878—Detailed survey of North-West pastoral districts completed. Bi-monthly steamship service inaugurated between Fremantle and Melbourne by James Lilly and Company. Branch of Union Bank opened in Perth.

1879—First government railway, 33 miles in length, opened between Geraldton and Northampton. Construction of Eastern Railway begun. Alexander Forrest explored the Kimberley district between Beagle Bay and the overland telegraph line crossing the Fitzroy and Ord Rivers. Secret ballot intro-

duced for Legislative Council elections. Saint George's Hall opened in Perth for public entertainments. The "Western Australian Times" (originally the "Perth Gazette") became "The West Australian" newspaper.

1880—George Shenton elected first Mayor of Perth. Pastoralists took up areas in the Kimberley district. Cobb and Company's coaches introduced under government subsidy for inland mail and passenger services. First suit for divorce in the Colony.

1881—Fifth official census, the first taken simultaneously in all the Australian Colonies. Population 29,708; males 17,062, females 12,646. Livestock included 1,221,079 sheep, 64,603 cattle, 34,782 horses and 26,743 pigs. Area under crop 60,821 acres of which 29,352 acres under wheat. Opening of first section, 19 miles in length, of Eastern Railway connecting Fremantle, Perth and Guildford.

1882—Membership of Legislative Council raised to 24, including 16 elected members. First Presbyterian Church in the Colony opened in Perth. First issue of the "Daily News," the Colony's first daily newspaper. City of Perth Gas Company founded.

1883—Examination of Kimberley district by Surveyor-General, John Forrest, and Government Geologist, E. T. Hardman, who drew attention to the auriferous nature of the country. Proclamation of Broome, Derby and Carnarvon townsites. B. C. Wood elected first Mayor of Fremantle.

1884—Opening of second section of Eastern Railway between Guildford and Chidlow's Well. Formation in London by Anthony Hordern of the Western Australian Land Company to construct and maintain a railway from Beverley to Albany on the land-grant principle. A branch of the Amalgamated Society of Carpenters and Joiners (England) formed at Fremantle. Population of the Colony, 32,958; males 18,623, females 14,335.

1885—First discovery of payable goldfield, in Kimberley district, by Hall and Slattery. Eastern Railway extended from Chidlow's Well to York. Port of Derby proclaimed.

1886—Kimberley Goldfield and port of Wyndham proclaimed. Further extension of Eastern Railway to Beverley and Northam. Imperial convict establishment disbanded. Agreement reached with an English syndicate to construct and maintain a railway from Midland Junction to Walkaway on the land-grant principle. Legislative Council increased to 26, of whom 17 were elected members. Establishment of Aborigines' Protection Board.

1887—Discovery of gold near Southern Cross. Completion of railway between Geraldton and Walkaway. Telephone exchange system inaugurated at Perth. Pearling fleet off Eighty Mile Beach struck by cyclone causing loss of many lives. First Perth Cup run.

1888—Rich deposits of alluvial gold found in Pilbara district. Discovery of tin at Greenbushes. Opening of railway between Clackline and Toodyay.

1889—Passage by Legislative Council of Constitution Bill in anticipation of responsible government. Departure for London of delegation comprising Governor Broome, S. H. Parker, Q.C. and Sir Thomas Cockburn-Campbell to present the Colony's case to the Imperial Government. Discovery of alluvial gold in the Ashburton district. Completion by the Western Australian Land Company of the Great Southern Railway between Beverley and Albany, the contract for the construction of which had been given to Millar Bros. of Melbourne. Oversea telegraph communication established by submarine cable from Broome to Banjoewangi, Java. First efforts to prove existence of commercial coal at Collie River. Agreement signed between Perth Municipality and City of Perth Water Works Company for construction of the Victoria Reservoir in the Darling Range to connect with a service reservoir on Mount Eliza at Perth. Victoria Public Library (now State Library) opened.

1890—Responsible government granted to the Colony of Western Australia. Constitution proclaimed in the Colony on 21st October. Election of members of newly-constituted Legislative Assembly took place in November and December; Governor nominated first members of the newly-constituted Legislative Council. Parliament officially opened on 30th December; John Forrest commissioned to form first Ministry. Railway opened between Albany and Millar Bros.' timber concession near Denmark. Discovery of gold in the Murchison district. Perth Chamber of Commerce established.

1891—Sixth official census taken. Population 49,782; males 29,807, females 19,975. Sheep numbered 2,563,866, cattle 134,997, horses 48,999 and pigs 32,267. Elder Expedition, led by Lindsay and Wells, crossed the Colony from Warrina (South Australia) through Southern Cross to the Murchison district. Western Australia represented at the first National Australasian Convention, held at Sydney. Appointment of C. Y. O'Connor as the Colony's first Engineer-in-Chief. Railway between Bunbury and Boyanup opened.

1892—Rich goldfield discovered at Coolgardie by Bayley and Ford. Commencement of Fremantle Harbour works. Sir Malcolm Fraser appointed first Agent-General for Western Australia in the United Kingdom. Electric Lighting Act passed authorizing local government authorities to grant licences or make contracts for the supply of electricity for lighting and other purposes.

1893—Discovery of gold at Kalgoorlie in June by Hannan and O'Shea and in the Norseman district. Opening of South-Western Railway linking Perth, Bunbury and Donnybrook. Opening of telegraph line to Wyndham. Coolgardie townsite declared. Legislative Council became an elected body. Central Board of Education abolished and government schools placed under Ministerial supervision.

1894—Establishment of Bureau (later Department) of Agriculture and of Mines Department. Completion of Midland Railway Company's line, 277 miles in length, from Midland Junction to Walkaway. Eastern Railway extended from Northam to Southern Cross and line opened between Narngulu and Mullewa. Telegraph line to Kalgoorlie completed. Reported incursion of rabbits from South Australia.

1895—Opening of Agricultural Bank. South-Western Railway extended to Busselton. Municipality of Kalgoorlie proclaimed. First issue of "Kalgoorlie Miner" newspaper. Engineer-in-Chief instructed to draw up plan to supply water to Eastern Goldfields. Annual grants to churches and to private schools terminated by the Ecclesiastical Grant Abolition Act and the Assisted Schools Abolition Act. Board of Perth Public Hospital appointed.

1896—Eastern Goldfields Railway reached Coolgardie and Kalgoorlie. Great Southern Railway and Perth Water Works purchased by Government. Proclamation of Collie Coal Mining District. Peak of immigration stimulated by gold discoveries, net gain by migration being over 35,000; total population of Colony, 137,796; males 91,586, females 46,210. Calvert Exploration Expedition led by Wells from Lake Way to Fitzroy River. Carnegie's journey from Coolgardie to Halls Creek. Perth Observatory established. First cinematograph film shown in Perth. Cape Leeuwin lighthouse completed. Parliament authorized a loan to finance construction of a pipeline to convey water from Mundaring, near Perth, to Kalgoorlie. The Political Labour Party, the first political party in the Colony, formed at meeting of Trades and Labour Council.

1897—Delegates representing Western Australia took part in Federal Conventions held in Adelaide and Sydney. Inauguration by Education Department of evening continuation classes. Newly-constructed harbour at Fremantle opened to shipping. Commencement of Bunbury Harbour works. Opening of Perth City Markets. Completion of first wing of new building to house the Western Australian Museum. First issue of "Sunday Times" newspaper. Carnegie expedition returned from Halls Creek. Church of Christ opened in Perth. First service in the Perth Synagogue. Establishment of Statistical Branch under direction of the Registrar-General.

1898—Australasian Federal Convention held in Melbourne. Extension of Northern Railway from Mullewa to Cue and of South-Western Railway to Collie and to Bridgetown. Work commenced on Goldfields Water Scheme. First butter factory established, at Busselton. Consolidating Land Act offered Crown land to settlers on liberal terms. Department of Agriculture succeeded the Bureau of Agriculture. Branch of the British Medical Association formed in Perth. First motor car in the Colony. Zoological Gardens opened at South Perth.

1899—Inauguration of tramway service by the Perth Electric Tramway Company. Railway opened between Kalgoorlie and Menzies. Discovery of tin in Pilbara district. Departure of first contingent of volunteers to serve with Imperial Forces in the Boer War. Fees abolished at government schools. Branch of Royal Mint opened in Perth. Chamber of Manufactures formed. Perth Baptist Church opened. Legislative Council enlarged to 30 members and Legislative Assembly to 50 members; women granted right to vote at parliamentary elections.

1900—Large majority in favour of Federation at referendum held on 31st July; For—44,800, Against—19,691. Perth Technical School opened. British mail-steamer contracts specified Fremantle in place of Albany as the first Australian port of call. Introduction of triennial Parliaments and payment of members. Industrial Conciliation and Arbitration Act passed: trade unions legalized. Government Refrigerating Works opened in Perth.

1901—Inauguration of Commonwealth of Australia on 1st January. Visit of T.R.H. the Duke and Duchess of Cornwall and York. Sir John Forrest entered Federal Parliament after completing 10 years in office as Premier of Western Australia. Labour Party won eight seats at the Legislative Assembly elections. Seventh census of Western Australia, the first taken simultaneously in all States on a uniform national basis. Population 184,124; males 112,875, females 71,249. Appointment of

members of first Court of Arbitration. Completion of submarine cable connecting Perth with South Africa. First meeting of the Chamber of Mines of Western Australia.

1902—Opening of railway from Northam to Goomalling. Work commenced on rabbit-proof fence to protect southern agricultural areas. Tramway service inaugurated by Kalgoorlie Electric Tramways Limited. Opening of Teachers' Training College. Establishment of Fremantle Harbour Trust. Death of C. Y. O'Connor, Engineer-in-Chief.

1903—Completion of Goldfields Water Scheme supplying water to Coolgardie and Kalgoorlie by a 346-mile pipeline from Mundaring Weir in the Darling Range near Perth. Peak year of gold production; 2,064,801 fine ounces. Extension of Eastern Goldfields Railway from Menzies to Leonora. Work begun on second rabbit-proof fence.

1904—First Labour Ministry, led by Henry Daglish. School of Mines opened at Kalgoorlie. An Endowment Act provided for the appointment of trustees to administer funds for the establishment of a University. Royal Commission appointed to consider the need to encourage immigration and the possibility of establishing a large-scale wheat-growing industry.

1905—First quarter million of population attained. Completion of No. 2 Rabbit-Proof Fence, 724 miles in length, from Point Ann on south coast through Cunderdin and Warra Warra to Gum Creek in East Murchison district. Transfer of Royal Agricultural Society's show to present site at Claremont. Tramway service inaugurated by Fremantle Municipal Tramways and Electric Lighting Board. Transfer of government railway workshops from Fremantle to Midland Junction completed.

1906—Government railway construction accelerated so as to penetrate the new wheat-growing areas; total mileage of railways open for traffic doubled in succeeding 10 years. Capital of Agricultural Bank greatly increased. Title of Post Office Savings Bank changed to "Government Savings Bank."

1907—Beginning of continuous export of wheat. A. W. Canning surveyed stock route from Wiluna in the East Murchison to Halls Creek in the Kimberley district. Completion of No. 1 Rabbit-Proof Fence, 1,139 miles long, from Starvation Harbour on the south coast through Burracoppin and Gum Creek to the north-west coast, near Condon, and of No. 3 Fence (160 miles) between Warra Warra and a point on the west coast a few miles south of the mouth of the Murchison River. State income taxation levied for the first time. Commonwealth Court of Conciliation and Arbitration declared first basic wage.

1908—Opening of Art Gallery extension to the Western Australian Museum.

1909—Great advance in wheat acreage; harvest reached 5.6 million bushels. Completion of survey of transcontinental railway route from Kalgoorlie across the Nullarbor Plain to Port Augusta (South Australia). Railways opened from Hopetoun to Ravensthorpe and from Coolgardie to Norseman. Commonwealth Government commenced to pay old-age pensions. Children's Hospital opened at Perth. Swan River Mechanics' Institute became the Perth Literary Institute.

1910—Continued decline in gold production; quantity won fell below 1.5 million fine ounces for the first time since 1900. Commonwealth Government made provision under the Surplus Revenue Act for payment to Western Australia of a special annual grant for a period of 10 years. Commonwealth Government commenced to pay invalid pensions. Appointment of Royal Commission to inquire into establishment of a University. First issue of Commonwealth bank notes. Manufacture of superphosphate fertilizers commenced. Formation of Western Australian Trotting Association.

1911—First federal census of the Commonwealth—Western Australia's population 282,114; males 161,565, females 120,549. In October the Labour Party led by John Scaddan obtained an overwhelming majority at the Legislative Assembly general elections. Widespread drought in new wheat-growing districts. Revival of lead mining at Northampton. Act of Parliament establishing University of Western Australia. Opening of Perth Modern School. Imperial penny postage inaugurated throughout British Empire.

1912—Disappearance of S.S. "Koombana" with all hands in cyclone off north-west coast. Completion of railway from Port Hedland to Marble Bar. Construction of transcontinental railway commenced. Commonwealth Government paid maternity allowances for the first time. Establishment of State Shipping Service, State Brickworks and State Ferries. Workers' Homes Act providing for government advances to workers for erection or purchase of homes.

1913—First students enrolled at University in temporary quarters at Perth. Branches of the Commonwealth Bank and Commonwealth Savings Bank opened. Establishment of State Saw Mills. Government assumed control of Perth tramway system after purchase from a private company. Marine wireless station opened at Applecross. Public Library transferred to new building adjacent to Museum. Criminal Code adopted by Parliament.

1914—Outbreak of European War, 4th August; embarkation of first Western Australian volunteers. Commonwealth Government made provision for payment of war pensions to members of the forces and their dependants. Widespread drought conditions resulted in failure of wheat crop; harvest declined from 13·3 million bushels in previous year to 2·6 million bushels. Legislation to establish an Industries Assistance Board to provide credit and seed wheat for farmers. Establishment of Narrogin Farm School. Strike in building trades. Formation of the Country Party. Opening in Perth of first free kindergarten.

1915—Western Australian volunteers took part in landing at Gallipoli, 25th April. Completion of rail link between Northam and Mullewa. Successful development of the Nabawa wheat strain, a leading strong wheat variety. Commonwealth income taxation imposed for the first time.

1916—Recovery of the wheat industry. Western Australia one of three States in favour of conscription at unsuccessful Commonwealth referendum held in October. Opening of King Edward Memorial Hospital for Women. Reduction of hotel trading hours to 9 a.m.—9 p.m.

1917—Opening of transcontinental railway, 1,051 miles in length, connecting Kalgoorlie with Port Augusta (South Australia), 454 miles being in Western Australia. Substantial increase in wool production from 33·1 million lb. to 40·3 million lb. In December, conscription proposals again rejected at Commonwealth referendum; Western Australia again favourable. Strike of waterside workers at Fremantle.

1918—War in Europe ended, 11th November. Plans made for the rehabilitation of returned soldiers. Forests Act provided for permanent dedication of State Forests and established a Forests Department with power to control cutting of timber and to undertake reforestation. Inauguration by Education Department of correspondence tuition for children in remote areas. Death of John Forrest shortly after elevation to the British peerage.

1919—Creation of Discharged Soldiers' Land Settlement Board. Serious outbreak of pneumonic influenza caused 540 deaths. Wyndham Meat Works commenced operations. Waterfront strike at Fremantle. First modern aeroplane flown in the State, by Norman Brearley. Motor cars numbered 3,000. Legislation passed to provide for control of road traffic and licensing of vehicles. James Mitchell appointed Premier.

1920—Commencement of large-scale assisted migration in association with further settlement of the wheat belt. In December, wool auctions held in Perth for the first time. State Civil Service strike, terminated by creation of Appeal Board. Commonwealth Taxation Department undertook collection on behalf of the State Government of its income tax and land tax. Visit of H.R.H. the Prince of Wales.

1921—Second Commonwealth census. Western Australian population 332,732; males 177,278, females 155,454. Further development of soldier settlement. Inauguration of Group Settlement Scheme in South-West to expand the dairying industry, in association with assisted immigration from the United Kingdom. Election to Legislative Assembly of Australia's first woman Member of Parliament, Mrs. Edith Cowan. Establishment by W.A. Airways Ltd. of first air mail service in Australia, between Geraldton and Derby.

1922—Empire Settlement Act of the Imperial Parliament inaugurated an immigration scheme financed jointly by British, Federal and State Governments. Formation of growers' voluntary wheat pool, following termination of State pool. Observation of solar eclipse by international party of astronomers at Wallal on north-west coast.

1923—Wheat harvest increased from 13·9 to 18·9 million bushels. Arrival during the year of 7,654 assisted immigrants. Present General Post Office in Forrest Place opened.

1924—Further increase in wheat harvest, to 23·9 million bushels. Continued decline in gold-mining activity; production less than one-half million ounces. Considerable progress in clearing of group settlement blocks. Assisted immigrants numbered 6,715, bringing the total during the five years 1920–1924 to 23,622. First radio broadcasting station 6WF (Westralian Farmers) opened at Perth. Interstate shipping strike. At Marble Bar, period of 160 consecutive days with maximum temperature of 100°F or higher ended 7th April. Labour Government assumed office under Philip Collier.

1925—Appointment by Commonwealth Government of Royal Commission to inquire into financial disabilities of Western Australia under federation. Compulsory voting introduced for federal elections. Industrial Arbitration Act provided for appointment of first permanent President of Court. Introduction of compulsory insurance of employees under Workers' Compensation Act. South-Western Railway extended to Flinders Bay. Disruption of shipping services caused by strike of waterside workers, Australian seamen and British seamen in Australian waters. Opening of woollen mill at Albany.

1926—Commonwealth Development and Migration Commission established. Main Roads Board constituted; road construction scheme, with Commonwealth financial assistance, commenced. Declaration of first State basic wage, adult weekly rate of £4 5s. for males and £2 5s. 11d. for females. State Government first undertook workers' compensation insurance business. Unusually heavy winter rains, resulting in flooding of parts of metropolitan area and partial destruction of railway bridge at North Fremantle. Opening of Muresk Agricultural College. Congress of the Australian and New Zealand Association for the Advancement of Science held in Perth for the first time. Introduction of the "Pater-son Plan," a voluntary scheme designed to stabilize the price of butter. Metropolitan Market Trust established.

1927—Wheat harvest 36·4 million bushels, the highest in the Commonwealth. Amalgamation of Western Australian Bank with Bank of New South Wales. Completion of rail link between Kalgoorlie and Esperance. Timber exports 157·4 million superficial feet, the greatest since 1913. Large increase in output of butter from factories in the South-West. Introduction of bulk handling of fuel oil at the Port of Fremantle. Visit of T.R.H. the Duke and Duchess of York.

1928—Peak of post-war immigration; net gain from migration 9,660. Constitution Alteration (State Debts) Referendum ratified the Financial Agreement between Commonwealth and States. Tractors on farms at end of year numbered 4,000.

1929—Celebration of Western Australia's centenary. City of Perth declared a Lord Mayoralty and Fremantle given city status. Wheat harvest, 39·1 million bushels, again the highest in Australia. Gold production amounted to only 377,176 fine ounces, the lowest level in a continuous decline since 1903. Inauguration of regular interstate air service, by W.A. Airways Ltd., between Perth and Adelaide (South Australia). End of large-scale railway construction in the wheat-growing areas. Last year of substantial intake of assisted immigrants since the War; in all, 43,693 had arrived in the ten-year period 1920-1929. First "talkie" films shown in Perth.

1930—Onset of world economic recession and marked fall in wheat and wool prices. Rapid growth in unemployment. Some improvement in gold-mining industry. Wheat harvest, 53·5 million bushels, the largest up to that time. Extension of northern air mail route to Wyndham. Establishment of interstate telephone trunk line between Perth and Adelaide. Defeat of Labour Government at elections in April; Nationalist-Country Party Government assumed office with Sir James Mitchell as Premier.

1931—Further deterioration in economic conditions. The Premiers' Plan proposed a reduction of adjustable government spending by 20 per cent. and interest rates by 22½ per cent.; proposals subsequently ratified by State Parliament. Depreciation of Australian currency; in terms of sterling, exchange rate fixed at £A125 = £100 stg. Substantial increase in price of gold. Wheat and wool prices at lowest level; average f.o.b. values for 1930-31 export year, wheat 2s. 3½d. per bushel, wool 8·04 pence per lb. Transfer of State Savings Bank to Commonwealth Bank. First quarterly adjustment made to State basic wage. Wiluna gold mines in production. Discovery at Larkinvile of Golden Eagle nugget (1,135 ounces), the largest found in Western Australia. Systematic drainage and irrigation scheme inaugurated in the Harvey and Waroona districts; relief work provided for the unemployed. Introduction of bulk handling of wheat.

1932—Continued increase in unemployment, 30 per cent. of trade union members being reported as unemployed; many families entirely dependent on government relief. A tax of 4½d. in the £ on all income imposed by a Financial Emergency Act. Extension of Northern Railway to Wiluna. Transfer of University to its permanent site at Crawley. Appointment of Commission to control private lotteries and to conduct State lotteries to benefit hospitals and charities. Metropolitan Whole Milk Act provided for establishment of a Board to regulate purchase and distribution of whole milk in the metropolitan area.

1933—Third Commonwealth census. Western Australian population 438,852; males 233,937, females 204,915. State basic wage at lowest level, £3 8s. for males in metropolitan area, since Arbitration Court's original declaration in 1926. Some reduction in unemployment although still at high level of 25 per cent. of trade union membership. Levy by Federal Government of a tax on flour at £4 5s. per ton to assist the wheat industry, depressed by consistently low market prices. Commencement of work on Canning Dam, to have ultimate capacity of over 20,550 million gallons, as source of water supply for metropolitan area. Official opening of Wellington Dam, on Collie River, with capacity of 8,000 million gallons, to serve the Collie River Irrigation District. South-Western Railway extended to Northcliffe. Establishment of banana plantations at Carnarvon. A compulsory referendum resulted in two-to-one majority in favour of the State's secession from the Commonwealth. Appointment of Commonwealth

Grants Commission to inquire into needs of States claiming financial assistance. Labour Government, under Philip Collier, took office in April following defeat of Nationalist-Country Party Government. Sir James Mitchell, formerly Premier, appointed Lieutenant-Governor to administer the State. Introduction of trolley-bus services in Perth and suburbs. Formation in Perth of first Australian Junior Chamber of Commerce.

1934—Wool production 90 million lb.; rise in wool prices. Fall in butterfat prices and surviving group settlement dairy holdings in difficult circumstances. The voluntary "Paterson Plan" superseded by a compulsory price equalization scheme for stabilization of butter prices. Inauguration of air mail service between Australia and England. Racial riots in Kalgoorlie and Boulder. Township of Onslow devastated by cyclone. Visit of H.R.H. the Duke of Gloucester.

1935—State Civil Service salaries restored to pre-depression level. Continued decrease in unemployment, to 13·4 per cent. of trade union membership. Drought in pastoral areas and north-eastern agricultural district resulted in heavy losses of stock and crops. Rejection by the Imperial Parliament of State's secession petition. Establishment of flying doctor service in the North-West and Kimberley Divisions with bases at Port Hedland and Wyndham. Pearlring fleet overwhelmed at Lacepede Islands by a cyclone, causing loss of 20 luggers and 142 lives.

1936—Drought conditions caused further heavy losses of stock in pastoral areas and reduced wheat harvest to 21·5 million bushels, the lowest for ten years. Increase in gold production; many oversea mining companies floated to develop Western Australian low-grade gold-ore deposits. Commonwealth Government commenced to pay service pensions to certain former members of the armed services and their dependants. Flying time between Perth and Adelaide reduced to one day. Retirement of Philip Collier from the Premiership after a total of nine years in office served in two terms.

1937—Improved seasonal conditions resulted in greatly increased wheat harvest; more attention given to mixed farming in wheat areas. Under stimulus of rising prices, gold production exceeded one million fine ounces for the first time since 1916. Flying doctor base established at Kalgoorlie.

1938—Substantial improvement in pastoral conditions; increase in export of fat lamb carcasses. Federal embargo on oversea export of iron ore from Yampi Sound. State basic wage increased by 5s. 1d. to £4 per week for males in the metropolitan area, following presentation of special evidence at Arbitration Court's annual inquiry. Institute of Agriculture established at University as centre of agricultural and pastoral research. Legislation authorized the establishment of the State Government Insurance Office and validated its transactions since 1926.

1939—Outbreak of war in Europe, 3rd September; recruiting begun for the second A.I.F. and the Empire Air Training Scheme. Acquisition by British Government of entire woolclip at guaranteed price of 13·4375 pence per lb. Gold production 1,214,238 fine ounces, the highest since 1915. National Register of Manpower and Wealth Census undertaken by Commonwealth Government. Legislation passed to amalgamate Financial Emergency Tax and income tax. Passage of other State Acts to control prices, rents and patriotic funds. Completion of new traffic bridge over Swan River at Fremantle. Cyclonic disturbance at Port Hedland; severe storm damage at Kalgoorlie and interruption of gold-fields rail services.

1940—Severe drought over greater part of the State. Order issued under National Security Regulations for acquisition by Commonwealth Government of apple and pear crop and Board established for this purpose. First commercial flax crops. Sum of £115,000 allocated by Commonwealth Government from funds raised under the Wheat Industry Act of 1938, as first contribution under four-year plan for reconstruction of marginal areas. Liquid fuel rationed. Presentation of report of Royal Commission on the Pastoral Industry in the Leasehold Areas in Western Australia. Official opening of Canning Dam. Commencement of collection of income tax on wages and salaries at source. Civil Defence (Emergency Powers) Act passed empowering State Government to make regulations for protection of civilian population.

1941—Wheat growers licensed under wheat stabilization scheme for control of production. Port Hedland and Marble Bar struck by cyclone; extensive damage to pastoral property. Torrential rains resulting in floods, with consequent losses of stock, in pastoral areas near De Grey River. Inauguration of Commonwealth scheme of child endowment, covering children under 16 years of age other than the first, or only, child of a family; pay-roll tax on employers introduced. Samson Brook irrigation dam near Waroona (capacity 1,800 million gallons) opened. Plans announced for government survey of the Ord River area to examine irrigation possibilities. Work commenced on interstate road, the Eyre Highway, linking Norseman and Port Augusta (South Australia). Increase in industrial activity,

particularly in manufactures for war purposes—engineering, clothing and food processing. In December, Australia at war with Japan following Japanese attack on American naval base at Pearl Harbour, Hawaii.

1942—Area sown to wheat restricted under a Commonwealth wheat stabilization scheme; but area actually cropped, 1.75 million acres, significantly below maximum permissible area. Contraction of gold-mining industry included among measures taken by Commonwealth to secure release of manpower for essential services. Growing threat to Australia following Japanese invasion of Malaya and Netherlands East Indies; creation of special State Ministry of Civil Defence. Civilian registration of all persons aged 16 years and over. Munition factory at Welshpool commenced production. Rationing of clothing, tea and sugar. Introduction of daylight-saving scheme. Attacks by Japanese aircraft on Broome, Wyndham and Port Hedland. Floods in areas adjacent to Gascoyne River. Station properties in Port Hedland and Marble Bar district, and railway linking these towns, damaged by cyclone. Luggers wrecked with loss of life at Port Hedland. Introduction of Uniform Tax Scheme, the Commonwealth Government becoming sole taxing authority in income tax field, the State Treasuries being reimbursed by the Commonwealth. Widows' pensions paid for the first time. Establishment of State Public Trust Office under Public Trustee Act of 1941. Basic wage increased by 4s. 6d. to £4 14s. 11d. by the Premier, in exercise of powers conferred by National Security (Economic Organization) Regulations.

1943—Severe decline in gold-mining industry; production, 546,475 fine ounces, 36 per cent. less than in previous year. First production of blue asbestos at Wittenoom Gorge in the West Pilbara district. Japanese air raid on Exmouth Gulf, the most southerly point of aerial attack. Western Australia exempted from Commonwealth scheme of daylight saving. Rationing of butter introduced. Enactment of State legislation to provide for raising of school-leaving age to 15 years. First payment by Commonwealth Government of funeral benefits for age and invalid pensioners. State legislation established a pensions fund for coal miners and their dependants. Workers' Homes Board empowered to provide houses for letting purposes and to advance money to householders for improvement of sub-standard dwellings.

1944—Drought conditions in pastoral areas and subnormal rainfall in agricultural and dairying districts. Wheat production, 15.9 million bushels, the lowest since 1922. Introduction of meat rationing. Inauguration of compulsory third party (motor vehicle) insurance. Introduction of "pay-as-you-earn" system of collection of income tax on incomes of individuals. Legislation passed establishing the Agricultural Bank as a trading bank, to be known as The Rural and Industries Bank of Western Australia. Defeat of Commonwealth referendum seeking extension of Commonwealth powers; Western Australia one of two States in favour.

1945—End of war in Europe, 9th May (VE Day) and in the Pacific, 15th August (VP Day); general demobilization of fighting forces begun. Ratification by State Parliament of Commonwealth-State agreements on war service land settlement and on housing. Plans to re-establish civilian building industry to overcome acute housing shortage. Legislation passed providing for State control of building permits and materials. Restrictions on use of electricity in metropolitan area as a result of coal shortage. State Electricity Commission established for purpose of extending and co-ordinating electricity supply. Occupation survey of population taken by Commonwealth Statistician. Introduction of Commonwealth scheme for payment of unemployment and sickness benefits. Loss of lives, stock and property in cyclone on north-west coast. Flood damage at Carnarvon. In June, 23 consecutive days of rain at Perth resulting in a fall of 18.75 inches, the highest ever recorded there in any one month; total Perth rainfall for year, 52.67 inches, also a record. Death of Rt. Hon. John Curtin, Australian Prime Minister and M.H.R. for Fremantle, the first Western Australian Member to lead a Commonwealth Government.

1946—New industrial centre established at former munition factory at Welshpool and plans announced for manufacture of agricultural tractors. Re-establishment of gold-mining industry in process. Wheat acreage restrictions no longer operative; area about 30 per cent. greater than that of previous season. Perth wool auctions resumed, following termination of appraisal scheme. The Milk Act established the Milk Board of Western Australia with State-wide powers to regulate the production, sale and distribution of milk. Application by State Government for Commonwealth financial assistance in development of water supplies to agricultural areas and towns. Interruptions of electricity supply due to suspension of coal production at Collie caused by strike of railway workers. Resumption of pearling industry at Broome. Interim basic wage adjustment by Commonwealth Arbitration Court, increasing federal weekly basic wage rate in Western Australia by 7s. All States in favour at referendum to authorize Commonwealth Government to legislate with respect to social services. Hospital benefits scheme introduced by Commonwealth Government.

1947—Fourth Commonwealth census. Western Australian population 502,480; males 258,076, females 244,404. Continued expansion in factory activity. Building operations increased, with more labour and materials available. Establishment of State Housing Commission replacing Workers' Homes Board. Arrival of first British migrants under the Free and Assisted Passage Agreement between the Commonwealth and United Kingdom Governments; first arrivals of displaced persons following Commonwealth Agreement with International Refugee Organization. Stimulation in mining generally; gold production, 703,886 fine ounces, the highest since 1942. World shortage of lead and high prices resulted in reopening of lead mines in Northampton area; a deposit inland from Derby also producing high-grade ore. Expansion in fishing industry; first oversea exports of crayfish tails. Interim increase of 5s. in State basic wage. Granting by Arbitration Court of 40-hour week in industry to operate from 1st January, 1948. Legislation included the Agricultural Areas, Great Southern Towns, and Goldfields Water Supply Act to approve and give effect to a scheme, the "Comprehensive Water Supply Scheme," for reticulating water to certain mixed-farming areas, for towns, stock and domestic purposes, to towns along the Great Southern Railway, and for increasing the supply to the Eastern Goldfields.

1948—Average f.o.b. value of wheat for 1947-48 export year, 17s. 6d. per bushel, the highest ever recorded. Federal aid to maintain production of "marginal" gold mines. Integrated wood-distillation and charcoal-iron industry in production at Wundowie in Darling Range near Perth; first output of pig-iron. Commonwealth Parliament passed the Western Australia Grant (Water Supply) Act approving payment to the State of an amount of £2·15 million, being half the original estimated cost of the Comprehensive Water Supply Scheme. Completion of Stirling Irrigation Dam, on Harvey River, with capacity 12,000 million gallons. Inauguration of Commonwealth Rehabilitation Service providing treatment and vocational training of disabled persons. Abolition of rationing of meat and clothing. Publication of boundaries of three new Federal electorates—Curtin, Canning and Moore. Legislation included the Prices Control Act, a measure necessitated by the Commonwealth Government's vacating of the prices control field, and the Wheat Industry Stabilisation Act authorizing operation in Western Australia of the Commonwealth Wheat Stabilization Plan.

1949—Whaling resumed after a lapse of over twenty years. Substantial increase in crayfish production; total catch exceeded 5 million lb., more than 80 per cent. greater than in previous year. Commencement of operations of Air Beef Pty. Ltd. at Glenroy Station in the Kimberley; beef carcasses transported by air to Wyndham for shipment overseas. In September, rise in gold price from £10 15s. 3d. to £15 9s. 10d. per fine ounce, following the British Government's devaluation of sterling. First agricultural tractors produced in the State. Rejection by Privy Council of Federal Government's appeal against the High Court's ruling that the Government's proposals for nationalization of banking were invalid. High Court declared invalid the Commonwealth Government's rationing of petrol; as a result the States invited to assume authority. The necessary enabling legislation, the Liquid Fuel (Emergency Provisions) Act, was the major measure brought before the State Parliament in a short session concluding early to allow members to contest seats at the federal election in December or to participate in the election campaign. Defeat of the Chifley Labour Government; Rt. Hon. R. G. Menzies became Prime Minister as leader of a Liberal-Country Party coalition. Western Australia's representation in enlarged Federal Parliament increased from five to eight in the House of Representatives and from six to ten in the Senate.

1950—Population increase 28,465 (net gain by migration 19,295 and by natural increase 9,170) the greatest since 1896, the peak year of the "gold rush" period. By an amendment to the Industrial Arbitration Act, the Court empowered in fixing the basic wage to have regard for economic capacity of industry as well as workers' "needs"; in exercise of this power, Court declared an increase of 20s. in the basic rate for males and 15s. for females. Abolition of rationing of petrol, tea and butter and lifting of ban on sale of fresh cream. Federal Government extended child endowment to include the first, or only, child of a family at the rate of 5s. per week. Introduction of pharmaceutical benefits scheme financed by the Commonwealth. Prohibition poll, the first since 1925, conducted under provisions of Licensing Act; proposals rejected by overwhelming majority. Legislation passed to increase membership of State Cabinet from eight to ten.

1951—Average f.o.b. value of wool for 1950-51 export year, 143·43 pence per lb., the highest ever recorded. First shipment of oats and barley in bulk successfully handled. Experimental injections of myxomatosis in rabbits conducted by Department of Agriculture. Shipment to New South Wales of first load of iron ore mined at Cockatoo Island, Yampi Sound. Port Hedland-Marble Bar railway closed. Mining activity caused revival of goldfields town of Bullfinch. First section of new power house at South Fremantle began operating. South-West Power Scheme inaugurated with opening of new power

station at Collie. Completion of raising of wall of Mundaring Weir to augment storage for northern section of Comprehensive Water Supply Scheme; capacity increased from 4,655 to 15,154 million gallons. Free Milk Scheme for school children commenced, with financial aid from Commonwealth Government. Total increase during the year of £1 19s. 2d. in State basic wage for males in metropolitan area, the largest rise during any year since inception in 1926. Female basic wage increased on 1st December to 65 per cent. of male rates. Act passed to establish a Library Board to foster the activities of free libraries and to improve library services.

1952—Crude birth rate, 25·66 per thousand of mean population, the highest since 1917. Negotiations completed for establishment at Kwinana, on the coast ten miles south of Fremantle, of oil-refining, steel-rolling, and cement-manufacturing projects with provisions for port facilities in Cockburn Sound and rail links with metropolitan system. Perth Airport raised to international status; inauguration of air communication between Perth and Johannesburg and between Perth and Singapore. New causeway over Swan River at Perth opened. Six months' strike of metal trades workers, claiming increased wage margins, resulted in widespread unemployment and suspension of metropolitan rail services for a period of three months and considerable reduction in country services. Removal of price control on clothing and textiles. Death of His Majesty King George VI and accession of Her Majesty Queen Elizabeth II.

1953—Discovery of oil at Exmouth Gulf drill-site announced in December. Encouraging results from rice-growing experiments at Fitzroy and Ord Rivers. Construction of oil refinery at Kwinana begun and work started on jetty to serve a steel-rolling mill in the same area. Introduction by Commonwealth of medical benefits to subsidize cost of treatment of members of approved medical insurance organizations and their dependants. Recontrol of prices of some items of essential clothing and soft goods in May. Rejection by State Parliament of Prices Control Act Amendment and Continuance Bill. State control of building operations and building materials supply lapsed with the expiration of the Building Operations and Building Materials Control Act. State Entertainments Tax imposed in October following withdrawal of Commonwealth Government from this field.

1954—Fifth Commonwealth census. State population 639,771 persons (males 330,358, females 309,413) of whom 348,647 were enumerated in the metropolitan area. Reclamation work begun for the bridge-heads and road approaches for a bridge over the Swan River at the Narrows. Introduction of diesel-electric locomotives on State railways in May, supplementing diesel rail cars already operating. Coal output exceeded one million tons for the first time. Exploratory oil drilling continued in vicinity of Exmouth Gulf and commenced in Fitzroy section of Canning Basin. Further permits granted for exploration in areas in north and south of the State covering about 233,000 square miles. Opening at York of first public library established by the Library Board in association with local government authorities. From 1st January, price control on all commodities discontinued as result of failure of Prices Control Act Amendment and Continuance Bill brought before Parliament late in previous year. Pegging of rents discontinued from 1st May. Visit of Her Majesty Queen Elizabeth II and His Royal Highness the Duke of Edinburgh.

1955—Wheat harvest, 53 million bushels; record average yield of 18·4 bushels per acre. Encouraging reports on experimental crops of sugar-cane and rice at Kimberley Research Station. Opening in January of new harbour and large anchorage in Cockburn Sound to serve Kwinana industrial area. Official opening of Kwinana oil refinery in October after nine months in operation. Production of sawn timber from local logs for year ended 30th June, 225·8 million superficial feet, the highest ever recorded. Houses completed, 8,772, the greatest number recorded in any year; total completions since the war more than 50,000. Amendment to Western Australia Grant (Water Supply) Act raising the Commonwealth Government's contribution towards the increased cost of the Comprehensive Water Supply Scheme from £2·15 million to £4 million. Appeal for funds launched 1st September with target of £400,000 to supplement State Government grant for establishment of a medical school within the University. Free library opened at Claremont, the first metropolitan library sponsored jointly by the Library Board and a local government authority. Western Australia's membership in the House of Representatives raised from eight to nine as a result of the population increase disclosed by the census of the previous year.

1956—Great decline in migration. Four new savings banks established, three by private trading banks and one by the Rural and Industries Bank. An area of four square miles at Brecknock Harbour, 130 miles north-east of Derby, leased by the State for three years to a company for growing culture pearls. New industry established at Capel and Bunbury for extracting ilmenite and other heavy minerals from beach sands. Oil exploration extended to Dirk Hartogs Island. Employment in factories for

year ended 30th June exceeded 50,000 for the first time. Extension of water conservation works for supplies to metropolitan area by operations at Serpentine River up-stream from Falls ; work on first stage, a pipehead dam, well advanced. Increased railway charges and closure of some branch lines recommended by Railways Commission to offset continued losses.

1957—Natural increase of population, 11,627, the highest ever recorded. Suspension for trial period of rail services on 800 miles of branch lines, in effort to reduce continued losses, with concurrent introduction of alternative transport by road. In September, wool auctions held at Albany for the first time. Small initial harvest of culture pearls from Brecknock Harbour, north-east of Derby. Gold production 896,681 fine ounces, valued at £14·5 million, the highest since 1941. Generation of electricity at Bunbury power station commenced in May. Completion of first stage of £9 million Serpentine Dam project ; work begun on main reservoir. Provision by Commonwealth, under the Western Australia Grant (Water Supply) Act, of £1 million additional financial aid for the Comprehensive Water Supply Scheme. Spectacular decline in incidence of poliomyelitis, only three cases being recorded compared with an annual average of 164 in the nine-year period from 1948, when the first major epidemic occurred, to 1956 when Salk vaccine injections began. Clinical teaching begun at University's School of Medicine. Integration of Commonwealth and State statistical services. Acquisition by Perth City Council of the Perth Literary Institute ; City Library established 1st July.

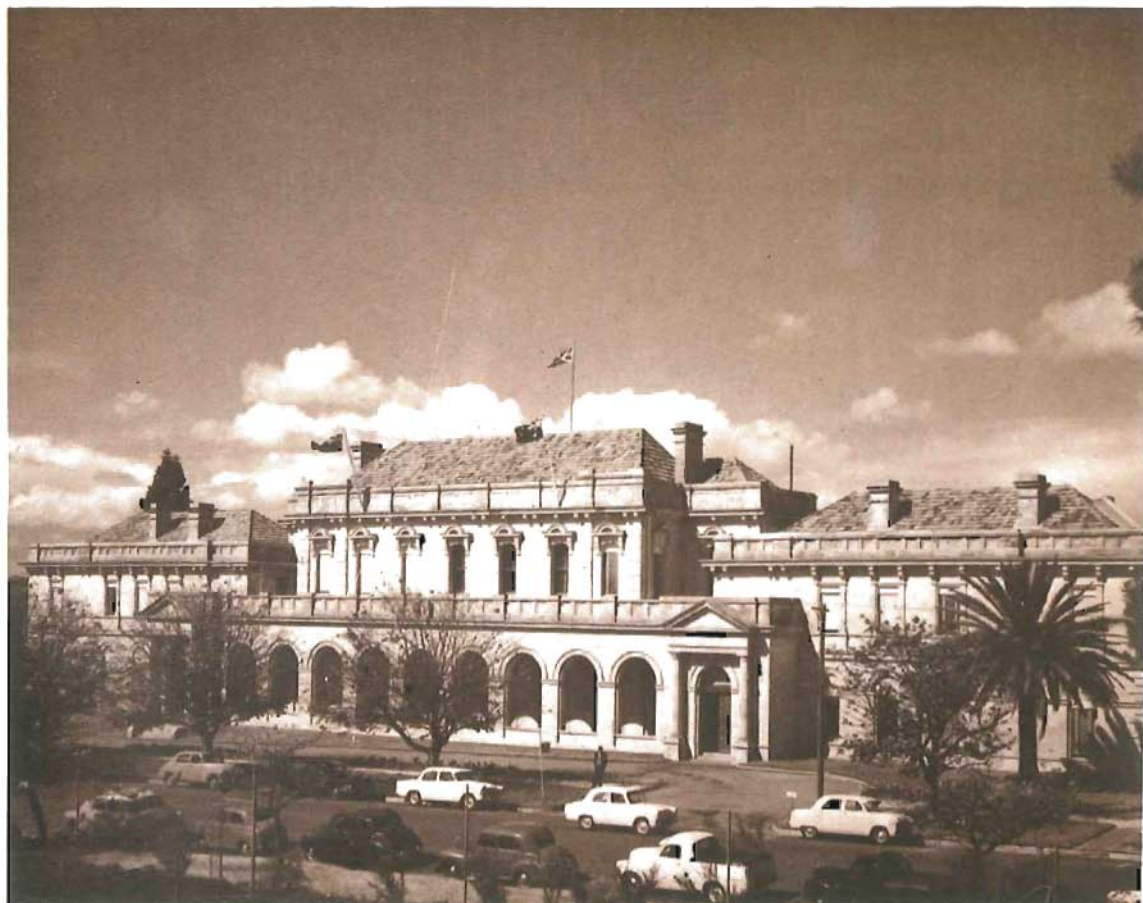
1958—Western Australia Grant (Northern Development) Act passed by Commonwealth Parliament, authorizing payment of £2·5 million, to be spread over five years, for development of the part of the State north of 20°S. latitude. Metropolitan (Perth) Passenger Transport Trust began passenger transport operations by assuming control of five private omnibus services. Last tram service in Perth on 19th July, with substitution of trolley-buses and omnibuses. Rice first produced in significant quantity at Camballin on Fitzroy River 65 miles south-east of Derby. State Government's application to the Commonwealth for a licence to export one million tons of iron ore to Japan rejected 13th May. In November, slight traces of oil found in tests at Meda No. 1 well, in the Fitzroy section of the Canning Basin, 40 miles from Derby. Announcement by a mining company of a scheme to prospect for bauxite over a large area in the Darling Range. New Chest Hospital at Hollywood officially opened in September. Following negotiations between employers' and employees' organizations, agreement registered by Court of Arbitration on 1st April providing for long service leave for employees at the rate of 13 weeks' leave with pay for every 20 years of continuous service and 6½ weeks for each subsequent 10 years ; legislation later in year extended these benefits to employees not covered by the agreement. Visit in March of Her Majesty Queen Elizabeth the Queen Mother.

1959—Population increase 11,495, the smallest since 1947. States Grants Act passed by Commonwealth Parliament repealing States Grants (Tax Reimbursement) Acts and substituting a system of payments described as Financial Assistance Grants. Amendment to Western Australia Grant (Northern Development) Act increasing to £5 million Commonwealth aid for development of the part of the State north of 20°S. latitude. Progressive easing of Commonwealth import restrictions during year. Narrows Bridge and Kwinana Freeway, linking Perth with Canning Highway at Canning Bridge, opened to traffic 13th November. Inauguration of television services 16th October when first full-scale transmission made by commercial company ; erection in October of television transmitter tower for Australian Broadcasting Commission. Search for oil continued over a wide area of the State ; new Petroleum Search Subsidy Act passed by Federal Parliament extending the provisions of a similar Act of 1957 and authorizing payment of subsidies on approved stratigraphic drilling and geophysical and bore-hole surveys. Trial shipment of bauxite from deposits in Darling Range sent to Tasmania in November for metallurgical plant tests. Tenders called by State Government for export of iron ore ; application for export licence again rejected by Federal Government. Continuation of work on final stage of modified Comprehensive Water Supply Scheme and announcement of plans to seek Commonwealth financial assistance for extension to full area of original scheme as first proposed in 1946. Preliminary work begun on diversion weir on Ord River as first stage of irrigation scheme, an " approved project " under the Western Australia Grant (Northern Development) Act. First regular School of the Air in the State opened in September, broadcasting from Meekatharra base radio of Royal Flying Doctor Service. After six years in office, Labour government defeated at State general elections held 21st March ; Liberal and Country Party coalition government in office from 2nd April with Hon. David Brand as Premier. Appointment in June of Royal Commissioner to inquire into and report upon betting on horse racing ; report presented in December recommending, among other things, the abolition of licensed betting shops and the establishment of an off-course totalizator system.



Pensioners' Barracks
Saint George's Place, Perth

The building, completed in 1866, was erected to house the Enrolled Pensioner Force established for the protection of the Colony when the regular British forces were withdrawn in 1862



Parliament House, Harvest Terrace, Perth

The First Session of the Fifth Parliament (July-December, 1904) was the first to be held in this building. Extensions to Parliament House were completed in 1964

1960—Announcement in November of Federal Government action to arrest fall in Australia's overseas reserves and to control excess spending ; measures included increased restraint on bank advances, higher bank interest rates, a rise in sales tax on motor vehicles (on cars and station wagons from 30 per cent. to 40 per cent., and on motor cycles and motor scooters from 16½ per cent. to 25 per cent.) and compulsory investment in government securities by life insurance companies and superannuation funds. Presentation to Commonwealth Parliament in August of report of Decimal Currency Committee recommending adoption of decimal system. Commonwealth Banking Corporation commenced operations 14th January as authority controlling affairs of Commonwealth Trading Bank, Commonwealth Savings Bank and Commonwealth Development Bank of Australia. Further relaxation of Commonwealth import restrictions announced in February ; as a result, 90 per cent. of Australia's imports free from import licensing. Two of the branch lines on which rail services were suspended in 1957 reopened for traffic 18th January on seasonal basis for carriage of grain and fertilizers. Cessation of services on 670 miles of railway authorized by Parliament under the Railways (Cue-Big Bell and other Railways) Discontinuance Act. From 1st July, Metropolitan (Perth) Passenger Transport Trust assumed control of trolley-bus, motor omnibus and ferry services formerly operated by Tramways and Ferries Department, and from 1st September the omnibus service of the Fremantle Municipal Transport Board. Work commenced in October on new passenger terminal building at Perth Airport. First stage of new overseas passenger terminal at Port of Fremantle officially opened 12th December. Australian Broadcasting Commission's television station, ABW (Channel 2), began transmission 7th May. Television viewers' licences at 31st December numbered 57,792 compared with 9,621 at end of previous year. Work begun at Muchea in April on satellite-tracking station as part of United States project for manned space-flight. Barley production 8·5 million bushels, the highest ever recorded. New programme of wool sales providing for increased number of auctions ; Perth sales discontinued and selling centre transferred to Fremantle. Two three-year licences granted for establishment of pearl culture farms at Malumbo Anchorage in King Sound and at Exmouth Gulf near Giralda Landing. Work commenced on development of iron-ore deposits on Koolan Island in Yampi Sound ; discovery and exploration of large deposits of lower grade at Scott River near Augusta. Announcement in December of Commonwealth Government decision to modify embargo on export of iron ore, in force since 1938, to permit export on a limited basis subject to certain controls. First commercial shipments of bauxite from deposits in Darling Range ; trial consignments to Japan for plant tests in connexion with proposed establishment of alumina industry in Western Australia. Announcement of decision in May by BP Refinery (Kwinana) Ltd. to add a lubricating oil refinery to its plant at Kwinana, and in December by a British chemical firm to build a large titanium oxide pigment factory at Bunbury. Contract signed in November for construction of Ord River diversion dam ; work begun early in year at Kununurra, the townsite for the project. Completion of raising of wall of Wellington Dam, increasing capacity from 8,000 million to 40,790 million gallons. Modified Comprehensive Water Supply Scheme nearing completion ; rejection by Commonwealth Government of State's request for financial assistance to extend the scheme to the boundary as originally proposed in 1946. Official opening in June of Saint Catherine's College, the University's first residential college for women students. Bequest to University of estate of late Mrs. M. B. Raine, valued at £688,784. First report of the Australian Universities Commission presented to Commonwealth Parliament in November, reviewing university development and recommending Commonwealth grants to the States aggregating £110 million for the years 1961 to 1963. A new retail price index, the Consumer Price Index, calculated retrospectively to 1949, published by Commonwealth Statistician in August to replace the "C" Series Retail Price Index, originally compiled in 1921, and the Interim Retail Price Index, first issued in 1954 as a transitional index. State basic wage for adult females increased from 65 per cent. to 75 per cent. of male rate from beginning of first pay-period commencing on or after 30th January. Legislation passed by State Parliament included the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act ratifying an agreement between the Government and the company for the establishment of an integrated iron and steel industry at Kwinana, subject to provision by the Government of a standard gauge railway between Southern Cross and Kwinana ; the Local Government Act consolidating and amending the law relating to local government and repealing the Municipal Corporations Act and the Road Districts Act ; the Paper Mill Agreement Act ratifying an agreement between the Government and Australian Paper Manufacturers Limited for the establishment of a paper and paper board mill ; and the Totalisator Agency Board Betting Act constituting a Totalisator Agency Board to replace the Betting Control Board and providing for the introduction of an off-course totalisator agency system and the control of off-course betting. From 4th January, hotel trading hours

in south-west of State altered from 9 a.m.-9 p.m. to 10 a.m.-10 p.m. In August, first women jurors empanelled under the Juries Act, 1957. In November, Mangles' Kangaroo Paw (*Anigosanthes Manglesii*) officially declared to be State's floral emblem. From 2nd February all aborigines, other than the nomadic or primitive, eligible for age, invalid and widows' pensions and maternity allowances. From 1st March charge of 5s. payable, except in the case of pensioners, for each prescription written under pharmaceutical benefits scheme. National Service Training Scheme formally ended and trainees discharged. Rt. Hon. Viscount Dunrossil, P.C., G.C.M.G., M.C., K.St.J., Q.C. assumed office 2nd February as Governor-General of Australia.

1961—Sixth Commonwealth census, 30th June. State population 736,629 (males 375,452, females 361,177), an increase of 96,858 persons or 15.1 per cent. since previous census in 1954. Metropolitan population 420,133 compared with 348,647 seven years earlier, an increase of 71,486 persons or 20.5 per cent. Infant mortality, 19.67 per thousand live births, compared with 21.62 in 1960. From the 22nd February, sales tax on motor cars and station wagons reduced from 40 per cent. to 30 per cent., and on motor cycles and motor scooters from 25 per cent. to 16½ per cent., thus restoring rates of tax to levels applying prior to 16th November, 1960. E.S. & A. Savings Bank Limited commenced operations 29th September. Value of imports for year ended 30th June £178.0 million and of exports £204.8 million resulting in favourable trading balance, the first since 1956-57, amounting to £26.8 million. Quantity of gold bullion shipped, 2,532,438 fine ounces, and value, £39.6 million, the greatest ever recorded. First oversea export of rice grown in Kimberley. Provision in Federal budget for expenditure by Commonwealth Government of an amount of £150,000 to meet cost of surveying proposed route of standard gauge railway between Kalgoorlie and Kwinana; survey begun in September. Passage by Commonwealth Parliament of Railway Agreement (Western Australia) Act providing for financial assistance to the State in constructing and equipping the railway; agreement ratified by State Parliament by means of Railway Standardisation Agreement Act and authority for construction given by Railways (Standard Gauge) Construction Act. Western Australian Government Railways deficit (including depreciation and interest charges) for year ended 30th June £3.25 million, almost £1.15 million less than for previous year; operating revenues exceeded operating expenses for first time since 1945-46. Publication of proclamations under Railways (Cue-Big Bell and other Railways) Discontinuance Act of 1960 officially closing 272 miles of line formerly operated by Western Australian Government Railways. Following adverse comments by Commonwealth Grants Commission on State Shipping Service deficits, investigation of operations of Service begun in November for State Government by Captain J. P. Williams, Chairman of Australian Coastal Shipping Commission. Amendment to State Transport Co-ordination Act dissolving the Western Australian Transport Board and assigning its powers and functions to a Commissioner of Transport assisted by a Transport Advisory Board. Western Australia Grant (Beef Cattle Roads) Act passed by Commonwealth Parliament authorizing payment of grant of £500,000 subject to expenditure by the State Government of the same amount during 1961-62 on improvement of roads and construction of bridges to facilitate access to port of Wyndham from Nicholson and other cattle stations in eastern part of Kimberley. Contribution by Commonwealth Government of one-half of expenditure of £320,000 necessary to restore roads damaged by floods in the North-West between January and March. First pile driven 24th November for new railway bridge across Swan River at Fremantle. Television viewers' licences at 31st December numbered 77,610, an increase of almost 20,000 since the end of 1960. Official opening 24th March of satellite-tracking station at Muchea, one of a series constructed at sites around the world by the United States Government in connexion with its Project Mercury for manned orbital flights. Collapse of tobacco market at annual auction sales held at Fremantle in August; more than one-half of the leaf offered remained unsold and average price realized was 63 pence per lb. compared with 101 pence per lb. in 1960. Appointment by Commonwealth Government in January of Wool Marketing Committee of Enquiry to inquire into and report upon systems of marketing and of promoting the sale of the Australian wool clip. Substantial fall in production of pearl-shell to 358 tons, the lowest since 1952. Additional licences issued for pearl culture on West Kimberley coast. Commencement in August of one-year survey of waters between Doubtful Island Bay and Jurien Bay to examine prospects for establishment of commercial tuna fishing. Passage by State Parliament of Iron Ore (Scott River) Agreement Act, ratifying an arrangement with Mineral Mining and Exports (W.A.) Pty. Ltd. for the establishment of an industry to process iron ore in Scott River area near Augusta, and Iron Ore (Tallering Peak) Agreement Act incorporating an agreement with Western Mining Corporation Limited for mining and export of iron ore from Tallering Peak area. Announcement by Minister for National Development in November of extensive iron-ore deposits in the Pilbara. Amendment to Petroleum Search Subsidy Act passed by Commonwealth Parliament extending

duration of the Act and broadening the scope of assistance to operators engaged in oil exploration. Butter production during year ended 30th June, 17·2 million lb., the greatest ever recorded. Completion of power station at Bunbury; last of four units, each of 30,000 kilowatts capacity, brought into operation in July. Contracts let in September for construction of first section of major power station at Muja on the Collie coalfield. Construction of lubricating oil refinery at Kwinana begun in November. Ratification of agreements between State Government and two companies for the establishment of large industrial enterprises, one at Kwinana for the production of alumina from Darling Range bauxite and the other at Bunbury for the manufacture of titanium oxide pigments and acids, alkalis and other chemicals. Official opening 20th October of Serpentine Main Dam, with 39,000 million gallons capacity, for supply of water to metropolitan area. Plaque unveiled at Mundaring Weir 24th November to commemorate completion of modified Comprehensive Water Supply Scheme. Following Commonwealth Government's rejection of further submission for financial assistance in extending the Scheme, plans made by State Government for expenditure from its own funds in supplying towns of Dalwallinu, Pithara, Ballidu, Wongan Hills, Kojonup and Wickepin, as well as a limited area of farmlands adjacent to pipelines. Contract let in September for earthworks in connexion with Logue Brook Dam, with planned capacity of 6,000 million gallons, to augment supply of water to Harvey Irrigation District. Pouring of concrete for construction of wall of diversion dam on Ord River at Kununurra begun in June. Institute of Radiotherapy, adjacent to Perth Chest Hospital at Hollywood, officially opened 16th March. Approval by University Senate of new system of enrolment fees, to apply from beginning of 1962 academic year, at rates considerably higher than faculty service charges previously levied; increase necessary to assist in meeting rising costs of operation and to enable University to take full advantage of Commonwealth financial aid available under States Grants (Universities) Act. Opening of John Thomson Agricultural Economics Centre at University as a research unit of the Institute of Agriculture for the study of economic aspects of agricultural problems. Kimberley School of the Air, to supplement correspondence tuition given by Education Department, began regular transmission from Derby in April after trial period of operation in previous year. In determining quarterly adjustment to State basic wage rates to apply from 1st May, Court of Arbitration for the first time used the Consumer Price Index instead of, as formerly, the "C" Series Index. In October, decrease of 1s. 9d. in State basic wage for adult males in metropolitan area, the first decrease since 1958; total increase in wage during year 4s. 2d., the smallest annual increase since 1958. Coal mine workers at Collie resumed work 31st January after a series of stoppages, extending over a period of almost four months from 12th October, 1960, in protest against proposed reallocation of State Government's coal orders involving an increase in open-cut production and consequent contraction in labour force. Three-year contracts operative from 1st January for supply of coal to Western Australian Government Railways and State Electricity Commission at average prices approximately 12s. per ton lower than previously. Coal production for year 765,740 tons, of which 33·9 per cent. won from open cuts, compared with 922,393 tons, 13·5 per cent. from open cuts, in 1960. Average number of men working at coal mines during year 582, a reduction of more than 400 from the average for 1960. From 28th October ten-shift fortnight introduced at Collie coal mines by agreement between workers and employers; eleventh shift, of five hours on alternate Saturdays, eliminated without loss of pay in each fortnight where coal quota attained in ten working days. Industrial disputes resulted in loss of 23,233 working days, of which 16,326 occurred in stevedoring and 5,025 in coal mining. Legislation passed by State Parliament included the Building Societies Act Amendment Act revising the requirements for registration of approved societies, creating an office of Registrar of Building Societies separate from that of Registrar of Friendly Societies and establishing a Building Societies Advisory Committee; the Commonwealth and State Housing Agreement Act ratifying amendments to the 1956 Agreement and extending to 30th June, 1966 the period of operation of the Agreement as amended; the Companies Act based on a draft of proposed uniform legislation prepared by Commonwealth and State Ministers and repealing the Companies Act, 1943-1960, except as it relates to co-operative companies and co-operative and provident societies; the Criminal Code Amendment Act abolishing the death penalty for the crime of murder but retaining it in cases of wilful murder; and the Registration of Births, Deaths and Marriages Act consolidating and amending the law relating to registration, and repealing the Registration of Births, Deaths and Marriages Act, 1894-1948. Local Government Act of 1960, consolidating and amending the law relating to local government, operative from 1st July. Matrimonial Causes Act 1959 (Commonwealth), providing a uniform divorce law applicable throughout Australia, operative from 1st February. Enactment by Commonwealth Parliament of a Marriage Act to provide uniform marriage law. Death in February of Rt. Hon. Viscount Dunrossil after one year in office as Governor-General of Australia. Appointment of Rt. Hon. Viscount De L'Isle,

V.C., P.C., G.C.M.G., K.St.J. as Governor-General; oath of office administered 3rd August. Select Committee appointed in April by House of Representatives to consider the extension of voting rights to aboriginal natives; report presented in October recommending that voting rights be conferred, that enrolment be voluntary, and that voting be compulsory for enrolled aboriginals. Unusually intense cyclonic activity in northern and north-western areas early in year. At Onslow extensive damage to jetty, and town inundated by sea; damage to houses and installations at Yampi Sound and Port Hedland; banana plantations destroyed by cyclones at Carnarvon and town evacuated as result of serious flooding. Disastrous bush fires over a large area of jarrah and karri forests in the south-west during January, February and March; settlement at Nanga Brook burnt out and townships of Dwellingup and Holyoake almost wholly destroyed. Royal Commissioner appointed in April to inquire into the causes, origins and development of these and other bush fires; report presented to Parliament 3rd October.

1962

Demography—Western Australia's population estimated to have reached 750,000 in March. Crude death rate, 7.69 per thousand of mean population, the lowest ever recorded. Estimated increase of population during year, 19,510, the largest annual increase since 1955.

Public Finance—State deficit for year ended 30th June, £0.96 million (expenditure £75.9 million, revenue £74.9 million). Budget for 1962-63 presented 27th September; estimated deficit £0.78 million (expenditure £78.9 million, revenue £78.2 million). Announcement by Prime Minister on 6th February of Federal Government's financial measures designed to stimulate employment and increase business confidence; special non-repayable grant of £10 million to the States for employment-giving activities, an additional advance for housing, and an increase in the borrowing programmes of semi-government and local government authorities, representing a total addition of £25 million to the spending resources of the States in 1961-62; from 7th February, increase from £2,750 to £3,500 in maximum advance under War Service Homes Scheme; rebate of five per cent. of tax on income of individuals for 1961-62; investment allowance, in the form of deduction from assessable income for taxation purposes, equal to 20 per cent. of expenditure on new manufacturing plant and equipment installed after 7th February; from 7th February, sales tax reduced from 30 per cent. to 22½ per cent. on motor cars and station wagons, and from 16½ per cent. to 12½ per cent. on commercial vehicles, motor cycles and motor vehicle parts and accessories; increases in unemployment and sickness benefits from 1st March, 7s. 6d. per week for an adult or married minor and for dependent spouse, and 2s. 6d. per week for first or only child, and introduction from that date of benefit, at the rate of 15s. per week, for each child other than the first. From 1st January, entertainments tax abolished, in terms of Entertainments Tax and Assessment Acts Repeal Act, 1961 (State).

Private Finance—Personal income for year ended 30th June, £367.5 million (wages, salaries and supplements £232.1 million; farm income £33.0 million; income from dwelling rent £12.5 million; cash benefits from public authorities £33.8 million; all other income £56.1 million) or £493 per head of mean population. Savings bank deposits at end of June £90.5 million compared with £80.7 million at end of June, 1961, an increase of more than 12 per cent. Bank of Adelaide Savings Bank Limited and National Bank Savings Bank Limited commenced business 31st May, and Commercial Savings Bank of Australia Limited 2nd July; from that date all trading banks in Western Australia conducting savings bank business. From 13th April rates of interest on fixed deposits with banks reduced by ¼ per cent. From 10th September maximum permissible term of fixed deposits with banks extended from 12 months to 15 months. Abolition from 1st October of inland exchange formerly charged by banks on transfers within Australia, and substitution of fee for service based on number of entries made in the customer's account. Value of retail sales of goods £260 million, more than 9 per cent. higher than in 1961. Balances outstanding at 31st December on hire purchase agreements and other instalment credit for retail sales of goods amounted to £51.7 million, an increase of almost 12 per cent. over total amount outstanding at end of previous year.

External Trade—Value of imports for year ended 30th June £172.7 million and of exports £190.8 million, yielding a favourable trading balance of £18.1 million, or £8.65 million less than for previous year. Decline of £5.18 million in oversea imports and £0.13 million in interstate imports, but value of exports less by £11.0 million and £2.92 million respectively. Favourable balance on oversea trading reduced from £104.3 million to £98.4 million, and increase in interstate trade deficit from £77.5 million to £80.3 million. Improvement in average f.o.b. values of greasy wool and of wheat exported during year, wool

realizing 59.76 pence per lb. and wheat 14s. 1½d. per bushel compared with 53.94 pence per lb. and 13s. 7d. per bushel in 1960-61. Exports of greasy wool 137 million lb., wheat 73.9 million bushels, frozen crayfish tails 7.95 million lb., and refined petroleum oils and spirits 561 million gallons, the highest ever recorded. Restrictions on export of iron and steel scrap lifted by Federal Government from 29th August. Amendment to Tariff Board Act (Commonwealth) authorizing appointment of special advisory authorities to undertake inquiries and make recommendations where it appears that urgent action may be necessary to protect an Australian industry in relation to imports. From 18th October, elimination of import licensing on all goods except those subject to quantitative restrictions pending receipt of a Tariff Board report on long-term needs.

Transport and Communication—Official ceremony 5th November at site in Avon valley, 21 miles from Perth, to mark commencement of construction of standard gauge railway to link Kwinana and Kalgoorlie. Preliminary work begun in December on construction of Kwinana-Mundijong-Jarrahdale railway between bauxite deposits in Darling Range and alumina refinery at Kwinana. Continued improvement in Western Australian Government Railways finances; for year ended 30th June operating revenues exceeded operating expenses by more than £2 million, and deficit (including depreciation and interest charges) amounted to £2.41 million compared with £3.25 million in 1960-61 and £4.40 million in 1959-60. Completion 29th April of Metropolitan (Perth) Passenger Transport Trust's acquisition of metropolitan road passenger transport services and ferry services. Under a further Western Australia Grant (Beef Cattle Roads) Act, Commonwealth assistance for improvement of roads in Kimberley for transport of beef cattle extended to provide a total of £3.45 million during the five-year period ending 30th June, 1966, subject to expenditure by State Government of the same amount on such projects during this period. Registrations of new motor vehicles (including motor cycles) 28,861, compared with 19,975 in 1961, an increase of 8,886 or almost 45 per cent. Second stage of oversea passenger terminal at Port of Fremantle officially opened in May. Arrival at Fremantle 29th November of m.v. *Kangaroo*, new passenger-freighter built at Brisbane (Queensland) for State Shipping Service; departure from Fremantle 8th December on first voyage to Darwin (Northern Territory) via north-west and northern ports. Report presented to Parliament in October, after inquiry into operations of State Shipping Service, recommended increases in freight rates and passenger fares and the appointment of a Commission of three members to control the Service; increased charges operative from 1st November. Commonwealth financial assistance for construction of a new jetty at Derby provided by Derby Jetty Agreement Act (Commonwealth), and reclamation work begun late in year. Official opening 13th October of new passenger terminal at Perth Airport. New 12-channel telephone system commenced operating between Perth and Melbourne (Victoria) in October. Commencement of work on coaxial cable system between Perth and Bunbury to provide improved telephone service and a television relay channel. Reception by satellite-tracking station at Muchea of report while in orbit 20th February from Lieutenant-Colonel John Glenn (United States Marine Corps) of sighting of lights of Perth and other places in Western Australia in course of first manned orbital flight in United States Government's Project Mercury; other similar flights over Western Australia 24th May and 3rd October. Carnarvon selected by survey team from United States of America as possible site for establishment of a second satellite-tracking station in Western Australia. Announcement in May of agreement between Australian and United States Governments for construction of a naval radio communications station at North West Cape. Television viewers' licences at 31st December numbered 92,017, an increase of 14,407 since end of 1961.

Rural Industry—Opening of cereal-growing season with heavy rains in all districts during last week in May. Rainfall in June was average, adequate in July, below average in August and September, but widespread falls occurred in the first half of October. Wheat harvest 72.5 million bushels, the largest ever recorded. Wool production 184.1 million lb., lower than in two previous seasons. Applicants selected in August to develop five farms, each of approximately 650 acres, the first farms released to the public in the Ord River Irrigation Project. Presentation to Commonwealth Parliament 7th March of report of Wool Marketing Committee of Enquiry recommending continuance of auction system and establishment of an Australian Wool Commission to control marketing, promotion and research; rejection of proposals for a reserve price scheme to provide a minimum price for woolgrowers. Wool Industry Act passed by Commonwealth Parliament in December constituting an Australian Wool Board to carry out the functions of the existing Australian Wool Bureau, Wool Research Committee and Australian Wool Testing Authority. Honey Industry Act passed by Commonwealth Parliament establishing an Australian Honey Board with powers to engage in promotional and research activities and

to control exports of honey ; associated legislation passed to impose a levy of $\frac{1}{4}$ d. per lb. on honey production. Following expiration in July of the International Wheat Agreement 1959, a new Agreement signed to cover the three-year period ending 31st July, 1965.

Fisheries—Significant increase in fish production for year ended 30th June ; total take of fish 31.9 million lb. (of which crayfish accounted for 19.8 million lb.), compared with 27.5 million lb. (including crayfish 18.0 million lb.) in 1960–61. Conclusion of survey of tuna resources in southern waters ; investigation showed that resources inadequate to support commercial fishery. New prawn fishing enterprise in Shark Bay area began operations in May.

Mining—Amendment to Gold-Mining Industry Assistance Act (Commonwealth) extending the period of operation of the Act for a further three years ; Gold Mines Development Assistance Act passed by Commonwealth Parliament to provide for payment of a development allowance to approved producers not receiving subsidy under the Gold-Mining Industry Assistance Act. Production of iron ore 1,403,752 tons, the highest ever recorded. Agreement signed in February between State Government and three joint tenderers, granting 21-year lease, with right of renewal, to mine and export iron ore from deposits at Mount Goldsworthy ; ratifying legislation passed by State Parliament later in year. In March, temporary prospecting reserves covering more than 3,000 square miles in the south-west granted to a company to search for bauxite. Aerial reconnaissance survey covering about 160,000 square miles begun in Canning Basin in November in connexion with continued search for oil.

Secondary Industry—Announcement in October by BP Refinery (Kwinana) Limited of decision to add a propane de-asphalting plant to its lubricating oil refinery being built at Kwinana. New beef treatment plant opened at Robb Jetty in January and new abattoir and meat treatment works at Derby in June. Following favourable reports by a French research organization and engineers of the Public Works Department, announcement in December of State Government's plans for a more detailed exploratory survey of Collier Bay area in West Kimberley as the possible site of a generating station to produce electric power from tidal sources. Approval by State Government of long-range plan for supply of electricity by the State Electricity Commission to areas as far north as Northampton. Value of all new buildings completed, £41.99 million, more than 27 per cent. greater than in 1961.

Water Supplies—Meeting of Federal and State Ministers in Canberra in July recommended establishment of a Water Resources Council to co-ordinate existing research on Australia's water resources, and to plan future research to produce a comprehensive assessment of water available from all sources. Ballidu connected to Comprehensive Water Supply Scheme in November and Dalwallinu in December. Tender accepted by State Government in July for installation at Rottnest Island of desalination plant with planned output of 8,500 gallons of fresh water daily.

Health—Important development in treatment of mental disorders with passage of Mental Health Act, providing a single uniform law in place of previous Acts. New building for Perth Dental Hospital officially opened in March. New regional hospital opened at Albany in March and fully air-conditioned hospital opened at Port Hedland in August. From 1st January, Australian Branch of the British Medical Association reconstituted as the Australian Medical Association.

Education—Thirty-two students successful at final examinations for degrees of Bachelor of Medicine and Bachelor of Surgery, the first to complete the full six-year course at the University of Western Australia. Programme of University building continued ; work begun in August on new library ; new buildings opened in March for Chemistry Department and in April for Physics Department. Ceremony 10th June to mark laying of foundation stone of Kingswood College, a residential college established at the University by the Methodist Church. Announcement in July of increase in University student fees, to operate from beginning of 1963 academic year. From 1st April, liberalization of conditions and increased allowances payable to approved University and Technical College students under Commonwealth Scholarships Scheme. Announcement in October of new training plan to supplement existing five-year apprenticeship for certain building industry tradesmen ; selected youths to serve apprenticeship of only three years in carpentry and bricklaying, as government employees, after one year's technical training before being apprenticed. Announcement in December of increased tuition fees payable at government technical education institutions from beginning of 1963 academic year, and introduction of fees for students under 18 years of age, previously given free instruction. Education Act amended to extend period of compulsory school attendance to end of school year in which the scholar attains the

age of fourteen years instead of, as formerly, terminating on the fourteenth birthday. Third School of the Air established, at Kalgoorlie, to supplement correspondence tuition provided by the Education Department. In December the book stock of the Library Board reached a total of half a million.

Prices, Wages and Employment—Consumer Price Index for Perth 121·8, the same as for 1961. State basic wage rates unaltered during year, the first year since 1954 in which no variation occurred ; Commonwealth basic wage rates also unchanged. Average weekly earnings per employed male unit for year ended 30th June £21·51 compared with £20·77 in 1960-61. Average number of wage and salary earners in civilian employment (excluding rural industry and female private domestics) 208,300, an increase of 7,200 over number in previous year. Average number of persons receiving unemployment benefit during year 2,562 compared with 2,879 in previous year. Five-day working week for employees in the baking industry in the metropolitan area operative from 21st November. Twenty-eight industrial disputes involving 8,363 workers resulted in a loss of 6,300 working days and an estimated loss in wages of £25,000.

Legislation and Administration—General elections for Legislative Assembly on 31st March and biennial elections for Legislative Council on 12th May resulted in a continued majority in both Houses for Liberal-Country Party coalition government.

Parliamentary session opened 26th July, ended 15th November. Legislation included the Agricultural Products Act Amendment Act constituting an Apple Sales Advisory Committee to investigate production and marketing of apples ; the Business Names Act consolidating and amending the law relating to business names and providing that a resident agent must be appointed where persons in respect of whom a business name is registered reside outside the State or have no fixed address within the State ; the Charitable Trusts Act permitting property given or held in trust for a specific charitable purpose to be disposed of, in certain circumstances, for a charitable purpose other than that originally intended, and making provision for proper supervision of trusts by the Attorney-General and the Supreme Court ; the Child Welfare Act Amendment Act appointing the Director of Child Welfare to be guardian of all wards of the State, authorizing the Minister to commit to the care of the Department a child left without parent, near relative or guardian, and increasing from £2 10s. to £5 per week the maximum amount to be paid by near relatives for the maintenance of a child ; the Companies Act Amendment Act providing for company charges or assignments previously registered under the Bills of Sale Act to be re-registered, on the appropriate renewal dates, under the Companies Act and permitting in the case of a life insurance company the use of the share premium account in the building up of the statutory reserve required to be maintained by Commonwealth law ; the Constitution Acts Amendment Act (No. 2) eliminating the requirement of a five-year period of residence after naturalization in order to qualify for election to the Legislative Council or the Legislative Assembly, adding the condition that before a person may be elected to either House he must be either an elector or qualified to be an elector of the Legislative Assembly, and deleting the proviso disqualifying an aboriginal native who is not the holder of a Certificate of Citizenship from being enrolled as an elector of the Legislative Council ; the Declarations and Attestations Act Amendment Act authorizing a Justice of the Peace appointed for any part of Australia outside Western Australia to attest any instrument or statutory declaration required for use in this State ; the Education Act Amendment Act extending the period of compulsory school attendance to the end of the school year in which the scholar attains the age of fourteen years ; the Electoral Act Amendment Act deleting the provision disqualifying an aboriginal native who is not the holder of a Certificate of Citizenship from being enrolled as an elector of the Legislative Assembly ; the Farmers' Debts Adjustment Act (Revival and Continuance) Act reviving the Farmers' Debts Adjustment Act, 1930-1956 which expired 31st March, 1962, and continuing its operation for five years from that date ; the Fisheries Act Amendment Act prescribing increased penalties for breaches of the Act and enabling the limitation of the number of crayfish pots which may be used by any fishing boat ; the Health Act Amendment Act regulating the equipment and maintenance of public swimming pools, and authorizing a medical practitioner to perform a blood transfusion on a child, to preserve life, without first having the consent of the legal guardian ; the Iron Ore (Mount Goldsworthy) Agreement Act approving an agreement between the Government and three joint venturers comprising Consolidated Gold Fields (Australia) Pty. Limited, Cyprus Mines Corporation and Utah Construction & Mining Co., for the development of iron-ore deposits at Mount Goldsworthy and the export of not less than 15 million tons of iron ore ; the Iron Ore (Tallering Peak) Agreement Act Amendment Act approving a supplementary agreement between the Government and Western Mining Corporation Limited granting additional mining leases in the Koolanooka Hills area ; the Land Act Amendment Act providing that, while in

general no person may acquire by conditional purchase more than 5,000 acres of land, the permissible area may, on the recommendation of the Minister and with the approval of the Governor, be increased up to a maximum of 10,000 acres to enable the holding to become an economic farm unit ; the Licensing Act Amendment Act revising the basis of assessment of liquor licence fees ; the Mental Health Act consolidating and amending the law relating to mental health and the treatment of mental disorders ; the Motor Vehicle (Third Party Insurance Surcharge) Act imposing a surcharge at the rate of £1 per year on premiums paid in respect of policies of insurance with The Motor Vehicle Insurance Trust ; the Mount Goldsworthy-Ord Ranges-Depuch Island Railway Act authorizing construction of railways necessary for the mining and export of iron ore from deposits in the Mount Goldsworthy area ; the Pharmacy and Poisons Act Amendment Act replacing the apprenticeship system of training for pharmaceutical chemists by a new system requiring both academic and practical training ; the Stamp Act Amendment Act (No. 2) abolishing duty previously payable on receipts for amounts of £1 or more but less than £5, and increasing to 3d. the duty payable on receipts for amounts of £5 or more but less than £50, imposing higher rates of duty on transfers on sale of property and on hire purchase agreements and simplifying the method of calculation of duty on insurance policies ; the Town Planning and Development Act Amendment Act extending interim development order provisions to 31st December, 1963 ; the Trustees Act consolidating and amending the law relating to trustees ; the War Service Land Settlement Scheme Act Amendment Act empowering the Minister to approve the sale of land granted under the Scheme without requiring that all debts to the Crown be first paid ; and the Western Australian Marine Act Amendment Act authorizing the making of regulations for the registration of pleasure boats and empowering the Minister to grant by licence the right to the exclusive use of a particular area of water for mooring purposes. Among Bills introduced but not passed were the Bush Fires Act Amendment Bill proposing to increase membership of the Bush Fires Board and to give effect to other recommendations of the Royal Commission on Bush Fires ; the Death Penalty Abolition Bill seeking to suspend the death penalty for a trial period of five years ; the National Trust of Australia (W.A.) Bill aiming to establish and incorporate as a statutory authority the National Trust of Australia (W.A.) ; the Native Flora Protection Act Amendment Bill designed to provide measures for the greater protection of wildflowers and native plants ; and the Noxious Weeds Act Amendment Bill seeking to amend the basis of assessment of the noxious weeds rate.

Companies Act, 1961 (State) operative from 5th October.

Parliamentary Allowances Act and Members of Parliament, Reimbursement of Expenses, Act amended to provide increases operative from 1st January, 1963 ; for private members generally annual allowance raised from £2,220 to £2,500 and expenses reimbursement from £450 to £600 with larger increases applying to certain non-metropolitan members and to Cabinet Ministers and holders of other offices.

Appointment in February of Pastoral Leases Committee to inquire into and report upon conditions in the pastoral areas of the State ; the desirability of amendments to the Land Act in relation to size of leases, rental provisions and conditions of tenure ; and scientific research concerning herds and pastures. Presentation to Parliament in July of findings of committee appointed in December, 1958 to report on prevention of delinquency and associated problems ; recommendations included establishment of a new and separate remand home for short-term care and treatment of disturbed children, and provision of a closed reformatory for girls and a residential corrective institution for boys. Presentation to Parliament in August of report of Royal Commission on buying, presentation and marketing of apples grown in Western Australia.

Appointment in February of first members of Transport Advisory Board established under State Transport Co-ordination Act Amendment Act of 1961. Appointment in March of Mr. O. J. Negus, Q.C. as Judge of the Supreme Court, thus increasing to six the number of Judges in addition to the Chief Justice, as authorized by the Supreme Court Act Amendment Act of 1960. Appointment in October for five-year period of an Administrator for the North-West, with headquarters at Derby, to have responsibility, throughout the area north of 26° S. latitude, for co-ordinating departmental activities, investigating and reporting on local problems and proposals and to act as chairman of divisional consultative councils and as a member of an authority to be established for the planning of future northern development.

Retirement from politics in February of Deputy Premier, Hon. A. F. Watts, M.L.A. for Stirling, after having been a Member of Parliament since 1935 and Leader of the Country Party since 1942.

Resignation from Parliament in May and death in December of Hon. Sir Ross McLarty, former M.L.A. for Murray and Premier of Western Australia from 1947 to 1953. Deaths in July of Mr. G. F. Roberts, M.L.A. for Bunbury since 1955 and of Hon. H. L. Roche, M.L.C. from 1940 to 1960.

Amendment to Commonwealth Electoral Act extending to aboriginal natives the right to vote at Federal elections.

Ministerial statement to House of Representatives 22nd February that, under the requirements of the Representation Act and on the basis of population as determined at the 1961 Census, Western Australia, New South Wales and Queensland should each have one member less and Victoria one additional member in a House of Representatives of 120 members (excluding the member for the Northern Territory and the member for the Australian Capital Territory); Distribution Commissioners appointed 12th April to consider reallocation of boundaries of Electoral Divisions. Government motion in House of Representatives 29th November for acceptance of Commissioners' recommendations in regard to New South Wales; announcement by Prime Minister 4th December that, as a result of opposition encountered in Parliament, the Government would not proceed with its motion, and proposals for other States would not be presented to Parliament.

Ministerial statement to House of Representatives 6th December outlining Federal Government's proposals for measures to prevent harmful monopoly and restrictive trade practices, including persistent price cutting at a loss to force a competitor out of business, collusive tendering and bidding, and acquiring or using monopoly power to prevent a person from entering or expanding a business.

Miscellaneous—January the hottest month on record at Perth; maximum temperature on 24 days exceeded 90° F. including nine registrations over 100° F., and average maximum temperature for month was 93.9° F.

From 1st March, modification of residential qualifications applying to payment of age and invalid pensions; qualifying period reduced from 20 years to 10 years for age pensions, and also for invalid pensions in cases where the incapacity or blindness first occurred outside Australia.

Field work begun in May on largest single mapping project ever undertaken by Department of Lands and Surveys, to cover an area of approximately 77,000 square miles extending from near Laverton to the South Australian border.

Official opening 18th July at Darwin (Northern Territory) of "Western Australia House", a building acquired by the State Government to provide office accommodation for State Shipping Service and Tourist Bureau.

Official opening 30th July of Perth's tallest building, the T. & G. Building, 225 feet in height.

Historical museum at the old Toodyay gaol officially opened 7th October.

Announcement in February of plan to establish a Botanic Garden in King's Park; allocation by State Government of sum of £166,500 to be spent over a five-year period commencing with the financial year 1962-63.

Visit in September of Their Majesties King Bhumibol and Queen Sirikit of Thailand, the first visit by a reigning monarch of a foreign country.

Visit between 21st November and 2nd December of His Royal Highness the Duke of Edinburgh to open and attend the VII British Empire and Commonwealth Games held at Perth from 22nd November to 1st December.

1963

Demography—Estimated increase of population, 18,392, lower than in previous year. Crude birth rate, following continuous decline since 1959, fell to 22.36 per thousand of mean population, the lowest recorded since 1945. Significant reduction in infant mortality; rate for year 20.42 per thousand live births compared with 22.27 in 1962.

Public Finance—State deficit for year ended 30th June, £0.75 million (expenditure £79.3 million, revenue £78.6 million). Budget for 1963-64 presented 26th September; estimated deficit £0.71 million (expenditure £83.8 million, revenue £83.1 million). Federal budget, presented 13th August, provided for increased social service and repatriation benefits. Increase of 10s. per week in pension payable to "single" age and invalid pensioners (including those where the spouse does not receive a pension or allowance); 12s. 6d. in allowance payable to the wife of an invalid pensioner or permanently incapacitated age pensioner, and 5s. on account of each child of such pensioners other than the first; 5s. in pension for widows with one or more dependent children, and introduction of mother's allowance of £2 and payment of 15s. on account of eldest or only dependent child; 10s. for widows without dependent children;

10s. in pension payable to totally and permanently incapacitated war pensioners ; 7s. 6d. in domestic allowance for war widows ; 10s. in pension payable to single service pensioners, 5s. for each of the second and subsequent children of permanently unemployable pensioners, and 12s. 6d. in rate payable to the wife of a service pensioner. Western Australia (Northern Development) Agreement Act passed by Commonwealth Parliament to provide further financial assistance up to a total of £3·5 million, partly by grant and partly by interest-bearing loan, for development of the part of the State north of 20°S. latitude ; moneys to be applied, during the period up to 30th June, 1966, primarily to provision of a new deep-water jetty at Broome and to extension of irrigation works within first stage of Ord River irrigation project. As provided by Motor Vehicle (Third Party Insurance Surcharge) Act, 1962 (State), surcharge imposed from 1st January at rate of £1 per year on premiums paid in respect of policies of insurance with The Motor Vehicle Insurance Trust. Stamp Act Amendment Act (No. 2), 1962 (State) operative 1st January, abolishing duty previously payable on receipts for amounts of £1 or more but less than £5, increasing to 3d. the duty payable on receipts for amounts of £5 or more but less than £50, and imposing higher rates of duty on transfers on sale of property and on hire purchase agreements. Announcement 7th April by Federal Treasurer of Government's intention to proceed with plans for introduction of decimal currency system ; first of enabling Acts, the Currency Act, passed by Commonwealth Parliament in October to provide for adoption of currency unit, to be known as the " dollar ", equivalent in value to present ten shillings.

Private Finance—Personal income for year ended 30th June, £390·0 million (wages, salaries and supplements £246·4 million ; farm income £35·3 million ; income from dwelling rent £13·4 million ; cash benefits from public authorities £35·6 million ; all other income £59·3 million) or £510 per head of mean population. Depositors' balances held by savings banks exceeded £100 million for the first time ; amount on deposit at 31st December, £113·2 million, 16 per cent. higher than at end of 1962. From 1st April, maximum rate of interest on overdrafts with trading banks reduced from 7 per cent. to 6½ per cent. per annum, and rates on fixed deposits from 3½ per cent. to 3¼ per cent. on those for three months but less than 12 months, and from 4 per cent. to 3½ per cent. on those for 12 months to 15 months. From 1st May, interest rate reduced from 3½ per cent. to 3 per cent. per annum on deposits with savings banks other than the Rural and Industries Bank of Western Australia which reduced its rate from 3½ per cent. to 3¼ per cent. Value of retail sales of goods £276·9 million, an increase of £16·9 million over previous year. Balances outstanding at end of December on hire purchase agreements and other instalment credit for retail sales amounted to £55·9 million, or £4·2 million more than at end of 1962.

External Trade—Value of imports for year ended 30th June £213·2 million and of exports £173·2 million, resulting in adverse trading balance of £40·0 million, the highest since 1954–55. Oversea imports increased by £6·23 million over 1961–62 and interstate imports by £34·3 million. Decline of £21·1 million in value of overseas exports, but increase of £3·51 million in interstate exports. Further reduction in favourable balance on overseas trading, from £98·4 million to £71·0 million, and increase in interstate trade deficit from £80·3 million to £111·0 million. Average f.o.b. values of greasy wool and of wheat exported during year slightly higher than in 1961–62 ; wool 60·63 pence per lb. and wheat 14s. 2¾d. per bushel, compared with 59·76 pence per lb. and 14s. 1½d. per bushel in previous year. Exports of greasy wool 131·4 million lb., wheat 50·7 million bushels, frozen crayfish tails 7·69 million lb., and refined petroleum oils and spirits 556·4 million gallons, all lower than the unprecedentedly high levels attained in 1961–62. Among other principal export commodities showing a decrease in volume were wheaten flour 24·0 per cent., oats 18·7 per cent., barley 44·4 per cent., gold bullion 7·9 per cent., and manganese 51·6 per cent. Those which showed increases included apples 68·9 per cent., frozen and chilled meats (including poultry) 11·0 per cent., and iron ore and concentrates (including pyritic clinders) 32·2 per cent.

Transport and Communication—Initial instalment of Commonwealth financial assistance for rail standardization ; amount received during year ended 30th June £2,162,557, of which £1,405,662 represented repayable advances. First movement of bauxite 29th July over newly-constructed railway from Jarrahdale to alumina refinery at Kwinana. For third successive year, operating revenues of Western Australian Government Railways exceeded operating expenses ; excess for year ended 30th June, £1·14 million, considerably lower than in 1961–62 due mainly to smaller returns from haulage of grain, and deficit (including depreciation and interest) £3·43 million compared with £2·41 million for previous year. Publication of proclamations under Railways (Cue-Big Bell and other Railways) Discontinuance Act of 1960 officially closing a further 80 miles of line formerly operated by Western Australian Government Railways ; of total length of 670 miles authorized for closure under the Act, 409 miles officially proclaimed closed at 31st December. Passage by State Parliament of The Midland Railway Company of

Western Australia Limited Acquisition Agreement Act, authorizing the State Government to purchase the assets of the Company. From 1st November, increased fares for most journeys on Metropolitan (Perth) Passenger Transport Trust system and Western Australian Government Railways suburban and country services. Commonwealth financial assistance to 30th June under Western Australia Grant (Beef Cattle Roads) Acts £1·2 million; in May, first consignment of frozen beef carcasses by road from Glenroy to Derby, replacing air-freight system operated since 1949. Registrations of new motor vehicles (including motor cycles) 32,034, the highest ever recorded and 11 per cent. greater than in 1962. Announcement by Fremantle Harbour Trust in November of plan for up-stream extension of inner harbour at Port of Fremantle, at estimated cost of £7 million. First payment by Commonwealth, amounting to £300,000 for year ended 30th June, in terms of Derby Jetty Agreement Act 1962 (Commonwealth), one-half of this sum representing repayable advances. Commonwealth financial assistance for Broome jetty works provided by Western Australia (Northern Development) Agreement Act (Commonwealth). Survey of Point Samson-Depuch Island area by H.M.A.S. *Barcoo* to chart shipping channels suitable for navigation by deep-draught vessels. New secondary airport for Perth, situated at Jandakot about 15 miles south of Perth, officially opened for light aircraft 21st June; from 30th June, Maylands aerodrome no longer operative. Satellite-tracking station established at Carnarvon by United States Government in connexion with its programme of manned orbital flights. United States Naval Communication Station Agreement Act passed by Commonwealth Parliament in May to approve an agreement between Australian and United States Governments relating to establishment of naval radio communications station at Exmouth (North West Cape); work begun in August on site of main transmitter. Radio-telegraph service between Perth and Exmouth brought into operation in October, and radio-telephone services between Kununurra and Wyndham and between Lancelin and Gingin in December. Television viewers' licences at 31st December numbered 104,017, an increase of 12,000 during year.

Rural Industry—Promising opening to the season in agricultural areas with excellent rains in March and April, but heavy falls in the following months and dry conditions towards the end of the growing season had an adverse effect on grain crops. Yields in some areas further reduced by outbreaks of rust and septoria. Wheat harvest 52·3 million bushels, compared with 72·5 million bushels in previous season. Total production of wheat, oats and barley, 74·3 million bushels, little more than three-quarters of that for 1962-63 and the lowest since 1957-58. Wool production, 216·6 million lb., the highest ever recorded and more than 17 per cent. greater than in previous season. Under special government-supervised plan, 182 bales of tobacco leaf from selected growers in Manjimup area offered for sale at Melbourne auction in June; only 66 bales sold, at low prices. Ginnery installed at Kununurra for processing of first cotton crops produced on farms in Ord River irrigation area. Amendment to Land Act (State) extending to 30th June, 2015 the term of pastoral leases issued under the Act. First members of Australian Wool Board appointed under Wool Industry Act 1962 (Commonwealth). From 1st March, collection of levy of ½d. per lb. on honey production to finance promotional and research activities. Phosphate Fertilizers Bounty Act passed by Commonwealth Parliament to provide for payment of bounty in respect of superphosphate and ammonium phosphate production. Passage of Processed Milk Products Bounty Act (Commonwealth) continuing the Act of 1962 and increasing to £500,000 the amount of bounty payable to processors on products exported during 1963-64, compared with £350,000 in 1962-63, the first year of operation of the Act. Payment of bounty on production of raw cotton extended to 31st December, 1968 by means of Raw Cotton Bounty Act 1963 (Commonwealth), replacing Cotton Bounty Act 1951-1958. Wheat Stabilization Plan continued for a further five years by Wheat Industry Stabilization Act 1963 (Commonwealth) and Wheat Industry Stabilisation Act, 1963 (State) authorizing operation of the Plan in Western Australia.

Fisheries—Further increase in fish production for year ended 30th June; total take of fish 32·7 million lb., of which crayfish accounted for 21·4 million lb., the highest ever recorded. Production of prawns 1·02 million lb. compared with 239,000 lb. in 1961-62. Economic survey of Western Australian crayfishing industry, conducted jointly by Commonwealth Department of Primary Industry and Western Australian Fisheries Department, commenced 1st October. Total catch of humpback whales only 87, compared with International Whaling Commission quota of 550. At meeting held in London in July, Commission imposed ban for an indefinite period on taking of humpback whales in Southern Hemisphere; whaling operations at Carnarvon abandoned in August. In April, commencement of aerial spotting as part of two-year survey of sperm whale resources by Commonwealth Scientific and Industrial Research Organization financed by grant from Fisheries Development Trust Account.

Mining—Passage by State Parliament of Iron Ore (Hamersley Range) Agreement Act, ratifying an agreement between State Government and Hamersley Iron Pty. Limited for mining and export of iron ore from deposits in Hamersley Range, for secondary processing of ore as a later development, and ultimately for establishment of an integrated iron and steel industry. Approval by Commonwealth Government in February of export of iron-ore pellets from Scott River deposits at the rate of half a million tons annually during the period 1965–1975, and in June of export of iron ore from Mount Goldsworthy area up to the limit of proved reserves, amounting to 64 million tons, at a maximum permissible annual rate of four million tons and on condition that exports begin within five years and at a satisfactory price. In December, contract signed between Japanese buyers and company mining at Talling Peak and Koolanooka Hills for export to Japan of 5.1 million tons of iron ore from these deposits during a period of eight years from April, 1966. Agreement signed in June between State Government and private interests for large-scale production and export of salt from Shark Bay area. Announcement of plans for greatly increased production of tin from deposits at Greenbushes and in the Pilbara. Revival of copper mining at Whim Creek in September (operations discontinued in March, 1964). Asbestos production 11,105 tons, the lowest since 1956. Gold mining operations at Bullfinch abandoned in May, and at Gwalia in December.

Secondary Industry—Net value of factory production for year ended 30th June exceeded £100 million for the first time; value, £108.2 million, more than 10 per cent. greater than for previous year. Average employment in factories, 53,435 persons, almost 5 per cent. higher than in 1961–62. Sawm timber, including railway sleepers, produced from local logs 185.8 million super. feet, the lowest since 1951–52. Lubricating oil refinery at Kwinana began production in February. Alumina refinery, using bauxite mined near Jarrahdale in Darling Range, brought into production at Kwinana. Production of titanium oxide pigments begun late in year at large chemical factory at Bunbury. Hydrographic survey by m.v. *Gunga Din* in Collier Bay area of West Kimberley in connexion with State Government's investigation into possibility of producing electric power from tidal sources. Value of all new buildings completed, £42.25 million, greater by £0.26 million than in 1962.

Water Supplies—Official opening 20th July of diversion dam on Ord River at Kununurra as first stage of Ord River irrigation project. Announcement 13th August by Federal Treasurer, in presenting budget for 1963–64, of additional financial assistance to be extended to State Government for construction of further supply and drainage channels and other works associated with the project; legislative approval given by Western Australia (Northern Development) Agreement Act (Commonwealth). Official opening 4th October of Logue Brook Dam, capacity 5,358 million gallons, to augment supply of water to Harvey Irrigation District. Work begun on Waroona Dam, with planned capacity of 3,234 million gallons, to increase supplies to Waroona Irrigation District. Wongan Hills connected to Comprehensive Water Supply Scheme in December. Further request made by State Government to Commonwealth for financial assistance in extension of modified Comprehensive Water Supply Scheme; amount sought £5.25 million, payable over seven-year period and representing half the estimated cost of proposed extensions. First meeting of Australian Water Resources Council held at Canberra 20th March to evaluate a preliminary assessment of quantities of surface and underground water available in Australia.

Health—Revised system of Commonwealth hospital benefits operative from 1st January; from that date also, benefit extended to qualified patients in approved nursing homes at rate of £1 per day, whether patient insured or not. From 1st November, substantial increases in charges for accommodation in government hospitals. In May, Perth Chest Hospital renamed the Sir Charles Gairdner Hospital in honour of the retiring Governor of Western Australia. Inauguration in May of "aero-dental" service based on Meekatharra and operated by Perth Dental Hospital in association with Royal Flying Doctor Service to provide regular dental treatment in remote areas. Announcement in April of two-year plan by State Government for comprehensive development of mental health services.

Education—Second report of Australian Universities Commission presented to Commonwealth Parliament in October recommending grants to the States totalling more than £151 million for the period 1964 to 1966; passage of Universities (Financial Assistance) Act giving effect to the Commission's major financial recommendations. Golden Jubilee Year of University of Western Australia declared open at ceremony held on 25th March. Kingswood College, sponsored by the Methodist Church, open to men students of the University from beginning of academic year; official opening 17th November. Work begun on first stage of an Institute of Technology to be established on a 277-acre site in Collier pine plantation at South Perth. Allowances on account of dependent children of certain classes of social service and repatriation pensioners, previously terminable on the child's attaining the age of 16 years, extended to

include "student" children. (A student child is a dependent child aged between 16 and 18 years, who is receiving full-time education at a school, college or university, and the allowance continues until the end of the calendar year in which the child attains the age of 18 years.)

Prices, Wages and Employment—Consumer Price Index for Perth 122.7, compared with 121.8 for 1962. Reduction from 1st October in charges for electricity supplied by State Electricity Commission. State basic wage rates increased from 22nd April, the first rise since 30th October, 1961. Commonwealth basic wage rates unchanged during year. Average weekly earnings per employed male unit for year ended 30th June £22.12 compared with £21.51 in 1961-62. Average number of wage and salary earners in civilian employment (excluding employees in rural industry and private domestic service) 215,800, an increase of 7,500 over average for 1962. Average number of persons receiving unemployment benefit during year 2,874 compared with 2,562 in previous year. Commonwealth financial assistance for year ended 30th June included £1,364,000 as Western Australia's share of grant of £17.5 million to the States for stimulation of employment. Court of Arbitration, in a decision of 28th June, adopted new standard of three weeks' annual leave, instead of two weeks as formerly, for workers under State awards; decision applicable from 30th November. Passage by State Parliament in December of Industrial Arbitration Act Amendment Act (No. 2), 1963 abolishing the former Court of Arbitration and establishing The Western Australian Industrial Commission and the Western Australian Industrial Appeal Court. Twenty-eight industrial disputes involving 42,584 workers resulted in a loss of 31,969 working days and an estimated loss in wages of £126,200.

Legislation and Administration—Parliamentary session opened 1st August, ended 6th December. Legislation included the Agricultural Products Act Amendment Act extending to 31st December, 1965 the operation of the Apple Sales Advisory Committee; the Albany Harbour Board Act Amendment Act conferring additional borrowing powers on the Board; the Bee Industry Compensation Act Amendment Act entitling a beekeeper to compensation equal to the full value of diseased bees or other property destroyed, instead of two-thirds of the value as formerly; the Beef Cattle Industry Compensation Act establishing a fund, to be financed from a cattle sales duty and other sources, for the compensation of owners of diseased cattle destroyed under the provisions of the Act; the Beekeepers Act repealing the Bees Act, 1930-1957 and prescribing measures for the eradication of disease among bees, the orderly conduct of the beekeeping industry and the improvement of the products of the industry; the Bunbury Harbour Board Act Amendment Act conferring additional borrowing powers on the Board; the Bush Fires Act Amendment Act increasing from ten to thirteen the number of members of the Bush Fires Board and giving effect to other recommendations of the Royal Commissioner appointed in 1961 to inquire into bush fires; the Constitution Acts Amendment Act (No. 2) providing for the division of the State into fifteen Electoral Provinces each returning two Members of the Legislative Council, instead of ten Provinces each returning three Members, and making the qualifications of electors and Members of the Legislative Council identical with those of electors and Members of the Legislative Assembly; the Convicted Inebriates' Rehabilitation Act establishing an Inebriates Advisory Board of three members, comprising two psychiatrists and a welfare officer, to assist in the clinical treatment and rehabilitation of convicted inebriates; the Electoral Districts Act Amendment Act appointing Electoral Commissioners to make a redivision of the State into fifteen Electoral Provinces for representation in the Legislative Council, instead of ten Provinces as formerly; the Factories and Shops Act repealing the Factories and Shops Act, 1920-1959, and consolidating and amending the law relating to the supervision and regulation of factories, shops and warehouses; the Fire Brigades Act Amendment Act varying the proportions in which the expenditure of the Western Australian Fire Brigades Board during the three-year period ending 30th September, 1967 shall be met by the several statutory contributors, by increasing from 5/9ths to 64 per cent. the contribution of insurance companies, and reducing from 2/9ths to 16 per cent. and 20 per cent. respectively the contributions of the State Government and the local government authorities; the Foreign Judgments (Reciprocal Enforcement) Act repealing relevant sections of the Supreme Court Act, 1935, and enabling the enforcement in Western Australia of judgments given in the United Kingdom and other countries which accord reciprocity of treatment, and facilitating the enforcement in those countries of judgments given in Western Australia; the Government Railways Act Amendment Act removing the limit of £2,000 on the amount of damages recoverable in any action against the Western Australian Government Railways Commission in respect of loss of life or injury; the Industrial Arbitration Act Amendment Act (No. 2) abolishing the former Court of Arbitration and establishing The Western Australian Industrial Commission, consisting of a Chief Industrial Commissioner and three other Commissioners, and the Western Australian Industrial Appeal Court, comprising three Judges of the Supreme Court, to hear and determine

appeals from any decision of the Commission ; the Iron Ore (Hamersley Range) Agreement Act approving an agreement between the State Government and Hamersley Iron Pty. Limited for the mining and export of iron ore from deposits in the Hamersley Range, for the secondary processing of the ore as a later development, and ultimately for the establishment of an integrated iron and steel industry ; the Iron Ore (Mount Goldsworthy) Agreement Act Amendment Act enabling the parties to the Agreement to substitute another port for Depuch Island and, in the event of such a substitution being made, to make consequential amendments with respect to other matters ; the Land Act Amendment Act extending to the year 2015 the term of pastoral leases due to expire in 1982, abolishing the former Board of Appraisers and establishing in its stead a Pastoral Appraisal Board ; the Licensing Act Amendment Act (No. 4) limiting to declared areas of the State the operation of the provision naming as an offence the supplying of alcoholic liquor to aboriginal natives ; the Metropolitan Water Supply, Sewerage, and Drainage Act Amendment Act establishing a Metropolitan Water Supply, Sewerage, and Drainage Board, consisting of seven members and having its own borrowing powers, to replace 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 Midland Railway Company of Western Australia Limited Acquisition Agreement Act authorizing the State Government to purchase the assets of the Company ; the Mining Act Amendment Act increasing from 48 acres to 300 acres the maximum area pertaining generally to the grant of a mineral lease, and varying the conditions relating to the amalgamation of leases ; the Motor Vehicle Drivers Instructors Act requiring a person to be licensed as an instructor if so engaged for reward ; the Native Welfare Act repealing earlier legislation and consolidating and amending the law relating to the welfare of aboriginal natives ; the Noxious Weeds Act Amendment Act imposing a special rate in respect of holdings (other than certain exempt holdings) not exceeding, in the case of a pastoral lease, 3d., and, in the case of other land, ½d., in the £ of the unimproved value of the holding ; the Occupational Therapists Act Amendment Act eliminating the requirement that a person shall have attained the age of 21 years before being registered as an occupational therapist, but prohibiting a minor from engaging in private practice ; the Offenders Probation and Parole Act authorizing the release of offenders on probation or parole, and establishing a Parole Board of five members, under the chairmanship of a Judge of the Supreme Court, to succeed the Indeterminate Sentences Board constituted under the Prisons Act ; the Pig Industry Compensation Act Amendment Act raising the amount of compensation payable in respect of the destruction of a diseased pig to the full market value of the pig instead of, as formerly, three-quarters of the value, and increasing from £24 to £40 the maximum amount payable in respect of any pig destroyed ; the Prisons Act Amendment Act repealing sections relating to the former Indeterminate Sentences Board ; the Public Service Act Amendment Act increasing from two weeks to three weeks, with effect from the 1st January, 1963, the period of annual recreation leave for persons employed under the Act, simplifying certain administrative procedures and amending the provisions relating to the making of regulations ; the Rural and Industries Bank Act Amendment Act deleting the provision limiting the funds of the Bank to the sum of £12 million, and extending the borrowing powers of the Bank ; the Stamp Act Amendment Act (No. 2) imposing, subject to certain exemptions, a duty on a motor vehicle licence or the transfer of a licence at the rate of 10s. for every £100, or part of £100, of the value of the vehicle to which the licence or the transfer relates ; the Stamp Act Amendment Act (No. 4) levying duty as provided for by the Beef Cattle Industry Compensation Act, at the rate of 1d. in the £ on sales of cattle or carcasses up to a maximum of 5s. in respect of any one animal or carcass ; the Taxi-cars (Co-ordination and Control) Act constituting a Taxi Control Board comprising the Commissioner of Transport, or his deputy, as Chairman, and six other members for the co-ordination and control of taxi-cars in the Metropolitan Traffic Area and such other areas as may be declared ; the Traffic Act Amendment Act providing that no licence fee shall be payable in respect of a motor vehicle used exclusively for interstate transport, and increasing penalties for the overloading of goods vehicles ; the Traffic Act Amendment Act (No. 2) increasing from 10s. to £2 the fee payable on each application for a licence to drive a motor vehicle ; the Traffic Act Amendment Act (No. 3) providing that where a person has not previously held a driver's licence or has not held a licence elsewhere than in Western Australia for a period of three years or more he shall be issued with a licence on probation only and shall remain on probation for a period of three years ; the Wheat Industry Stabilisation Act repealing the Wheat Industry Stabilisation Act of 1958 and authorizing the operation in Western Australia of the Wheat Industry Stabilization Act 1963 (Commonwealth) relating to the marketing of wheat harvested during the seasons 1963-64 to 1967-68 ; and the Workers' Compensation Act Amendment Act increasing from £150 to £200 the maximum amount of medical expenses payable in respect of an injured

worker, and from £250 to £325 the maximum amount of hospital expenses. Among Bills introduced but not passed were the Drugless Practitioners Bill designed to provide for the registration and control of such practitioners as chiropractors, osteopaths and naturopaths; the Electoral Act Amendment Bill aiming to provide for the compilation and maintenance of a single roll of electors for the State Parliament and the Commonwealth Parliament; and the Fluoridation of Public Water Supplies Bill seeking authorization for the addition of fluoride to public water supplies.

Marriage Act 1961 (Commonwealth), providing a uniform marriage law applicable throughout Australia, and Registration of Births, Deaths and Marriages Act, 1961 (State) operative from 1st September.

Presentation in March of report of Pastoral Leases Committee appointed in February, 1962 to inquire into conditions in existing and potential pastoral areas of the State.

Death in April of Hon. E. M. Davies, M.L.C. for West Province, in May of Hon. W. R. Hall, M.L.C. for North-East Province, and in June of Hon. C. H. Simpson, M.L.C. for Midland Province. At by-election of 29th June, Hon. J. Dolan elected M.L.C. for West Province and Hon. D. P. Dellar for North-East Province. At by-election of 17th August, Hon. J. Heitman elected M.L.C. for Midland Province.

Departure in June of His Excellency Lieutenant-General Sir Charles Gairdner, K.C.M.G., K.C.V.O., K.B.E., C.B., Governor of Western Australia since 1951. On 25th October, Major-General Sir Douglas Kendrew, K.C.M.G., C.B., C.B.E., D.S.O. sworn in as Governor.

At Federal elections held 30th November, Liberal-Country Party Government returned to office with majority in House of Representatives increased from two seats to 22 seats.

Miscellaneous—Extensive damage at Onslow from cyclone on 7th February; wind velocity 144 miles per hour, the highest ever recorded in Australia. Earth tremor in January felt over large area in south-west of State. Widespread tremor experienced in November from earthquake centred off north-west coast of Australia.

Official opening 25th March of Council House, new administrative headquarters of Perth City Council.

Official opening 29th March of Karnet Rehabilitation and Training Centre at Keysbrook in Darling Range near Perth; minimum security accommodation provided for 120 men, comprising convicted inebriates and young offenders convicted of criminal offences.

Contract let in August for erection of administration building for State Government, at cost of more than £2 million, on site formerly occupied by State Government Observatory; work begun in September.

Gazetted 13th December of Order in Council, effective from 1st January, 1964, constituting new Shire of Exmouth by severance of territory from Shire of Gascoyne-Minilya.

Ceremony at King's Park in March to mark beginning of reticulation of water to area being developed as a Botanic Garden of native flora; planting begun in May. Announcement in October of plan, to cost £47,000 during a period of three years, for further improvement of King's Park.

Visit in March of Her Majesty Queen Elizabeth II and His Royal Highness the Duke of Edinburgh.

1964

A summary of the principal events of the year 1964 is given in the *Appendix*.

CHAPTER II—PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA

PART 1—PHYSICAL FEATURES AND GEOLOGY

Contributed by

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(Professor of Geology, University of Western Australia)

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 1890's, 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. Moreover today, with the realization of the extent of the iron-ore deposits of the State, particularly those of the Pilbara, we are on the eve of another period of major development in this country. In each of these phases of development we can, if we look closely, see the dominating influence of the geological environment.

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. In recent years much research has been carried out into trace element deficiencies in soils, with astounding results as far as land utilization 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 connexion with land utilization, 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.

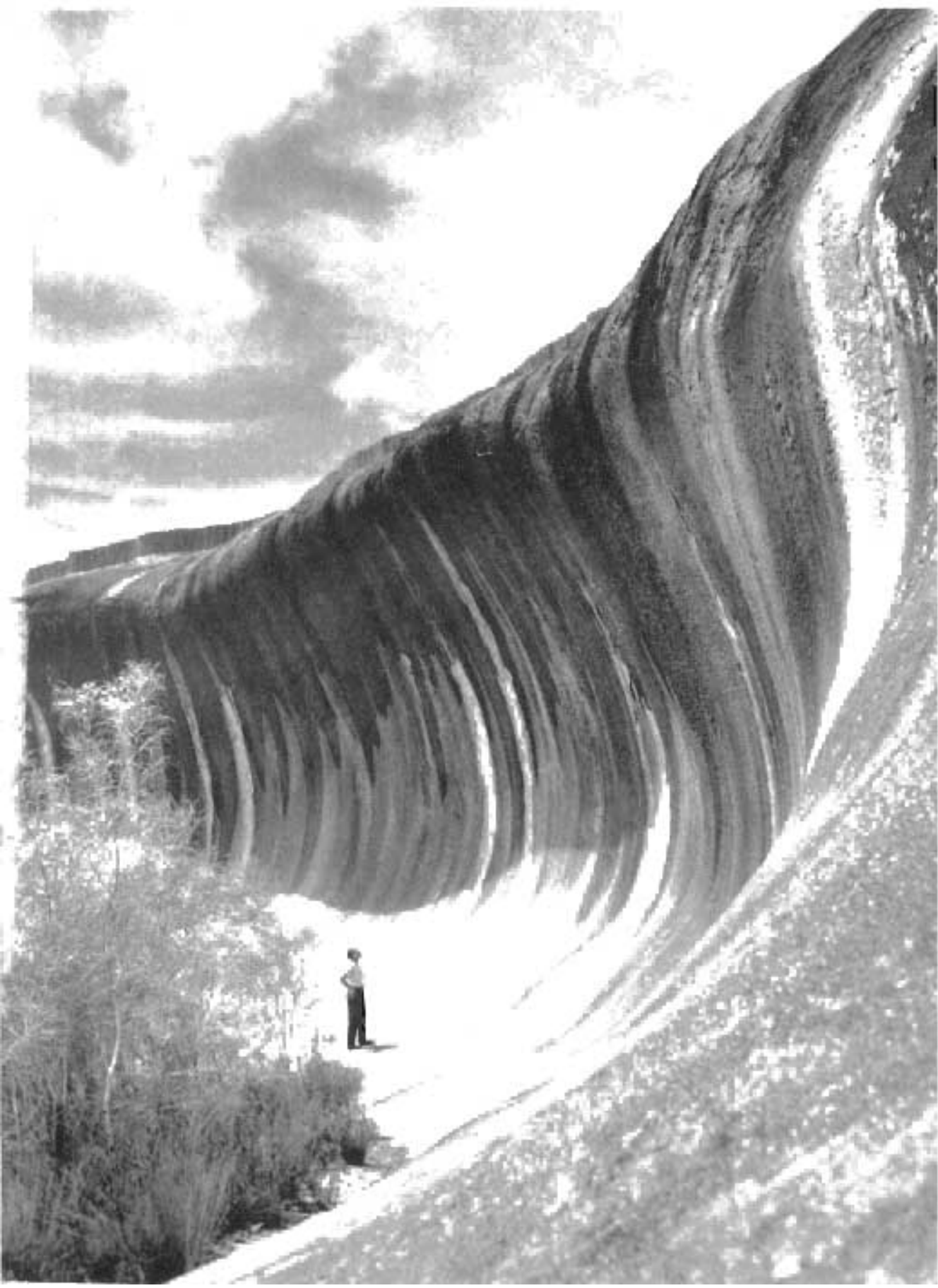
It is appropriate therefore that we should consider here the physical features and geology of Western Australia since they, together with the climate, are the primary controls of our soil, mineral, water and power resources, on which our existence and future development are entirely dependent.

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 connexion with the water conservation schemes on which the metropolitan area, the major goldmining field 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



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 50 feet high.

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 Territories 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 area of no surface drainage again 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 crystallizes earlier than the common salt, is usually blown from the damp surface of the dried-up lake and deposited in dunes of "wind gypsum" on the leeward (eastern) side of the lake. These dunes are utilized, for example at Lake Boodie, north of Yellowknife, 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 Widjimalbatha. In a few of the Western Australian salt lakes significant deposits of argillite 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-pine soils covering 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 laterite profile (sandy soils near the surface, "ironstone" a few feet below, and completely basitized rocks still deeper) so far as soil fertility is concerned. This laterite profile is the result of long continued weathering processes which have resulted in almost complete leaching of the valuable nutrients and so a soil thus developed in any part of this profile is generally very poor in character. It is only where erosion has cut through the laterite 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 suitable nutrients.

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 extremely 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, the coastal plain is absent and the southern edge of the Plain is truncated by cliffs which rise almost sheer for 300 to 400 feet above sea level.

The hills of the Great Plateau are of two kinds, ridged and table topped. In the western 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 500 feet above the general level. They are capped with a subhorizontal layer of lavas, "breccias," and boulders by iron cliffs, in many places undercut, which are known in Western Australia as "breakaways." The table topped hills are a remnant of a former laterite covered peneplain (the Darling Peneplain) which was uplifted in Tertiary 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 gneiss, granite, and basalt, stand above the general level of the remnants of the laterite covered Darling Plateau.

The Great Plateau slopes down very gradually to the south and east. The downward slope to the south is interrupted by a narrow broken chain of rugged hills, the Stirling and Mt. Barren Ranges which rise to heights of from 1,000 to 2,500 feet above sea level. The western margin of the Plateau is, in the south, formed by the "Darling Range" which, being merely the assumed margin of the Plateau, is much better called the Darling Escarp. This Darling escarp is nearly constant between latitudes 31° and 33° S., 115° and 120° E., between Moora and Kunzea, but it is difficult to imagine 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 Fremantle, averages about fifteen miles in width and is divisible into the following belts: a narrow belt of moving sand dunes along the coast; a zone, averaging three or four miles wide, of soft, loesslike which rises in places to heights of 100 to 200 feet above sea level; a zone three or four miles wide of loam and silt by vegetation; and, abutting against the Seap, 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 as far north as King Sound and coastal plains of some width occur near Port Hedland and Binning 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 Inshore 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. J. Dool'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 Proterozoic 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 and water and superficial deposits such as asbestos iron and aluminium ore deposits and black sand and other alluvial accumulations, occur in these Proterozoic rocks. The remainder of the State is occupied by secondary basins in which Proterozoic and other sediments are deposited. It is in these younger sedimentary basins that oil, gas, water, coal, and other superficial deposits are likely to occur. Finally there are the still younger superficial deposits—loesslike, 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 Proterozoic basement
- b) The sedimentary basins
- c) The superficial deposits.

The distribution of the solid rocks (constituting superficial deposits) is shown in the accompanying map (see page 36).

The Precambrian Basement

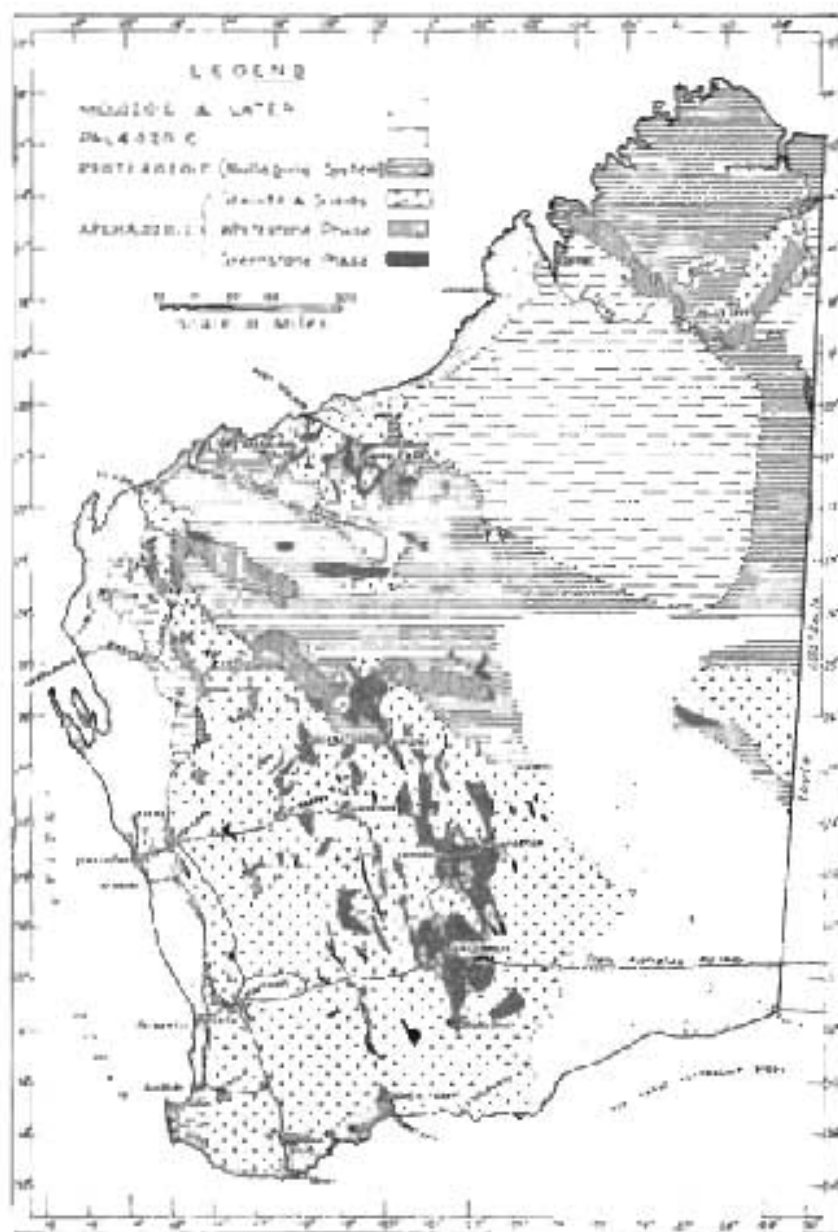
This includes the Archaean and Proterozoic rocks. The Archaean is a complex of crystalline igneous and metamorphic rocks, dominantly gneisses and gneisses with minor amounts of basic gneisses and schistose metasedimentary formations. In places, particularly in the North West and Kimberley Divisions, this Archaean complex is overlain unconformably by sedimentary and volcanic rocks of Proterozoic age which can not exhibit the extensive metamorphism so characteristic of the older Archaean complex. Within the different areas occupied by the Precambrian rocks the same generalized sequence can be distinguished.

In the Kimberley the oldest rocks are metamorphosed igneous and sedimentary rocks intruded by granite and carrying in places numerous ore deposits, and these are overlain by an metamorphosed sedimentary and basic igneous intrusions. The Precambrian age of all these rocks is evidenced by the fact that to 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 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 good 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 granitic intrusions of the southern part of the State crystallized from a molten state some 2,500 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 System*, 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 (jasplites or banded iron formations) in the upper part of the sequence. These jaspilites have been the precursors of important iron ore deposits such as those of Mount Goldsworthy. The Warrawoona System is unconformably overlain by a System (the *Mosquito Creek System*) 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 Systems are intruded by granitic igneous rocks emplaced approximately 2,700 million years ago and both carry auriferous ore bodies. A still younger System (the *Nalagins System*, of Proterozoic age) consisting of sedimentary rocks such as conglomerates, sandstones, shales and banded iron formations with interbedded basic igneous rocks, was deposited unconformably on the highly folded, granite intruded Mosquito Creek and Warrawoona Systems. The thick Nalagins sequence consists of a number of distinct groups. The three lower groups (the *Narley*, *Hamersley* and *Wylie Groups*) are of Lower Proterozoic age as the youngest (the *Wylie Group*) is intruded by granite aged approximately 1,500 million years. The two upper groups (the *Bushman* and *Baigambi Groups*, are of Middle and Upper Proterozoic age respectively. Of these Proterozoic rocks the Hamersley Group is most important and 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 the rocks of the Nalagins System have not suffered the intense folding that affected the older rocks and consequently they are present as flat dipping to horizontally bedded to metamorphosed sediments. Such sediments cover very extensive areas in the North West (see Geological Map of Western Australia on page 36) and they are similar in all respects to the flat-dipping Upper 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 diorite 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 sheet extending south of latitude 29° S. the oldest rocks that are recognized are the greenstones of the various gold-mining fields which occur in comparatively narrow belts elongated in a general N.N.W. direction (see Map, page 36). These greenstones, which are the most part metamorphosed basaltic lavas, contain interbedded jaspilites and are overlain by metamorphosed sedimentary rocks (generally referred to as whitestones). This System of rocks is the *Antipodite-Pilbara System*. From the mining point of view it is most important since the auriferous ore deposits of the main



GEOLOGICAL MAP OF WESTERN AUSTRALIA

(from *Unwin, Fisher and Tuckers, "Synopsis of Geology for Western Australia Students," by courtesy of University of Western Australia Press.*)

mining fields are confined to it and 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 Warrawoona System of the North-West. After the formation of the Kalgoorlie-Yilgarn rocks they were intensely compressed into tightly closed folds with N.N.W.-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 rocks of the east-west Stirling and Mt. Doreen Ranges along the south coast. As in the North-West all of these Precambrian rocks are intruded by doleritic dykes.

Putting together the information available throughout the State, we conclude that the oldest system of rocks found in Western Australia belongs to the older part of the Archaean 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 Warrawoona 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 basalt 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 Elkon or Fuji. 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 worked into the Kalgoorlie-Yilgarn rocks, penetrating them along bedding planes, joints, and other fractures, and so forming hybrid granitic gneisses by granulitization.

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 granitic invasion, etc., have not been granulitized, nor in most places but slightly regionally metamorphosed, in others they are converted into various types of schists and quartzites.

The Musquito Creek System forms part of the older Precambrian in the North West region. It consists mainly of metamorphosed schists—slates and quartzites largely—and overlies the Warrawoona System unconformably, whereas the schistosity and gneissosity phases of the Kalgoorlie-Yilgarn System appear to be conformable to one another. Therefore, there is nothing, it seems, in the southern part of the State to correspond to the Musquito Creek System.

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 across, though smaller offshoots from the same magma, in the form of "porphyry dykes," occur at nearly every mining center. These intrusions occurred after the folding but before Proterozoic times. Any of the Archaean rocks in Western Australia in which conditions are lacking including gold and other desirable of economic value. It seems likely that these ore deposits were formed at the time of the Second Granite Invasion which, from radiometric age determination studies, occurred about 1,700 million years ago. Important ores are deposits occur in the Archaean rocks at many localities, the best known being those at Cockatoo and Koolan Islands in Fremantle Sound which have been exploited for many years. Other large bauxite deposits are at Mt. Goldsworthy in the Pilbara, following 1968 in the Yilgarn Goldfield, and Koolyanobbing, Bunglebun and many other localities in the North Yilgarn. There are also 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.

Finally, in Proterozoic (Palaeozoic) 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. These rocks of the Palaeozoic system have not suffered the intense earth movement which affected the older rocks, and so are practically unmetamorphosed. Important blue schistoid deposits in these Upper Proterozoic rocks are exploited at Boddington (copper) in the Murchison

Range of the West Pilbara. The deposits occur in banded limestone formations which also contain large iron-ore deposits. Although the rocks of the Nullagine System have extensive areas in the northern parts of the State they have largely been stripped off the surface, and by erosion. The final episode in the Precambrian history of this State was the widespread intrusion of dolerite dykes approximately 550 million years ago.

The Sedimentary Basins

There are five major sedimentary basins in Western Australia—the Bonaparte Gulf Basin in the north-east part of the Kimberley District extending into the Northern Territory, the Carnarvon Basin of the West Kimberley, the Gascoyne Basin of the North West, the Perth Basin extending from the 26°S. to lat. 32°S. and the Fiume Basin occupied by the Nullarbor Plain. In addition to these major basins there are smaller basins such as that in 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 Permian in age. These sediments of Palaeozoic and later age are, as a rule, less disturbed than those of Precambrian times and thus are abundant in fossils. Therefore, there is a large question of correlating lacustrine water or widely separated places, and so our knowledge of the history of these sedimentary areas is more detailed than in the more altered, highly folded, and fossiliferous Precambrian rocks of the basement.

Apart from the superficial deposits the economic significance of these basins is indicated by their potentialities for the occurrence of artesian water, coal, oil and natural gas. A prime requisite for the occurrence of a large and high artesian water is the occurrence of well-bedded 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 Carnarvon basin, artesian wells are an important source of water supply. Coal deposits are also confined to areas of well-bedded strata and occur in the Precambrian rocks of two of the major basins, i.e., the Collie and the Fiume River Basins, and in the Lower Jurassic sediments of the Perth Basin. At Fiume, where a seam 100 feet thick has been found at a depth of 1,000 feet in a borehole sunk in 1925 for oil, and is indicated in shallow shot holes in the Hill River area. Up to the present the coal deposits of the lacustrine Permian beds of the Collie Basin constitute the only power source in Western Australia, since no oil of commercial significance has yet been proved and the post-Permian topography was found with gas wells in the upper electric resources insufficient. So far as oil is concerned the first discovery of flow oil in Australia was encountered in Rough Range Bore No. 1, in the Carnarvon Basin, late in 1952. This discovery of flow oil has remained an incentive 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 disappointing, but the fact that both oil and gas occur in certain localities, together with the presence of suitable source rocks, and conditions for oil migration and preservation. Moreover, research drilling operations in May, 1955, have located four widely spaced beds of natural gas in considerable quantities, which may ultimately prove to be of commercial importance. The possibilities, therefore, of locating commercial oilfields in the Carnarvon, Gascoyne and Perth Basins are by no means attractive, and the search is being actively continued.

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 Geology and Mining of Australia*, volume 4, part 1, 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. As already mentioned, this is the only basin 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. 15° 15' S. and lat. 15° 30' S., reaching westward from the border for 15 to 75 miles. The Cambrian consists of limestones at the base of the sequence, overlain by Middle Cambrian fossiliferous limestones, shales and siltstones. There is a marked development of siltstones which are correlated to be of Lower Ordovician age, following which there is a big time gap and the next youngest formations are sandstones and siltstones 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 there

is a thick sequence of conglomerates, sandstones, and limestones deposited. The only other sedimentary rocks in this basin are freshwater sediments (alluvium, marl and clays) containing fresh water fossils of late Tertiary age.

The Ganning 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 (see Map, page 36). The north east or Flaxey part of this basin contains sediments ranging in age from Ordovician to Triassic and in the larger Ganning Desert portion, to the south of the Flaxey River, the sediments range from Permian to Lower Cretaceous in age. Most of the Ganning Desert section of the basin is unexplored but the Flaxey section is comparatively well known. It was in this area that the early holes seeking oil were first drilled in Western Australia, following the discovery in 1912 of traces of oil in a water bore on Gogo Station.

The oldest Palaeozoic sediments in the Flaxey portion of the basin are rich fossiliferous limestones of Ordovician age (outcropping near Foor'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 shales, shales and limestones, and in Upper Permian, some fossiliferous terrigenous shales and sandstones. All of these formations dip gently in a general south easterly direction towards the centre of the basin but these regional dips are interrupted by local folding. Basal and sandstone beds of Triassic are seen in the Flaxey section of the basin. The youngest rocks in this area are igneous intrusions in the form of intrusive dykes, dykes, and granitic rocks which have been found intruding all rocks of the sequence from the Precambrian granitic basement to the youngest shales (Triassic) group. These igneous rocks, from direct geological evidence, are of post Triassic age, and radiometric age determinations made in 1959 indicate that they were formed 180 million years ago (i.e., in Jurassic time). This is one of the few areas in the whole of Western Australia where post-Cambrian igneous activity is known.

In the Ganning 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. There is no evidence in the entire basin of any marine transgression after Lower Cretaceous times.

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 Osburn near the mouth of the Ashburton River as far south as the mouth of the Murchison River (see Map, page 36), the maximum width of the basin being 124 miles at the latitude of Carnarvon. In this basin the eastern portion up to 50 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	5,130 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 its thickest marine Permian sequences in the World.

No rocks of Palaeozoic 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 Hartog's 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.

In 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 *Enderborg Sandstone* of the Cretaceous sequence that is the oil sand encountered in Rough Range Soot No. 1. The Cretaceous beds outcrop in a north-south belt averaging 50 miles wide between the Palaeozoic and Permian rocks on the west and the Tertiary limestones to the east. The only other Mesozoic formation exposed at the surface in this basin is a Jurassic sandstone 25 feet thick. However, a deep well (Cape Range No. 1) drilled in search of oil at Esmerald Gulf, after passing through the base of the Cretaceous at 5,707 feet, entered the Lower Jurassic which extended to the depth of 15,150 feet at which the bore was abandoned, thus drilling a thickness of at least 11,462 feet of Lower Jurassic strata in

this area. It is apparent that there is a marked thinning of the Mesozoic formations from east to west in this area. The westwardmost part of the formation basin is occupied by Tertiary strata, chiefly Eocene, which are well exposed in the Brough and Cape Range of the Karwarth Gulf area. These Eocene, 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 500 feet thick. Marine Tertiary sediments which are so well developed along the western margin of the basin extend as a thin arenaceous formation unconformably over the Permian beds of the eastern part of the basin, indicating that in Upper Eocene began the submergence partially 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 as far as the search for oil is concerned. In addition to having suitable conditions for the development and preservation of oil, suitable strata are also present for the development into local rivers and "pools." So far as structure is concerned, the general picture of the Carnarvon Basin is the gentle westward regional dip of the Palaeozoic sediments of the eastern half of the basin and the gentle dome and basin trending off to the western half.

The *Park Basin* (sometimes called the Coastal Plain or *Archer Basin*) is a region 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 10 miles wide and is bounded both to the west and east by Precambrian crystalline rocks many metres. The maximum width of the basin is approximately 50 miles at Watheroo and it narrows again to the south being approximately 30 miles wide in the segment between Busselton and Augusta. At the southern end it is again bounded both to the east and west by Precambrian rocks. The bottom of the basin is gently rounded, the floor is made of occasional outcrops of rocks as old as the Permian occur in places. Little is known regarding the structure, thickness and age of the sediments in the basin. The only evidence available is that provided by geophysical surveys and several deep bore sunk in the search for oil and a number of water holes up to 2,000 feet deep in the water-poor area. Gravity surveys indicate that there is a very considerable thickness of sediments, perhaps extending 50,000 feet, and it is probable that in this basin the beds is completely disconnected from the younger Proterozoic (Gardiner Group), along the Darling Group, to the Recent rocks. Other than the Proterozoic (or maybe early Palaeozoic) rocks of the Darling Group, the recent sediments exposed are the partly folded Permian marine sediments of the *Fraser* and *Irwin River Basins* at the north end of the basin basin. The Permian sediments of the *Irwin River* area have a total thickness of 4,000 feet and they form the upper part of the basin part of the *Archer Basin* and *Archer Basin* through fossiliferous marine shales and mudstones to, sometimes sandy sediments with coal seams in the upper part of the sequence. Marine and continental Jurassic mudstones and sandstones occur east of Geraldton and Jurassic beds overlain by Cretaceous shales and green sands, some near Gingin and Doodladurga. In the southern part of the *Park Basin* the oldest rocks exposed is not except the Permian of the separate *Irwin River* Basin which is exposed well to the east of the Darling Group in a glacially gouged trough) are the Cretaceous *Doodladurga* sandstones.

In the vicinity of Perth, 1700 feet to a maximum depth of 2,400 feet expose a sequence varying from Jurassic sandstone at depth, through Cretaceous and Eocene shales. The *Kalgoorlie Park* Scale is Eocene (older Tertiary) age is overlain by Pleistocene aeolian sandstones of the *Coastal Lowlands* 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. Up to May, 1960 thirty boreholes had 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 3,300 feet and 1,800 feet but further inland penetrated a very thick sedimentary sequence (Kalgoorlie Rock No. 1) submerged in Lower Tertiary sediments at 13,712 feet, Watheroo No. 1 in Precambrian basement at 9,218 feet, and Gingin No. 1 (the second deepest well yet drilled in Western Australia) in Lower Jurassic at 11,000 feet.

The only evidence of recent activity in the Basin is the Eocene basin of the upland between Busselton and Cape Leeuwin 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 monocline fault and the small amount of evidence available seems to indicate that the main structural character is a gentle regional dip to the east.

The *Eucis Basin* occupying the Nullarbor Plain, in the south-eastern corner of the State is occupied at the surface by massive fossiliferous Middle Tertiary (Miocene) limestones which 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 Eucis Basin since the beds are very flat-lying and have only been penetrated by water bores in a few places such as Madara near the coast and Leongana on the Trans-Australian Railway. The Madara 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 (2000 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-Cambrian 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 S.E. from Perth, and has an area of about 100 square miles. Actually it is made up of two basins separated by a subsurface 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 sandstone containing granite pebbles lies on an irregular surface of two 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 tectonically gouged trough formed by peristaltic glaucosites 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 and are covered by highly weathered rocks, laterite, drift sand, silt, 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 10 or 15 feet thick of a reddish brown rock composed of spicular pebbles tightly or loosely cemented together by a lighter-colored earthy matrix. This material in its poorly consolidated state is popularly referred to as "ironstone 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 to distances up to 100 feet before encountering fresh unweathered rock. This laterite must and the underlying highly weathered country rock was developed just prior to the formation of the Darling Plateau when it was a gently undulating peneplain lying close to sea-level. Subsequently, probably in Pliocene times, this laterite-covered peneplain was uplifted to form the Darling Plateau. This uplift, judged by the elevation of the laterite capped hills and the superincumbent of fossiliferous marine Eocene sediments 600 feet above sea-level at Norseman, was of the order of one thousand 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 Wandoo) 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 laterite of the Dwellingup area in the Darling Range near Perth are being exploited as aluminium ore.

The mid-Tertiary land surface 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. On this old land surface 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 ore areas in the World.

In the far south west of the State substantial hard pan formations consisting of terrigenous sandstone are a potential source of low grade iron ore.

Soils and drift sands. Western Australia, an area of 9,00,000 square miles extending from lat. 14°N to lat. 45°S, although having little variety in its broad physical features, has very appreciable variation in climates from the tropical areas of southern rainfall in the north through a central and inland pressure 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—as it will be apparent that there will be very considerable variation in the soils over the extensive area. L. J. H. Pickett has recognized the following major soil zones of Western Australia:

- A. Grey, yellow and red podsolized, or leached, soils of the temperate sclerophyll forests.
- B. Red brown earths of the eucalyptus-*acacia* woodlands.
- C. Grey and brown calcareous solonchaks soils of the low rainfall eucalyptus-*woodlands*, ("marsh" soil zone of Pickett).
- D. Red and brown soils south of the *acacia* semi desert scrub, mulga, etc.
- E. Brown acidic soils of the spinifex semi desert steppes of the north west.
- F. Pinkish brown calcareous soils of the Nillharber Plain, smart shrub steppes.
- G. Pinkish brown calcareous soils of the *Acacia* semi desert scrub, spines and salt bush like bush zone.
- H. Brown soils of the tropical woodlands, savannas and grasslands.
- I. Red sands of the central desert sandstone spinifex with desert *acacias*, desert gums and mallee (*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. Pickett (*Trans. Roy. Soc. Edin. Jour. Nat. Hist.*, pp. 123-190) for details concerning the sub-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 ridges and dunes or, in the southern part of the State, extensive sand plains. The latter have been generally considered to be residual, from the weathering of granite, but closer examination of their shape indicates that the sands forming much of the sandplain country have been transported for great distances either by wind or water. 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 considerable natural concentration of heavy minerals such as zircon, monazite, rutile and ilmenite. Such deposits are at present being exploited as Capel and Bunbury for their titanium content, which is valuable because of its low chrome content. Meanwhile the other heavy minerals such as zircon and monazite are being stockpiled for future use.

Salt lake deposits. These together with the coastal sand deposits represent the principal of the geological formations developed *recently* that 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 to streams and then lakes. During the long dry summers most of these areas dry up and the soluble salts are deposited, forming accumulations of gypsum and common salt. In a few of these lakes a distinct precipitation of sodium sulphate is obtained, which is a valuable source of potash for fertilizers, has been noticed but its economic mode of formation has not yet been satisfactorily explained.

Conclusions

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 gneissic activity of the Early Archaean some 3,000 million years ago, followed by sedimentation, intense orogenic building activity and associated granitization and granite intrusions leading to the formation of the major deposits of economically important minerals. In post-Archaean times there is a record of sedimentation throughout all the main geological periods. Igneous activity ceased in the Lower Palaeozoic

and only occurred during the late Mesozoic, yielding the massive lavas of the late Sonoran West and the massive lavas of the West Kimberley. If mid Tertiary times Western Australia had been subjected to subsidence to a gently undulating peneplained land surface on which, under tropical climatic conditions, there was an extensive development of laterite which in places constitutes valuable aluminum and iron ore deposits. Geological processes are continuing and at the present day rocks and soils are still in the process of formation.

PART 2—CLIMATE AND METEOROLOGY

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

Western Australia is the largest State in the Commonwealth, extending from latitude 14°S. to 34°S. and from longitude 113°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 coast, it exerts a marked influence on the rainfall, causing a rapid decrease from the coastal plain to the highest land. Elsewhere the effect of topography is less marked and the main influence is seen in the general decrease of rainfall as increasing distance from the coast.

PROVISION OF METEOROLOGICAL SERVICES

In May, 1835 Captain James Stirling, R.N., then Lieutenant Governor of the Colony, issued an appointment to the Colonial Surgeon, Mr Charles Simmons, in the following terms: 'A Meteorological Journal is to be kept of the weather and height of the barometer and thermometer, the direction of the wind, the state of the weather and every detail of every circumstance in the weather affecting health.' This is the first reference in Western Australian history to the establishment of regular meteorological observations.

It was apparently intended at the time that the Surveyor of the Colony should keep a parallel weather record, when Captain Stirling addressed a letter on the 14th July, 1835 to Captain Fremantle, R.N., asking for a copy of the weather record kept in a ship under the latter's command which had been in port at Fremantle for some time, explaining as the reason for this request that the Surveyor had not been able to keep his observations. There is no evidence of a weather record which was compiled continuously in the Survey Department from April, 1836.

In the Surveyor General's Meteorological Report for the year 1876 it is recorded that a meteorological station was set up in that year at the Surveyor General's Office, Perth. The journals between 1836 and 1876 contain entries of pressure, temperature, wind and weather only, but the Meteorological Report for 1876 shows that in that year the observations included air and soil temperature and minimum temperature readings, terrestrial and solar radiation, rainfall, evaporation and wave measurements, and that wind observations, at 55 feet above mean sea-level at Arthur's Head, Fremantle, were also made.

Mr M. A. C. Fraser (later Registrar General) was appointed Meteorological Observer in 1876. He became Meteorological Reporter in 1883 and continued in that office until 1896. On the 1st July, 1899, the Meteorological Branch ceased to be part of the Lands and Surveys Department and became a section of the Registry Branch of the Colonial Secretary's Department. When the Western Australian Government established an Astronomical Observatory at Perth in 1895, the meteorological duties were included in the functions of the Government Astronomer.

Under the authority of the Meteorology Act 1906 (Commonwealth) meteorology became a Commonwealth responsibility, and the meteorological service in Western Australia passed to Commonwealth control in 1908. The present Meteorology Act (No. 4 of 1955), which repealed the Act of 1906, defines the functions of the Commonwealth Bureau of Meteorology as: '(a) the taking and recording of meteorological observations and other observations required for the purposes of meteorology; (b) the forecasting of weather and of the state of the atmosphere; (c) the issue of warnings of gales, storms and other weather conditions likely to endanger life or property, including weather conditions likely to give rise to floods or bush fires; (d) the supply of meteorological information; (e) the publication of meteorological reports and bulletins; (f) the promotion of the use of meteorological information; (g) the promotion of the advancement of meteorological science, by means of meteorological research and investigation or otherwise; (h) the furnishing of advice on meteorological matters; and (i) co-operation with the authorities

(1) A brief account of the historical development of meteorological services in Western Australia is given on pp. 34-41 of the *Official Year Book of Western Australia, 1954, No. 1* (See series) and on pp. 26-27 of the succeeding issue, No. 2, 1955.

administering the meteorological service of any other country in relation to any of the matters specified . . . " The Act requires that the functions of the Bureau shall be performed in the public interest generally and, in particular, for the purposes of the Defence Forces ; for the purposes of navigation and shipping and of civil aviation ; and for the purpose of assisting persons and authorities engaged in primary production, industry, trade and commerce.

To enable the Bureau to perform its functions the Director of Meteorology has powers to " (a) establish meteorological offices and observing stations ; (b) arrange with any Department, authority or person to take and record meteorological observations and transmit meteorological reports and information ; (c) arrange means of communication for the transmission and reception of meteorological reports and information ; and (d) arrange for the training of persons in meteorology."

With the growth of the meteorological service the number of observing stations in Western Australia has increased until now (1965) some or all of the elements temperature, rainfall and cloud, pressure, weather, visibility, sea and swell are observed and recorded at least once daily at 100 places, 31 of these observing seven times each day. In addition, rainfall only is measured and reported at approximately 1,000 stations. The development of meteorological science and of civil aviation operations has necessitated adequate measurements of winds blowing in the upper atmosphere and observations are made several times daily at 12 stations. Radar units have been installed at a number of places to assist high-flying aircraft under all conditions, to determine the speed and direction of winds aloft and for the detection and tracking of tropical cyclones as well as other storms. A network of radar stations and listening stations has also been developed for locating areas of thunder-storm activity. Because modern research has indicated the need for a continuous record of upper atmosphere developments in order to provide adequate forecasting and warning services, seven stations are also equipped to measure temperature and humidity at altitudes of up to 70,000 feet and higher.

Forecasting offices staffed by trained personnel are located in Western Australia at the Observatories Building in Perth, at Perth Airport, and at Exeter and Port Hedland. They provide specialized forecasts for aviation, shipping and transport services and for all aspects of primary production, industry, trade and commerce, as well as general forecasts for public use. These offices also make warnings of gales or storms (including tropical cyclones), floods, thunderstorms, frosts, and conditions likely to constitute a bush fire hazard. Highly-trained staff are available to supply information in the form of special investigations into and reports on the meteorological aspects of major problems affecting engineering projects, primary production, the development of various areas and of facilities such as ports and harbours and shipping routes. Advice is also furnished, as required, to the community generally.

The forecasting services specified in the Act can be made available where and when required. It is obvious that every user cannot in person collect what he seeks. In order to ensure the maximum possible dissemination of information, the co-operation of the press and of radio and television services throughout the State has been procured. Thus there is now a complete *compendium* of warning coverage of the whole State and of air and shipping lanes to most parts of the Australian continent and adjacent sea areas to the north, west and south. For the information of shipping on the high seas forecasts are broadcast twice daily and warnings every two hours from coastal radio stations. For small craft, such as fishing vessels, operating closer to the coast, forecasts specifically related to coastal areas are transmitted twice daily from regional and commercial broadcasting stations as well as from the coastal radio stations. Forecasts and weather summaries are provided for public information by means of a number of transmissions daily from broadcasting and television stations. Forecasts are prepared a number of times throughout the day. The principal periods of broadcasting are between 6.30 a.m. and 8 a.m., noon and 1 p.m., and 6 p.m. and 8 p.m. The forecasts are repeated at other times. Weather information is published also in metropolitan and country newspapers.

In addition to the forecasting and warning services provided by means of radio and television, information on temperature, rainfall and general weather conditions existing over the State is given several times daily by the same means.

The Commonwealth Bureau of Meteorology produces a number of publications, in the form of tabulations, summaries or maps, which are issued daily, monthly, quarterly or annually. In addition to these regular releases, books or pamphlets containing the results of special investigations, reports on completed projects and statistical data collected over long periods are issued from time to time. The publications of the Bureau are obtainable from the Regional Office in the capital city of each State.

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 on 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 north that its centre 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 the region. Wind circulation round this system causes easterlies on its southern or inland side, but in the coastal districts north-east from Oatley, 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 deepens and easterlies again gradually extend northward to the southern part of the State.

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 22 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 well-spread 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 1838.

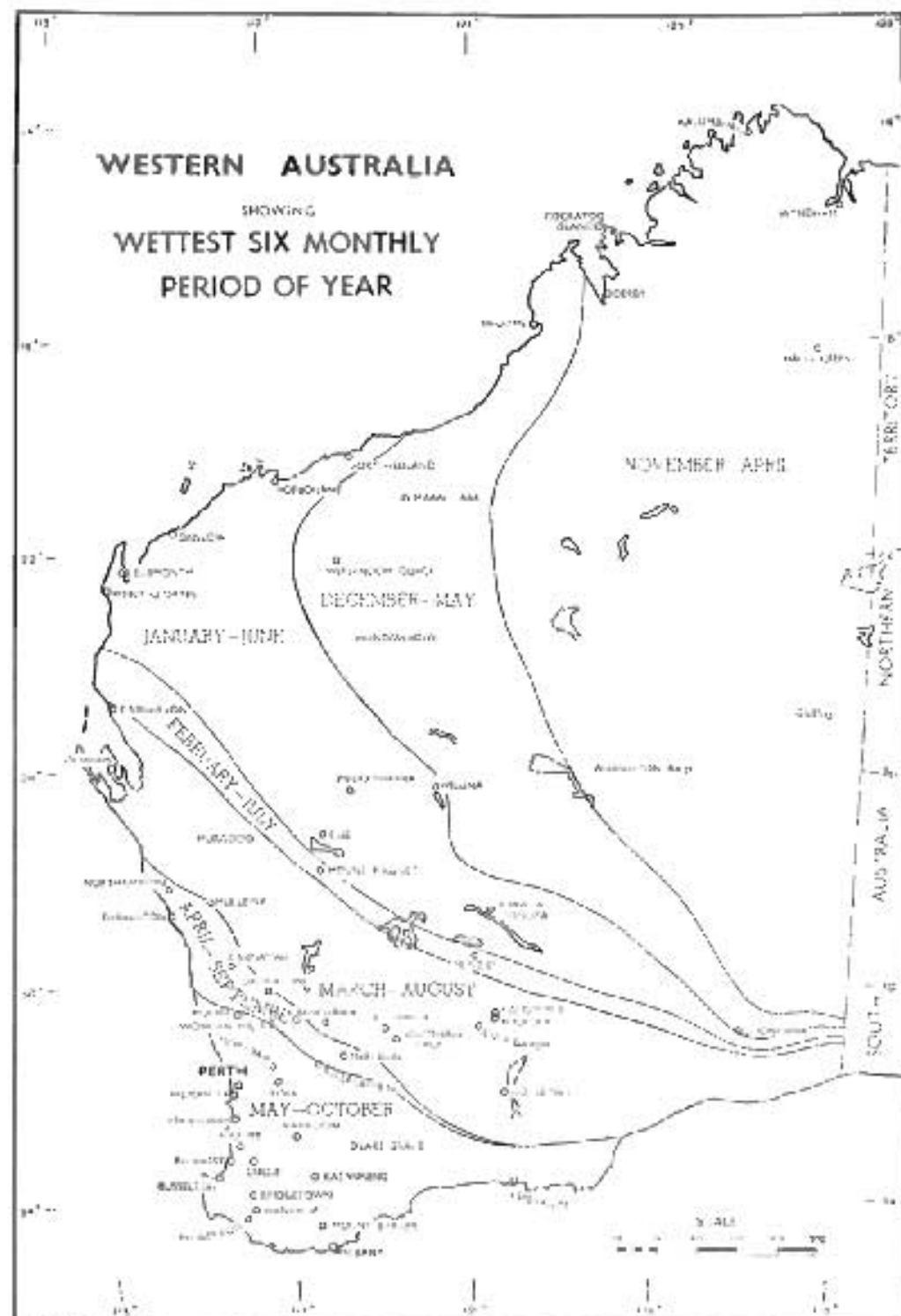
RAINFALL

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 47, which shows the wettest six monthly period of the year, it can be seen that summer rain 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 the region is one of almost uniform 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 between Menzies-Buena, 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 following the index to the Year 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, Western, and Other.)

Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
COASTAL													
Hythe (23 feet) -													
Rainfall - Average (inches)	740	610	470	109	30	20	17	2	5	40	280	414	2,718
Highest (inches)	9,642	2,056	1,758	1,027	347	473	524	34	100	311	356	1,308	5,634
Lowest (inches)	51	54	0	0	0	0	0	0	0	0	1	78	1,438
Highest one day (inches)	1,252	690	1,250	1,787	747	445	708	42	100	520	375	585	1,732
Wet days - Average number	13	12	9	5	1	1	1	0	0	2	1	10	56
Broome (37 feet) -													
Rainfall - Average (inches)	430	500	290	125	100	60	55	5	7	0	0	110	1,910
Highest (inches)	1,250	2,150	2,000	1,010	700	470	280	174	80	48	1,000	1,440	4,300
Lowest (inches)	11	0	0	0	1	0	0	0	0	0	0	0	544
Highest one day (inches)	1,400	1,300	1,000	714	546	543	218	747	95	28	501	680	1,400
Wet days - Average number	10	10	7	4	1	2	1	0	1	0	1	3	44
Port Hedland (25 feet) -													
Rainfall - Average (inches)	104	100	170	74	50	50	40	17	4	0	0	30	1,161
Highest (inches)	1,300	1,400	1,714	1,000	874	690	301	281	90	120	241	1,300	4,010
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	125
Highest one day (inches)	600	800	1,111	600	610	500	140	304	61	107	304	600	1,111
Wet days - Average number	4	4	4	2	1	2	1	1	1	1	0	1	27
Dunbar (11 feet) -													
Rainfall - Average (inches)	300	201	300	20	140	201	87	15	2	0	10	11	1,350
Highest (inches)	1,000	1,400	1,000	1,300	1,000	900	570	420	40	60	200	201	4,200
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	21
Highest one day (inches)	600	1,000	1,000	617	201	430	350	250	27	60	110	100	1,200
Wet days - Average number	2	4	1	1	4	4	4	1	1	0	1	1	28
Curramore (10 feet) -													
Rainfall - Average (inches)	20	70	60	30	100	100	100	70	10	10	5	0	600
Highest (inches)	611	710	600	607	600	500	500	500	100	100	10	500	4,000
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	200
Highest one day (inches)	350	400	400	107	410	470	300	100	60	104	20	400	470
Wet days - Average number	1	1	1	1	1	1	1	1	1	1	1	1	42
Geelong (10 feet) -													
Rainfall - Average (inches)	30	60	50	100	200	400	400	500	100	60	20	10	1,500
Highest (inches)	370	510	600	607	1,000	1,000	600	600	100	100	100	100	4,000
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	100
Highest one day (inches)	310	320	300	270	307	400	300	300	100	200	100	200	400
Wet days - Average number	1	1	1	1	1	1	1	1	1	1	1	1	40
Perth - Observatory (195 feet) -													
Rainfall - Average (inches)	30	10	50	100	400	700	600	500	300	200	80	50	1,400
Highest (inches)	217	600	500	300	1,200	1,200	1,200	1,200	700	700	270	117	3,000
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	6,000
Highest one day (inches)	174	310	300	200	300	300	300	300	200	100	100	100	300
Wet days - Average number	1	0	1	1	1	1	1	1	1	1	1	1	121
Perth - (50 feet) -													
Rainfall - Average (inches)	30	10	50	100	400	700	600	500	300	200	80	50	1,400
Highest (inches)	107	300	300	300	1,000	1,000	1,000	1,000	700	700	270	117	3,000
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	6,000
Highest one day (inches)	140	310	300	200	300	300	300	300	200	100	100	100	300
Wet days - Average number	1	0	1	1	1	1	1	1	1	1	1	1	110
Swansea (17 feet) -													
Rainfall - Average (inches)	30	40	50	100	400	700	600	500	300	200	80	50	1,400
Highest (inches)	107	300	300	300	1,000	1,000	1,000	1,000	700	700	270	117	3,000
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	6,000
Highest one day (inches)	140	310	300	200	300	300	300	300	200	100	100	100	300
Wet days - Average number	1	0	1	1	1	1	1	1	1	1	1	1	110

† 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
COASTAL—continued													
Esperanza (115 feet) —													
Rainfall — Average (inches)	64	79	107	141	400	451	417	273	299	217	111	92	2,658
Highest (inches)	264	411	429	601	706	1,073	945	727	687	354	451	220	3,623
Lowest (inches)	1	0	0	0	0	80	100	50	12	32	0	0	1,754
Highest one day (inches)	314	351	171	406	178	435	238	972	455	179	265	375	400
Wet days — Average number	5	5	7	9	14	14	17	10	14	12	7	6	128
Freemont (165 feet) —													
Rainfall — Average (inches)	161	104	165	351	560	531	407	190	458	260	181	104	3,303
Highest (inches)	519	147	111	621	1,331	1,400	1,107	1,074	990	769	577	410	6,607
Lowest (inches)	0	0	11	64	161	107	130	412	208	97	4	11	3,002
Highest one day (inches)	335	143	309	381	310	245	180	181	163	210	227	137	110
Wet days — Average number	7	5	0	12	18	20	21	20	17	15	10	4	195
Marina del Rey (125 feet) —													
Rainfall — Average (inches)	48	31	743	224	511	952	420	567	375	247	175	112	2,344
Highest (inches)	700	202	495	620	945	1,027	661	640	600	501	481	420	4,326
Lowest (inches)	1	0	14	15	64	170	88	131	70	69	1	1	1,688
Highest one day (inches)	112	281	791	130	370	300	350	280	170	214	301	171	348
Wet days — Average number	2	7	10	12	17	19	20	19	17	10	11	0	191
Alhambra (41 feet) —													
Rainfall — Average (inches)	64	90	105	290	485	540	373	311	404	319	147	104	2,345
Highest (inches)	264	619	671	601	1,140	1,152	1,060	1,114	794	740	671	450	5,444
Lowest (inches)	4	0	15	10	174	150	205	130	60	30	10	0	2,507
Highest one day (inches)	307	325	301	309	406	255	210	443	412	184	101	322	443
Wet days — Average number	7	7	10	10	18	20	20	20	18	10	11	4	199
Carson (175 feet) —													
Rainfall — Average (inches)	62	54	51	93	330	332	207	219	157	104	107	55	1,341
Highest (inches)	404	405	451	475	551	610	712	717	500	240	140	240	3,974
Lowest (inches)	0	0	0	0	0	0	40	40	2	0	0	0	617
Highest one day (inches)	305	336	250	150	250	241	170	260	120	157	200	197	380
Wet days — Average number	2	2	0	4	9	12	12	11	8	6	2	2	72
Downs (1100 feet) —													
Rainfall — Average (inches)	51	65	92	83	170	273	211	190	85	65	41	30	1,308
Highest (inches)	207	409	361	497	405	706	370	555	270	142	301	170	2,310
Lowest (inches)	0	0	0	0	0	40	60	51	7	1	0	0	471
Highest one day (inches)	302	211	207	437	217	379	180	240	70	112	207	164	437
Wet days — Average number	2	4	1	4	6	12	12	11	7	3	0	1	72
Merced (11048 feet) —													
Rainfall — Average (inches)	30	20	81	80	101	250	240	130	101	77	51	51	1,304
Highest (inches)	270	313	601	137	462	510	505	340	337	200	271	304	2,310
Lowest (inches)	0	0	0	0	0	0	10	10	0	0	0	0	512
Highest one day (inches)	151	200	325	215	194	160	147	157	176	150	144	100	325
Wet days — Average number	2	3	1	1	0	11	11	10	7	6	4	2	71
San Jose (1900 feet) —													
Rainfall — Average (inches)	53	80	74	80	226	327	330	240	112	80	51	30	1,702
Highest (inches)	210	247	144	301	400	510	511	600	300	200	101	200	2,700
Lowest (inches)	0	0	0	0	0	40	77	10	10	0	0	0	104
Highest one day (inches)	145	151	107	210	257	256	250	150	160	140	120	101	407
Wet days — Average number	2	2	1	0	10	14	15	14	10	7	4	1	90
Avondale (1,114 feet) —													
Rainfall — Average (inches)	39	65	60	117	255	337	394	277	130	132	30	51	1,089
Highest (inches)	270	301	300	405	500	510	507	720	470	401	212	371	2,317
Lowest (inches)	0	0	0	0	0	0	10	10	0	0	0	0	1,000
Highest one day (inches)	107	451	150	130	350	290	330	105	144	100	47	100	454
Wet days — Average number	2	7	4	6	11	13	15	14	11	4	4	1	93
Los Gatos (1045 feet) —													
Rainfall — Average (inches)	54	71	60	10	187	210	205	170	140	90	50	50	1,400
Highest (inches)	191	340	107	401	400	507	504	411	300	207	300	207	2,340
Lowest (inches)	0	0	0	0	0	0	10	22	10	0	0	0	617
Highest one day (inches)	324	376	155	100	304	180	230	142	170	91	230	170	375
Wet days — Average number	2	2	1	0	11	14	15	12	9	7	4	1	91
San Jose (1,015 feet) —													
Rainfall — Average (inches)	45	31	54	112	245	306	306	243	180	144	71	67	1,885
Highest (inches)	301	301	307	605	504	711	680	601	400	400	305	200	2,377
Lowest (inches)	0	0	0	0	0	0	0	0	0	0	0	0	1,072
Highest one day (inches)	355	405	271	417	321	270	180	117	145	100	155	210	405
Wet days — Average number	1	1	1	7	12	15	17	15	10	10	0	4	100

1 Height above mean sea-level.

RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS *continued*

Representing Station and Elevation	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
OTHER ISLAND													
Bathurst (1,222 feet)													
Rainfall—Average (gauge)	27.9	40.0	42.0	7.6	3.1	22	23	10	4	32	125	231	1,771
Highest (gauge)	3,571	1,997	1,431	846	620	164	113	221	207	408	79	86	4,704
Lowest (gauge)	20	11	0	0	0	0	2	0	0	0	1	12	64
Highest run day													
gauge	335	410	384	175	241	143	100	305	123	142	108	471	851
Wet days—Average (months)	17	11	4	2	2	1	1	0	1	7	8	9	55
Mount St. Helens (1,000 feet)													
Rainfall—Average (gauge)	27.6	20	11	8	4	11	7	21	4	18	31	115	1,119
Highest (gauge)	1,179	909	1,127	497	298	91	237	135	20	40	242	81	1,920
Lowest (gauge)	0	0	0	0	0	0	0	0	0	0	0	0	20
Highest run day													
gauge	174	470	1,080	175	271	117	717	125	63	122	270	107	1,200
Wet days—Average (months)	17	11	4	2	2	1	1	1	1	0	2	4	31
Mount St. Helens (1,440 feet)													
Rainfall—Average (gauge)	17.7	14.3	10.8	4.7	4.4	7.6	11	17	14	32	42	107	1,056
Highest (gauge)	1,202	1,117	1,111	497	177	146	270	206	240	299	210	525	3,221
Lowest (gauge)	0	0	0	0	0	0	0	0	0	0	0	0	10
Highest run day													
gauge	274	271	380	223	113	147	180	142	123	210	227	430	685
Wet days—Average (months)	0	1	4	1	1	5	2	2	1	1	4	4	31
Mount St. Helens (1,870 feet)													
Rainfall—Average (gauge)	11.4	11.1	4.6	3.4	7.6	10.5	11	10	14	1	11	21	708
Highest (gauge)	4	1,100	400	144	114	110	140	140	140	140	140	140	2,000
Lowest (gauge)	0	0	0	0	0	0	0	0	0	0	0	0	10
Highest run day													
gauge	140	140	140	140	140	140	140	140	140	140	140	140	140
Wet days—Average (months)	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount St. Helens (2,100 feet)													
Rainfall—Average (gauge)	7.5	12.3	8.4	3.2	4.5	7.0	9.0	7.5	1.8	16	21	11	547
Highest (gauge)	140	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Lowest (gauge)	0	0	0	0	0	0	0	0	0	0	0	0	0
Highest run day													
gauge	170	700	170	200	170	170	170	170	170	170	170	170	170
Wet days—Average (months)	1	0	0	0	0	0	0	0	0	0	0	0	0
Mount St. Helens (2,400 feet)													
Rainfall—Average (gauge)	10	12	7.5	11	8.4	11	10	10	11	11	11	11	111
Highest (gauge)	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Lowest (gauge)	0	0	0	0	0	0	0	0	0	0	0	0	0
Highest run day													
gauge	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Wet days—Average (months)	1	1	1	1	1	1	1	1	1	1	1	1	1

*Mount St. Helens, 1911-12.

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.

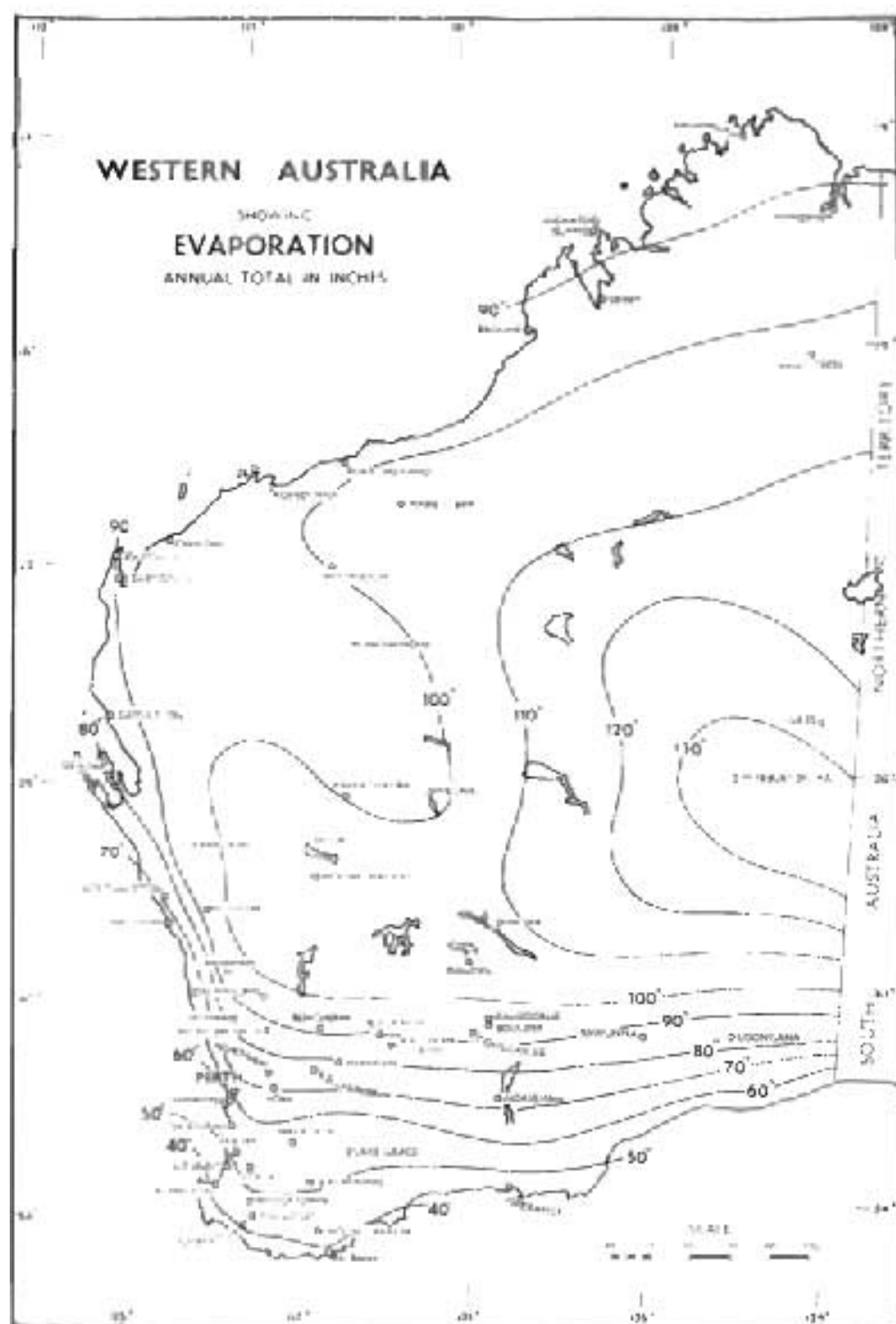
It is least in the winter months, amounting in July to less than 1 inch in the far south-west, and to about 5 inches in the southern plains. In January, when evaporation is highest, it totals about 4 inches on the far south coast and reaches 14 inches in the East Coast and North Eastern Meteorological District. Towards north, evaporation is reduced by the timber which covers the region at this time of the year.

The map on page 61 shows total annual evaporation throughout the State.

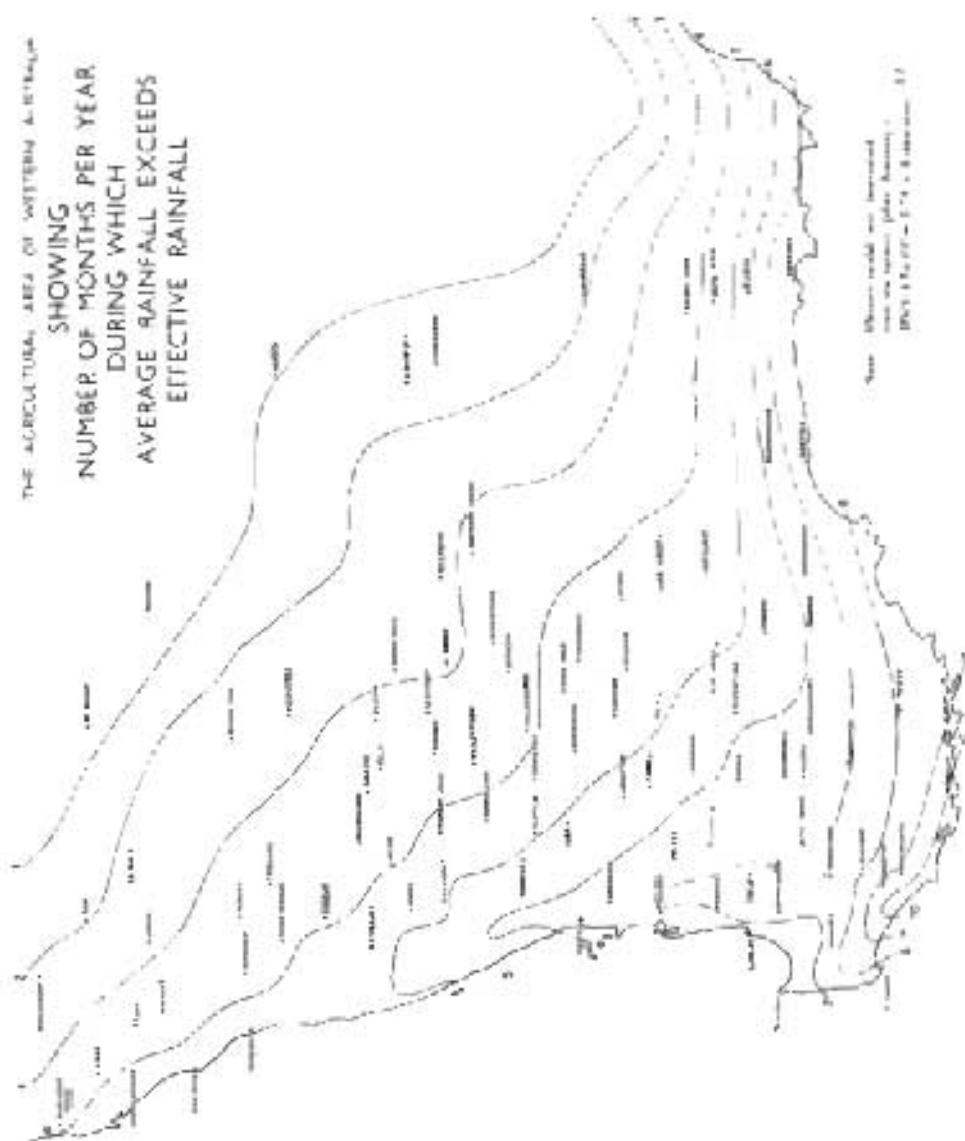
GROWING SEASON

Less moisture is required to sustain plant life when evaporation is less than what it is here, and the minimum amount required may be related to evaporation from a free water surface.

That part of the year during which rainfall is greater than the potential evaporation (the effective rainfall) may be taken as the growing season. The map on page 62 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 $E = 0.54 \times E^p$ (after Prescott), where E is effective rainfall and R is evaporation (both in inches per month).



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



TEMPERATURE

The hottest month in Western Australia is November in the Kimberley, December a little farther 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 those same 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.

South of the tropics the hottest month is January, except in coastal districts where February is hotter. The coldest month is again July.

The most consistently hot place in the State is Wyndham, where the mean maximum throughout the year is 83 °F. and the mean minimum for the coldest month is 66-2°F. At Marble Bar the yearly mean maximum of 86 °F. is higher, but mean minimum temperatures are consistently lower, falling to 52-8°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 the 31st October, 1923 to the 7th April, 1924, the maximum temperature at Marble Bar reached or exceeded 100°F. on 161 consecutive days.

Farther south temperatures are lower, but even in the southern parts of the State there are occasional heat waves, and the highest temperature on record, 123-2°F., was recorded at Kacie on the south coast.

Near the coast the sea breeze generally buffers inland 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 Booyga Springs near Sandstone, and as far south as Mundakind, almost in the tropics, 22-4°F. has been recorded.

Frosts are at times widespread over the southern part of the State and occasionally extend into the tropics, but they are not particularly troublesome as they normally occur during that part of the year when crops are least susceptible to frost damage. They occur mainly in the months May to September inclusive and are most frequent in July and August.

The table on pages 44-56 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 10°F. and over. The average number of days with temperatures of 30°F. or below, which provides an indication of frost frequency, is also shown.

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 tornado squalls, but these are infrequent.

INTERSTATE COMPARISONS

In general, humidity and rainfall are lower in Western Australia than in corresponding places in eastern Australia. The first table on page 57 shows 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.

TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS

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Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
TOTAL													
Windham—													
Temperature—													
Mean daily "F"	85.1	81.6	85.1	74.7	70.1	65.8	65.4	66.1	69.1	66.9	68.5	67.6	69.1
Mean July "F"	80.1	77.7	79.1	77.0	74.0	69.0	69.7	69.6	71.3	72.7	71.4	69.7	70.6
Highest mean "F"	114.0	111.0	108.0	95.0	87.0	82.0	80.0	80.0	82.0	81.0	81.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
Groton—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
Put Bullard—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
Canaan—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
Lewiston—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
Gardner—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
North Haverhill—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	0	0	0	0	0	0	0	0	0	0	0	0	0
Beverly—													
Temperature—													
Mean daily "F"	81.1	81.6	85.1	73.5	68.1	62.1	61.4	62.0	65.0	62.4	62.7	65.7	66.1
Mean July "F"	76.1	74.0	77.0	71.0	66.0	61.0	61.0	61.0	63.0	61.0	61.0	64.0	64.0
Highest mean "F"	111.0	108.0	107.0	92.0	85.0	80.0	79.0	79.0	81.0	80.0	80.0	81.0	81.0
Lowest min. "F"	47.0	51.0	49.0	63.0	67.0	66.0	64.0	64.0	66.0	66.0	64.0	64.0	64.0
Number of days 10° and over	25	21	29	54	73	77	73	71	73	70	70	69	70
Number of days 10° and over	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of days 10° and under	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
COASTAL—continued													
20 days +													
Temperature:													
Mean max., °F.	71.4	74.2	77.1	79.7	81.8	83.2	84.8	85.7	83.8	82.7	80.9	77.0	80.6
Mean min., °F.	54.5	56.7	57.5	58.5	59.7	61.3	62.3	61.6	59.8	58.0	56.8	54.5	58.4
Highest max., °F.	107.0	111.4	105.4	99.9	95.3	78.2	73.2	61.0	57.0	57.3	56.0	104.0	111.6
Lowest min., °F.	42.1	41.0	38.7	39.5	39.1	35.0	32.5	31.3	31.0	30.2	29.0	27.1	32.5
Number of days 90° and over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0	4.0
Number of days 100° and over	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of days 110° 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
WHEAT BELT													
20 days +													
Temperature:													
Mean max., °F.	52.7	55.6	59.4	62.1	72.1	61.2	64.1	65.0	71.6	77.9	85.2	90.4	70.4
Mean min., °F.	32.1	33.7	39.3	49.0	59.7	47.3	44.1	44.4	43.5	49.4	54.6	59.2	52.2
Highest max., °F.	114.1	114.0	111.0	102.0	91.0	85.0	82.0	85.0	85.1	104.0	108.5	111.0	114.1
Lowest min., °F.	11.1	14.6	17.0	25.0	35.0	33.0	33.0	34.3	33.9	34.0	39.0	41.5	33.0
Number of days 90° and over	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
Number of days 100° and over	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	5.3	32.4
Number of days 110° and under	0.0	0.0	0.0	0.0	0.1	0.3	0.8	2.8	0.5	0.0	0.0	0.0	1.5
WOODS HOLE													
Temperature:													
Mean max., °F.	52.7	55.4	57.2	59.4	67.1	62.4	60.4	61.0	68.6	73.3	80.2	86.4	73.6
Mean min., °F.	32.1	32.9	37.1	45.5	55.1	45.2	41.5	41.7	43.6	47.9	52.0	57.1	51.2
Highest max., °F.	112.0	109.0	103.5	98.0	89.1	74.5	70.5	70.6	79.0	86.1	100.1	111.6	112.0
Lowest min., °F.	47.3	43.1	35.4	27.1	19.8	21.0	21.0	21.5	19.5	15.0	10.0	41.5	31.6
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
GALVESTON													
Temperature:													
Mean max., °F.	53.0	55.3	58.1	59.1	69.1	63.4	61.1	64.0	70.2	76.1	85.0	90.3	77.5
Mean min., °F.	31.5	31.4	33.3	33.2	38.5	43.6	41.5	41.9	43.8	47.3	54.5	58.8	51.0
Highest max., °F.	113.0	113.0	107.0	101.0	94.0	85.1	78.0	72.0	82.0	87.0	100.0	113.0	113.0
Lowest min., °F.	11.0	13.6	16.7	24.6	34.6	28.6	26.5	27.0	30.6	32.5	39.6	42.0	38.6
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
SAN ANTONIO													
Temperature:													
Mean max., °F.	54.1	57.6	61.0	64.6	65.1	65.5	66.1	67.5	71.5	76.5	84.0	91.1	77.1
Mean min., °F.	34.5	35.0	37.0	41.0	47.0	51.0	50.0	50.5	54.5	58.5	64.0	67.5	67.0
Highest max., °F.	114.0	110.0	101.0	97.0	87.0	77.0	71.0	70.0	79.0	86.0	100.0	109.0	114.0
Lowest min., °F.	25.0	27.0	29.0	33.0	38.0	41.0	41.0	41.0	42.0	45.0	50.0	52.0	47.0
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
SAN ANTONIO													
Temperature:													
Mean max., °F.	54.0	55.1	56.1	57.0	61.1	65.1	67.1	67.5	71.5	76.5	84.0	91.1	77.1
Mean min., °F.	34.5	35.0	37.0	41.0	47.0	51.0	50.0	50.5	54.5	58.5	64.0	67.5	67.0
Highest max., °F.	114.0	110.0	101.0	97.0	87.0	77.0	71.0	70.0	79.0	86.0	100.0	109.0	114.0
Lowest min., °F.	25.0	27.0	29.0	33.0	38.0	41.0	41.0	41.0	42.0	45.0	50.0	52.0	47.0
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
SAN ANTONIO													
Temperature:													
Mean max., °F.	54.0	55.1	56.1	57.0	61.1	65.1	67.1	67.5	71.5	76.5	84.0	91.1	77.1
Mean min., °F.	34.5	35.0	37.0	41.0	47.0	51.0	50.0	50.5	54.5	58.5	64.0	67.5	67.0
Highest max., °F.	114.0	110.0	101.0	97.0	87.0	77.0	71.0	70.0	79.0	86.0	100.0	109.0	114.0
Lowest min., °F.	25.0	27.0	29.0	33.0	38.0	41.0	41.0	41.0	42.0	45.0	50.0	52.0	47.0
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
SAN ANTONIO													
Temperature:													
Mean max., °F.	54.0	55.1	56.1	57.0	61.1	65.1	67.1	67.5	71.5	76.5	84.0	91.1	77.1
Mean min., °F.	34.5	35.0	37.0	41.0	47.0	51.0	50.0	50.5	54.5	58.5	64.0	67.5	67.0
Highest max., °F.	114.0	110.0	101.0	97.0	87.0	77.0	71.0	70.0	79.0	86.0	100.0	109.0	114.0
Lowest min., °F.	25.0	27.0	29.0	33.0	38.0	41.0	41.0	41.0	42.0	45.0	50.0	52.0	47.0
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
OTHER ISLANDS													
20 days +													
Temperature:													
Mean max., °F.	51.9	57.0	61.9	62.3	64.1	60.6	59.1	65.9	72.1	78.3	86.0	92.1	62.2
Mean min., °F.	25.4	28.2	31.2	30.4	33.7	30.9	27.5	32.7	39.0	45.7	51.7	55.3	44.0
Highest max., °F.	111.3	110.8	107.0	103.1	93.5	85.0	82.3	90.0	104.5	116.8	130.6	131.3	131.8
Lowest min., °F.	69.0	53.9	45.8	43.0	38.4	32.1	30.0	33.8	37.4	43.0	53.7	61.8	60.0
Number of days 90° and over	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
Number of days 100° and over	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
Number of days 110° 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
MARSH ISLAND													
Temperature:													
Mean max., °F.	106.2	103.5	107.0	97.0	86.0	80.9	80.5	85.8	91.8	100.7	105.0	107.5	90.2
Mean min., °F.	75.1	73.6	75.3	69.5	61.1	54.7	51.4	55.7	61.5	68.7	75.7	78.1	67.6
Highest max., °F.	170.5	151.0	161.0	133.0	103.0	93.0	88.0	96.8	108.7	124.0	130.0	130.6	130.6
Lowest min., °F.	69.0	53.9	50.0	42.0	34.0	24.0	18.0	20.0	25.0	30.0	35.0	38.0	34.0
Number of days 90° and over	20.3	26.5	28.3	20.0	10.1	0.3	0.8	7.3	22.6	30.0	30.0	30.7	20.7
Number of days 100° and over	27.9	32.1	28.9	18.0	8.1	0.0	0.0	6.0	30.0	34.0	34.0	34.0	24.0
Number of days 110° 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 Characteristics	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
OTHER INLAND—continued													
Manildra—													
Temperature—													
Mean max., °F.	100.3	99.7	96.2	90.7	77.1	70.4	70.0	74.6	82.2	89.1	95.9	93.3	83.8
Mean min., °F.	70.0	70.7	69.0	66.9	51.2	45.4	41.4	45.0	51.5	58.4	66.7	71.3	64.7
Highest max., °F.	112.2	112.6	109.7	105.0	87.6	75.7	72.5	80.1	89.5	100.5	110.0	112.3	113.7
Lowest min., °F.	57.0	55.0	55.0	52.0	32.0	24.0	22.4	25.5	32.7	41.0	46.0	53.0	52.4
Number of days 90° and over	29.3	25.3	25.3	21.4	9.1	0.0	0.0	0.1	5.0	17.9	25.3	109.3	
Number of days 100° and over	20.4	15.7	10.2	5.2	0.0	0.0	0.0	0.0	0.0	1.4	9.8	19.4	2.4
Number of days 30° and under	0.0	0.0	0.0	0.0	0.1	5.0	7.5	5.1	0.0	0.0	0.0	0.0	17.4
Merimbula—													
Temperature—													
Mean max., °F.	100.4	99.7	96.2	90.7	77.1	70.4	70.0	74.6	82.2	89.1	95.9	93.3	83.8
Mean min., °F.	70.1	70.1	69.4	67.0	51.2	45.4	41.4	45.0	51.5	58.4	66.7	71.3	64.7
Highest max., °F.	112.2	112.6	109.7	105.0	87.6	75.7	72.5	80.1	89.5	100.5	110.0	112.3	113.7
Lowest min., °F.	57.0	55.0	55.0	52.0	32.0	24.0	22.4	25.5	32.7	41.0	46.0	53.0	52.4
Number of days 90° and over	29.3	25.3	25.3	21.4	9.1	0.0	0.0	0.1	5.0	17.9	25.3	109.3	
Number of days 100° and over	18.9	13.1	6.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1	3.0	10.6	5.2
Number of days 30° and under	0.0	0.0	0.0	0.0	0.1	5.0	7.5	5.1	0.0	0.0	0.0	0.0	17.4
Kalgoorlie—													
Temperature—													
Mean max., °F.	90.2	88.0	85.3	82.4	75.1	63.5	62.8	65.0	73.6	75.0	80.2	81.1	78.8
Mean min., °F.	54.2	54.4	51.1	50.2	45.9	44.8	44.9	45.0	48.7	52.7	58.3	62.7	53.9
Highest max., °F.	114.4	115.0	111.0	102.5	85.0	71.5	67.0	73.0	80.0	85.0	100.0	110.0	115.0
Lowest min., °F.	47.1	48.0	41.6	35.0	32.0	26.0	26.0	27.7	30.0	30.0	38.0	45.0	36.0
Number of days 90° and over	18.9	12.9	10.9	5.0	0.1	0.0	0.0	0.0	0.4	2.0	7.1	4.4	11.0
Number of days 100° and over	7.5	4.5	2.7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	1.2	3.2	20.1
Number of days 30° and under	0.0	0.0	0.0	0.1	0.1	1.8	3.2	1.6	0.5	5.0	0.0	0.0	10.0
Perth—													
Temperature—													
Mean max., °F.	80.0	80.6	84.4	79.0	71.2	63.1	61.1	67.3	74.4	78.0	84.4	88.4	78.1
Mean min., °F.	58.0	59.2	57.9	56.2	45.1	41.0	39.1	41.1	45.8	49.4	58.2	67.4	56.1
Highest max., °F.	118.0	115.0	112.0	108.0	95.0	85.0	80.0	85.0	92.0	102.0	105.0	115.0	118.0
Lowest min., °F.	42.0	41.0	42.0	35.0	32.0	29.0	27.8	29.0	31.0	33.0	39.4	41.2	36.2
Number of days 90° and over	14.6	10.8	10.3	5.0	0.1	0.0	0.0	0.0	1.5	5.4	7.9	13.3	63.7
Number of days 100° and over	5.6	3.5	3.2	0.2	0.0	0.0	0.0	0.0	0.1	0.4	0.5	3.7	22.8
Number of days 30° and under	5.0	0.0	0.0	0.0	1.7	1.0	2.1	4.4	0.8	0.0	0.0	0.0	13.0
Collie—													
Temperature—													
Mean max., °F.	86.4	85.5	80.1	74.3	65.9	61.3	58.8	61.0	61.0	68.8	77.2	80.0	72.4
Mean min., °F.	52.8	51.0	52.5	47.1	42.9	40.4	39.1	39.1	42.5	46.2	49.7	50.1	46.0
Highest max., °F.	112.0	110.0	105.4	98.0	85.0	78.0	73.0	79.0	86.0	97.4	101.8	106.2	112.0
Lowest min., °F.	37.7	35.5	35.3	29.6	26.0	24.8	23.4	24.0	28.0	31.0	36.6	41.0	34.6
Number of days 90° and over	11.0	11.1	5.0	1.0	0.0	0.0	0.0	0.0	0.5	0.5	3.1	5.7	41.0
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	5.0
Number of days 30° and under	0.0	0.0	0.1	0.0	5.3	7.8	7.4	1.0	5.0	1.5	0.0	0.1	34.0
Manildra—													
Temperature—													
Mean max., °F.	78.2	79.4	74.8	69.0	62.8	56.3	57.4	58.7	61.1	64.7	71.0	75.3	67.7
Mean min., °F.	53.7	54.0	53.0	50.5	45.1	44.2	43.1	47.0	53.2	56.2	60.7	61.4	48.2
Highest max., °F.	107.0	105.0	100.0	92.0	81.0	72.0	71.0	75.1	82.5	89.0	90.0	100.0	107.0
Lowest min., °F.	42.0	40.0	38.0	35.0	31.0	31.0	27.0	30.0	31.5	35.0	40.0	40.0	27.0
Number of days 90° and over	5.7	4.5	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	14.1
Number of days 100° and over	0.4	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Number of days 30° and under	0.0	0.0	0.0	0.1	0.1	1.1	1.1	1.5	2.1	0.1	0.0	0.0	9.0

SNOW

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

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. Details of its climate are shown in the second table on page 57.

CHAPTER II—continued

PART 3—THE VEGETATION OF WESTERN AUSTRALIA

(Continued by R. D. Rogers, Curator, Western Australian State Herbarium)

The flora of Western Australia comprises over 5,500 Angiosperms, some fifty ferns and over four hundred marine algae, as well as many mosses, lichens and liverworts which have never been completely listed.

It is one of the most interesting floras of the world, due very largely to its high degree of endemism, i.e. the large number of species which are naturally restricted to this region. This is especially noticeable in the South-West Vegetation Province, which extends from Shark Bay at its northern extremity to Inland Sea Bay on the south coast and has an eastern boundary approximating closely to the 120th meridian.

This area has been aptly described as the cradle of the Western Australian flora since it comprises that part of the State which has been for the longest period exposed above sea level of the sea, and where the flora has thus had the longest period in which to develop. The area has for an immense and long time been isolated by expanses of ocean to the north, west and south and by a desert area to the east which stretches from the Eighty Mile Beach in the north west to the Great Australian Bight in the south-east. Protected thus from continued invasion of elements from other floras, the indigenous plants have been able to evolve in a peaceful environment such as few present day continental areas have probably ever experienced. This has resulted in a flora which has been produced by a long period of natural selection, and is now highly specialized to suit its own peculiar environment.

It has been estimated that the endemism of the South West flora is as high as 75 per cent. When compared with island floras, this may not, of course, appear to be a very impressive total. The Hawaiian Islands, for instance, record an endemism of 90 per cent and more, but the number of species and the actual area of land involved are not very great. When considered as a portion of a continent, however, this figure for the South West flora is a particularly high one and is possibly exceeded only by the Cape Province of South Africa and some areas of the South American continent.

Despite this high percentage of endemism among its species, and the consequent great interest centred around the Western Australian flora, it is not to be regarded as being completely different or highly distinctive when considered from the standpoint of its larger groups. At the generic level, the western flora is remarkably similar to that of eastern Australia, while the plant families in Australia as a whole are, with only two exceptions, well represented in other countries.

Speaking of the Australian flora as a whole in his *Introduction to the Flora of Tasmania* (1839), J. D. Hooker states "It contains more genera and species peculiar to its own area, and fewer plants belonging to other parts of the world, than any country of equal extent. About two-fifths of its genera, and upwards of seven-eighths of its species, are entirely confined to Australia. On the other hand, it, disregarding the peculiarities of the flora, I compare its elements with those of the floras of similarly situated large natural lands, or with that of the whole globe, I find that there is a great agreement between them; that it is impossible to regard the Australian vegetation in any other light than as forming a peculiar but not an aberrant or anomalous botanic province of the existing Vegetable Kingdom; that with only two small exceptions, the Australian families are also found in other countries; that most of those most widely diffused in Australia are such as are also the most widely distributed over the globe, and that Australia wants no known family of vascular vegetation. . . . Turning again to other countries which are remarkable for the peculiarity of their vegetation, I find that South America contains many more peculiar families than Australia, and South Africa about as many".

In Western Australia there is only one truly endemic family, the *Cephaelotaceae*, a family which consists of only one species, the Albany Pitcher Plant, *Cephaelotus follicularis*. This remarkable plant, with leaves closely resembling those of the insect-trapping *Nepenthes* of tropical Asia, is found in sandy soil in and around low-lying swampy areas along the south coast as far west as Mount Mary Peaks and extending northwards to the Blackwood and Margaret Rivers.

The other families in Western Australia are represented either in eastern Australia or in countries overseas. In a great many of these families, however, the degree of speciation is very much greater in the South West than in other areas of their occurrence. This raises an interesting point connected with the

18-31—on the text on the same subject written by C. A. Gardner, formerly Government Botanist, and published in *Official J. of Bot. of Western Australia*, Nos. 1, 2 and 3. H. 12. 21.

origin of the State's flora, since this large number of species could have arisen under two very different circumstances. Either the ancestors of the present flora evolved on the ancient land mass of the south and, after centuries of intense speciation, gradually spread into other countries thus developing their present distribution patterns; or, on the other hand, the ancestral plants may have originated outside of the present Australian continent, and the development of species may then have followed the migration of primitive forms into Australia where conditions were suited to a vigorous speciation. The large number of species in individual families may therefore denote either an ancient and truly ancestral group, or it may indicate a very successful but younger migrant family.

The Proteaceae, or Banksia family, can be taken as an example of the ancient Australian type, and is one of the families which Diels included in his Southern Element of the Western Australian Flora. Of the 56 genera of this family, 23 are confined to Australia, and seven of these are endemic in the south-west corner of Western Australia. The two largest genera in the family, *Grevillea* (166 species) and *Banksia* (104 species) are totally restricted to Australia, as are the other large genera *Dryandra* (32), *Banksia* (30) as well as *Petrophila*, *Leopogon* and *Crocosperma*. *Dryandra*, *Petrophila* and *Leopogon* are endemic to the south-west of Western Australia, while a large majority of the species of the other four genera are also to be found in this State.

The Proteaceae of South Africa are represented by 11 endemic genera and two others with representative outside of South Africa. The largest of these, *Protea*, a genus of some 80 species, is perhaps the most spectacular in the family with the possible exception of *Hebe*. Other genera in the South African flora are *Lamprosalpinx* (70 species), *Sorbus* (50) and *Leucospermum* (40). The remaining 17 genera of the Proteaceae are widely distributed in South America (six represented), New Caledonia, Madagascar, Japan, and Indo-Malaya.

Of the 17 species in nine genera included in the Proteaceae, the most primitive of the subfamilies of the Proteaceae, some 67 species and six genera are confined to Australia, while the other representatives are found in South Africa, New Caledonia and Madagascar. Thus with its most primitive present-day forms entirely restricted to the southern continents, the Proteaceae must obviously have had its origins in the south, and from here it has exhibited active speciation particularly in south-western Australia and South Africa, later extending to other countries and even as far afield as the tropical regions.

On the other hand the family Myrtaceae may be taken as an example of a family which has originated outside of Australia but which has developed a great variety of species within this country, and this is particularly true of its largest genus *Acacia*. There are over five hundred species of this genus usually referred to collectively as Wattle, and they are widely distributed over the warmer regions of the world. As may be expected, they assume a great variety of forms ranging from large feathery-leaved trees, to small twigs or leafless shrubs, etc. Since the germinating *Acacia* seed almost invariably produces a much divided or feathery leaf, the retention of this type of foliage right to maturity is taken as denoting the primitive form. These primitives or ancestral species are found predominating in the tropical regions, and the genus must therefore be taken as having originated in these areas. A typical example of this type of plant is *Acacia farnesiana*, a species which has a particularly wide distribution and which occurs in most tropical areas including America, Africa, the countries of the Middle East, India and northern Australia.

In Western Australia it occurs throughout the Kimberley region together with three related species, and is particularly abundant in the Fitzroy State. In some areas it is apparently spreading at the expense of other, more palatable, native plants which are being heavily grazed by cattle. From the Kimberley region *A. farnesiana* extends southwards through the Hamersley Range and as far as the Murchison River, but its further progress southwards towards the agricultural areas has been prevented by the virtual absence of summer rains.

To the south of the Murchison River its place is taken by another of the feathery leaved or bipinnate group of *Acacia*, namely *A. pulchella*, which is found throughout the southern half of the State, and particularly in the forest areas. Under these temperate conditions the southern representatives of the bipinnate wattles are well developed, and some two or three species are to be found there. The most interesting species is *Acacia imbrata* which normally carries both bipinnate leaves and modified leaf stalks or phyllodes such as have been developed by the majority of the Australian wattles. By the suppression of the feathery leaflets and the modification of the leaf stalk into a flattened structure so function as the leaf, the species of *Acacia* have been able to withstand a much more severe environment and have penetrated into the arid districts of the centre of the continent. The genus plays a conspicuous part in most of the floral associations of the State and, of the four hundred Australian species, some three-quarters are recorded for Western Australia.

Thus the wattles, from their origin as bipinnate shrubs in tropical areas, have migrated southwards, developing in the first instance a type which was able to flourish under temperate conditions, and then in the arid climate of parts of Australia, these forms became modified by the complete suppression of the true leaf and the development of the phyllode. In the arid heart of the continent the genus has been able to produce a multitude of species, the sum total of which is probably not yet known since vast areas of the interior still remain to be explored botanically. It is evident therefore that the large number of species of *Acacia* in Australia have been developed within this country, but were derived from original forms which migrated into Australia from the north.

Many other families in the flora demonstrate this speciation just as strongly. Principals among them are Myrtaceae, Goodeniaceae, Papilionaceae and Rosaceaceae, all of which show a strong development of species in Western Australia as compared with other areas of their distribution, despite the fact that two are derived from southern ancestors, while the others have originated in tropical regions.

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 but rainy period, the temperate south with a rainy period occurring in the coolest 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. Each is referred to above as the Northern, the South West and the Eremean Provinces.

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

Climatic Characteristics

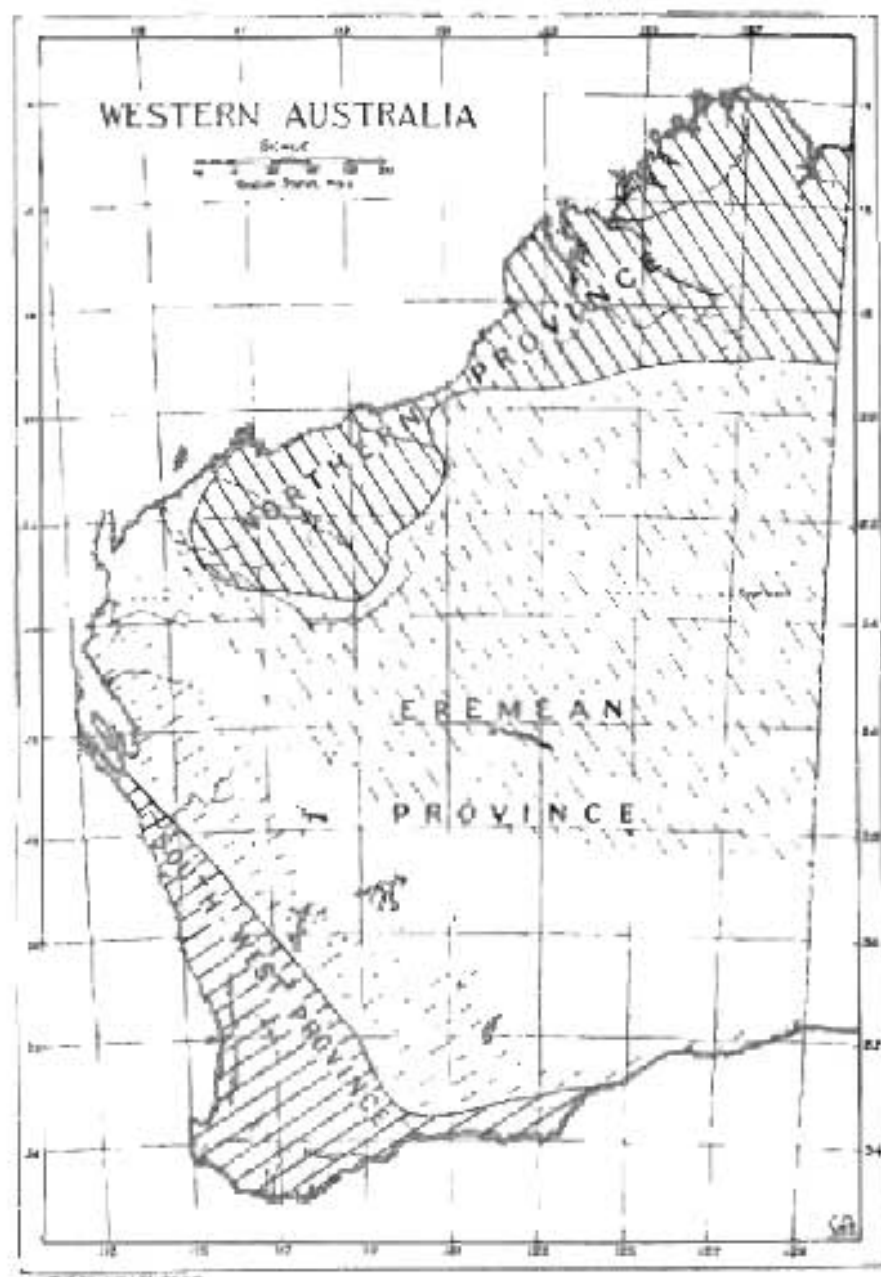
The *Northern Province* extends over the Kimberley Division to some few miles southwards from the Fitzroy River, thence contracting into a narrow coastal ribbon in the vicinity of the Elderly Mile Beach, and expanding southwards to include the De Grey River and the greater part of the Fortescue system. 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 hottest 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 Geraldton Bay in the south. On the west and southern sides it is bounded by the ocean, while its inland boundary passes close to Mullewa, Morawa, Koorda, Bencubbin, Burtacoppin, Hyden, Ravensthorpe and Ome 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 *Eremean 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 southwards (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 an herbaceous ground-covering mainly composed of grasses occurs. This varies from the rich grasslands of Kimberley to the harsh spinifex "steppe" of the country southwards 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 mallee too is absent. Floristically the Province is characterized by the part played by the "Indo-Malayan 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



VEGETATION PROVINCES OF WESTERN AUSTRALIA

*(From Jour. Roy. Soc. of West. Aust., vol. XXVIII page xxxvi.
by courtesy of Roy. Soc. of West. Aust.)*

(*Banksia teretifolia*). The shrubby components are Kurri Wattle (*Acacia pseudoxanth*) and Hazel (*Trigonostemon quadrilobus*), with *Banksia*, *Cassia* and *Banksia* providing masses of colour in the flowering season.

The Tangle Forest.—Around the lower reaches of the Finckland River, the Kurri trees are largely replaced by Red Tangle (*Eucalyptus jacksonii*), occurring mainly on the slopes and tops of hills, and Yellow Tangle (*Eucalyptus pauciflorus*) found mainly in the valleys and low situations generally. The associated vegetation is almost identical with that of the Keri 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 *Podocarpus*, *Shorea* 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 (*Alnus acuminata*). Within the Wandoo forest, the Mallet species *Eucalyptus rubropurpurea* and *E. garberi* 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 Alford where it is associated with Peppermint, species of *Banksia* and a large number of the *Acacia* species. The formation extends northwards as far as the Hu 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

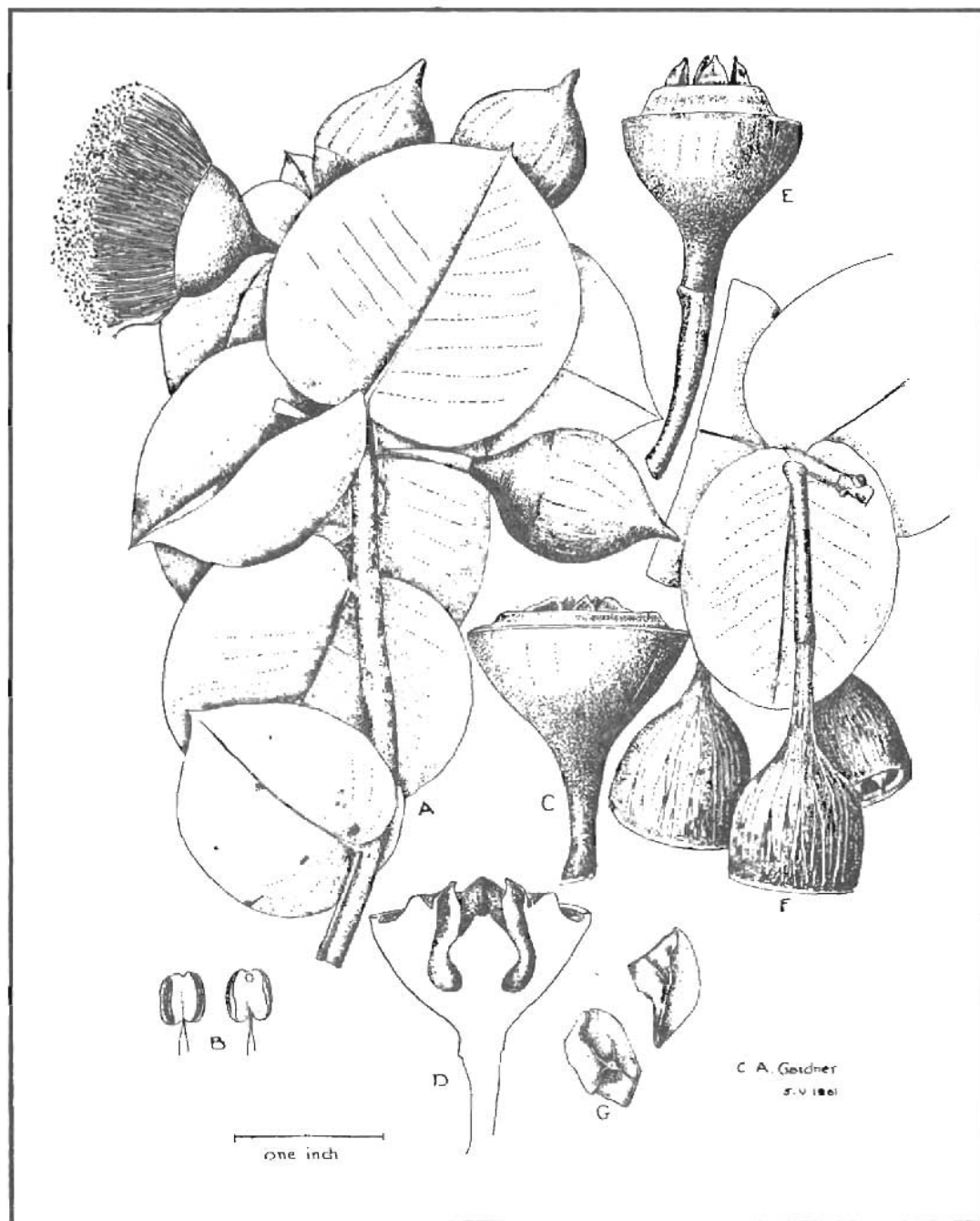
The Woodland formations differ from the forests of the South-West in being less uniform. Whereas the forest is invariably dominated by a single species, the woodland on the other hand consists of a series of co-dominant species which occupy relatively small areas in the intricate pattern which makes up the mosaic of the Woodland formation. The principal trees are the Salmon Gum (*Eucalyptus salmonophloea*), Gimlet (*Eucalyptus salicaria*), Morrell (*Eucalyptus alba* var. *longicornis*) and Yurrel (*Eucalyptus gunnii*). Many other species are locally dominant and the undergrowth consists of species of *Acacia*, *Leucadendron*, *Kuhia* and mulgee forms of *Eucalyptus*. This formation is chiefly South-Western, but it extends also into the Fremantle Province where, although the tree species remain fairly constant, the undergrowth changes in character with an increasing number of the species of *Protea*, Bush (*Leucadendron*), Saltbushes (*Adenanthos*) and Bluebushes (*Macraea*).

Shrub Formations

The Mallee Eucalyptus.—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 trees 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 Fremantle Province. This formation extends almost without interruption from the west coast between Oatley and the Woodman River eastwards 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 grayish 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 minor and interesting endemic forms. The most extensive sandheaths are found at the northern and eastern extremities of the South-West Province, between Northampton and the Murchison River and from Ravensthorpe to Inland Bay. They occur also on the eastern fringes of the South-West Province, and in the Fremantle Province where important areas occur at Comet Vale and to the east and south of Southern Cross.



THE ROSE MALLEE

(Eucalyptus rhodantha Blakely and Steedman)

A—Branchlet of the typical form with leaves, flower-buds and one flower; B—Anthers; C—Typical fruit; D—Section of same; E—Smaller fruit with much exserted valves; F—A form with smaller leaves and pendulous smaller fruits with narrow disc; G—Seeds



THE INTEGRIFOLIA BANKSIA
 Austra. Nat. Conserv. Soc. N. H.



THE ROUND BANKSIA
 Austra. Nat. Conserv. Soc. N. H.

Eucalyptus rhodantha is a shrub commonly four to eight feet tall, although it may attain a height of more than 18 feet. It extends from the Hill River to Gunyidi, some miles eastward from Watheroo and southward to near New Norcia. The flowers may be either red or yellowish-white and are produced almost throughout the year. The specific name is derived from the Greek and signifies "rose-flowered."

Banksia menziesii, a tree less than 18 feet tall, is found generally in the sandy coastal country extending from the Murchison River to King George Sound. Dwarf forms occur on the open sandplains. The species commemorates Archibald Menzies, surgeon and botanist, who accompanied Vancouver on the expedition in the course of which "King George III Sound" was discovered and named in 1791.

Savannah and Steppe Formations

Except for a weak development in Jam and York Gums (*Eucalyptus laevis* and *torresiana*) country in the South West, savannah and steppe formations are restricted to the Northern and Kimberley Provinces where there are the necessary climatic conditions of summer rains alternating with a dry cool winter. On these flats the dominant species is the Coolibah (*Eucalyptus mucronata*) with a grass element consisting of species of *Sorghum* and *Cymbopogon* grass (*Cymbopogon* spp.). In the sandier soils *Spinifex* (*Spinifex* spp.) is the dominant grass, while the tree layer consists of a number of hardwoods and the Miron tree (*Eucalyptus brevifolia*). On the basalt soils the Grey Box (*Eucalyptus tetradlea*) 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 sparsely stepped formation by *Proculis*, where very few trees occur. The *Acacia* are mainly species of *decurrens* and *Greeni*. This formation gradually merges into the more open desert country of the interior, which is almost unknown botanically.

THE ECONOMIC VALUE OF THE FLORA

Although the flora of Western Australia is so large and diversified, relatively little industrial use has been made of many of its species, due principally to the fact that not enough is known about the chemical and other properties of the native plants. Species of obvious value are the timber trees, many of which are abundant in the South West Province. Prominent are the hardwoods jarrah and karri, large quantities of which are felled each year, with smaller amounts of many other species also being milled.

There is an established plywood industry, using local timbers. Among the cabinet woods are *Banksia*, *Casuarina* and *Jarrah*, the so-called "curly" jarrah in particular producing attractively figured surfaces. In the tropical north of the State there are many excellent cabinet woods which have not yet been exploited. Principal among these are the ebony (*Melaleuca leucadendron*), the Leichhardt tree (*Acacia leucadendron*) and the Red Ash (*Alphitonia virginica*). In contrast to the hardwoods of the South West a number of the Northern trees are soft-wooded, notable among them being the Yeeba (*Euphorbia corollata*) which is reputed to produce a timber almost as light and soft as balsa wood. This species has not yet been exploited and neither has the Kimberley Cypress (*Pinus callitrochilensis*) which is perhaps our most valuable softwood timber, due doubtless to its sandalwood content. Large trees of the Kimberley Cypress *Pinus* still exist in certain localities but they suffer severely from the effects of fire and whole forests of gum are continually destroyed by bush fires.

The early settlers in the south-west of the State used the bark of certain wattles, as well as the bark of the Miron (*Eucalyptus rubicunda*), for tanning purposes but these generally ceased to be used when the bark of Brown Mallet (*Eucalyptus saligna*) was discovered to possess a greatly superior tannin. Even today mallet bark is still used to a certain extent for the production of hard leather, while wattle bark is used for the softer types. One of the best barks for tannin content and quality is that of the Miron tree (*Eucalyptus brevifolia*) which is found on the Hamersley Range, and also in the East Kimberley extending from the upper reaches of the Murchison River almost to Wyndham. Tanning materials are also extracted on a commercial scale from the timber and bark of the Wandoo tree. Several other chemical products are recovered from Wandoo in the wood distillation plant associated with the charcoal-burn industry at Wandoo. The several species of *Acacia* are also possible sources of tannin.

The Mannia Wattle (*Acacia mucronata*) yields a gum which has all the properties of gum arabic, but the yield per tree is very low and the gum "tanks" are frequently stained by the tannins from the bark. The gum is nevertheless of commercial value. Attempts have also been made to exploit the common species of Blackboy (*Acacia dealbata*) and, although it yields large quantities of gum as well as drying oils, a turpentine substitute and acetic acid, there has been little interest in the exploitation of the large though rapidly diminishing supplies of this species.

Among the drug plants of the flora, special mention should be made of the many species of *Eucalyptus*, which are rich in oils. No industry exists in Western Australia as present, despite the fact that in *Eucalyptus oleosa* var. *pleurocarpa* this State has a variety which gives the highest yield of any known species. However, it would now be difficult to secure adequate areas of this valuable species, much of it having been destroyed in the expansion of agriculture. Several species of Citronella Grass (*Cymbopogon* spp.) occur freely in the

Kimberley, but the quality of the oil has not been investigated. Sandalwood oil is obtained from two species, *Santalum spicatum* and *Santalum lanceolatum*. The collection of sandalwood, formerly a profitable industry, has declined because the more readily accessible supplies have been virtually exhausted and natural regeneration is slow.

One of the strychnine trees (*Strychnos lucida*) is widely distributed in the tropical regions, and this species could have a potential value for the production of both strychnine and brucine. The small shrub *Grewia polygama*, known for its remarkable value as a remedy for dysentery, is also found there. Inquiries from foreign manufacturing firms have been received in the past for supplies of this plant. The Pituri (*Duboisia hopwoodii*) contains nicotine in very appreciable quantities and could be used for the production of insecticides. The species of *Tephrosia* and many other plants used by the aboriginal population as fish poisons are a relatively unknown group and await chemical investigation. The toxic principle of the many species of *Gastrolobium* and *Oxylobium* is also still unknown, although an intensive investigation is being carried out under the auspices of the Phytochemical and Toxic Plant Committee of the Western Australian Department of Agriculture. This Committee is also investigating the alkaloid content of the flora in an attempt to locate and identify all the potentially toxic as well as the potentially useful plants in the flora of the State.

The wildflowers of Western Australia are widely recognized as an important tourist attraction. Flowers for commercial purposes are taken mostly from the wild, and it is probable that as more and more land is cleared an increasingly profitable trade will become available to those who have them under cultivation. Large quantities of fresh wildflowers are sent to other States and overseas.

Among the wildflowers there is one, the Brown Boronia (*Boronia megastigma*) native to the forest areas of the South-West, which deserves special mention on account of its commercial and industrial use. A considerable acreage of this plant is cultivated in Victoria for the cut-flower trade and for the manufacture of scent. In Western Australia, however, it is the uncultivated land which provides the supply for both purposes and large areas are systematically stripped of the blossom each year.

CONSERVATION OF THE FLORA

Agricultural expansion in Western Australia since the end of the second World War has been considerable. With increased knowledge of trace elements in relation to plant nutrition, large areas of formerly unused land have been opened up for farming and, since this is of great significance in the economy of the State, it is likely that a steady increase in the use of land, particularly for agriculture, will continue for some time. In the face of this development the flora and fauna must give way. Many plant communities could become extinct and thus be lost to scientists and the general public for all time. The flora of the State is widely recognized, both in Australia and overseas, as being unique and deserving of preservation. Because of the growing need for land for agricultural and pastoral use, conservation of the flora on land not yet cleared is a matter of urgency. It is principally by the creation of vested Flora Reserves that this conservation can be brought about.

Already much has been accomplished but, if sufficient really representative reserves are to be established, there is still a lot to be done. A considerable number of reserves both small and large have already been set aside. Some of the smaller reserves have been established for the protection of a particular species or plant community, while others have been created for purposes, such as water catchment, which although not specifically directed to the protection of the flora do nevertheless assist in the preservation of the plant cover. Among the larger reserves are some which are specifically designed to preserve the whole of the environment and biological structure of important areas such as the Stirling Range, or of flora associations such as sandplain, woodland, and so on. These reserves are as large as they can be made, having due regard to the requirements of agriculture, forestry and other activities in the district. It is the large size and the diverse conditions in these reserves which permit the plants and animals within them to live in equilibrium, without affecting any of the species involved and thus preserving the biological balance.

Many of these reserves are not vested in any authority, but the most valuable are vested either in a Government Department, a special authority or the local governing body. Some of them are legally established as Class "A" Reserves. The National Parks Board administers the largest of the reserved areas which have been set aside specifically for the preservation of flora. The principal National Parks are those of the Stirling Range, Porongorups and Nornalup. The Stirling Range in particular is a most

valuable botanical area, and is also of value as a fauna reserve. Noradup National Park contains some magnificent stands of timber and some excellent examples of coastal swamp formations, as well as a most picturesque estuary and river mouth.

A number of the most important nature reserves in the State are vested in the Fauna Protection Advisory Committee. The main concern of this Committee is the conservation of fauna, but it is obvious that the preservation of the flora within the reserves is of vital importance to the success of its work in protecting the fauna. Among the reserves administered by the Fauna Protection Advisory Committee are Bernier and Dotte Islands at the entrance to Shark Bay, Lake Magenta Reserve south of Noradup, and the Flagstaff Reserve.

The reserves described in the following paragraphs have been selected as being representative of two types of reserves already discussed. Reference to other such areas is made under the heading "Public Parks and Reserves" in Part I of Chapter VII.

The Murchison River Reserve is situated near the mouth of the Murchison River and includes the greater part of the gorge of the southern loop of the river, extending almost to the edge of the Ayama agricultural area. It is a large reserve, approximately 358 000 acres in area, and occupies nearly a gently undulating sandplain which is underlain by a gravelly soil resting on Cretaceous sediments or in some areas on the Tertiary sandstones of Silurian-Ordovician age. The gorge is one of the most remarkable physiographic features of Western Australia and must in time become one of the foremost tourist attractions the State has to offer. It is extremely rugged and picturesque and its sheer walls drop five hundred feet from the crest of the sandplain. Permanent pools of brackish water occur along the gorge.

Three distinct types of flora are recognised in the area. They are the predominant sand heath, the latetite association along the eastern boundary, and the coastal heath vegetation on the limestone bank. The area is one of the most valuable flora reserves in the State. Its importance is due largely to its location at the northern end of the South West Province, where it comes under the influence of the Desert or Kromann Province. This overlap of two flora types has resulted in the development of a unique flora, containing an exceptionally large proportion of plants which are entirely restricted to the area. In this connexion the species of *Banksia* are of particular significance, since many other related plants in the *Banksia* family as well as a number of *Myrtus* found here occur nowhere else in the world. The gorge of the Murchison River contains many very fine examples of the picturesque River Gum (*Synalpheus ornithocarpa*), as well as a number of endemic species some of which are actually restricted to this environment. However, it is the heath vegetation of the sandplain for which the area is particularly notable. This formation covers the greater part of the reserve, its flora being extremely rich both in species and in variety of colour and form. It undoubtedly constitutes the richest botanical area of the reserve, and during the spring and early summer it is a blaze of colour. Not only has vigorous spermatophyte taken place here in past ages to produce a number of unique plants, but the reserve also contains the northern extreme representatives of several typical South West plants. Species such as the Fawnwood *Banksia*, *Banksia*, Tree *Synalpheus* and Mangrove Kangaroo Paw extend northwards as far as this reserve, but are not known to occur much further to the north. It is important scientifically that these plants occur within the borders of the reserve, since they will be preserved for all time as evidence of the wide distribution of these and co-existing species.

The Stirling Range National Park of 276 000 acres is situated to the east of Tentardun and includes the entire mountain system of the Stirling Range, which consists of Proterozoic sandstones, shales and slates. The Range reaches to a height of over 5 500 feet and is a dominant landmark of the country to the north of King George Sound. The reserve consists of the mountain range surrounded by a broad undulating plain carrying a low heath vegetation with a predominance of species of *Myrtus* and of *Protea*. Stirling Range Poison (*Conobothris robustus*) is common, and many other species of the *Poa* family also occur. A striking component of this heath is the Red Kangaroo Paw (*Anacardium occidentale*). Around the base of the mountain peaks are forests consisting principally of stunted *Eucalyptus*. Springs and damp areas occur in the forests due to seepage from the higher land and there are several lakes both within the reserve and outside its boundaries. Because of the height of several of the peaks, snow is sometimes recorded, while a cloud blanket frequently covers all but the lowest peaks. Due to these phenomena the reserve contains a highly interesting and scientifically important endemic flora which makes it one of the outstanding botanical reserves in Australia. Altogether there are over a hundred species which occur within the reserve and are not known elsewhere in the world. A large proportion of the plants are outstandingly attractive, prominent among them being the Mountain Bell (*Doronicum* sp.), many species of which are restricted to the Range while some are entirely confined to a single peak. *Leucophaea* sp. is

is the most spectacular member of a group which is restricted to Western Australia. It occurs on the upper levels of Bluff Knoll, the highest point in the Range. Several species of *Beaeria* and of *Hypoxylon* are endemic in the Range. The high degree of endemism and the spectacular character of the flora, some unique features of the fauna, and the rugged grandeur of the Range itself make the Stirling Range National Park one of the most valuable of the nature reserves of the State.

Bernier and Dorre Island Reserves. Bernier and Dorre Islands, which together comprise an area of about 25,000 acres, constitute part of the western boundary of Shark Bay. They are some 15 and 19 miles in length respectively and are very narrow. They are in fact elongated dunes running in a north and south direction and consist largely of quaternary neohamite with some loess sand. The islands are chiefly of value as fauna sanctuaries, since they contain vigorous populations of six native mammals some of which are rare on the mainland. They are situated at the northern extremity of the South West Province where they come under the influence of both the South West and the Eremaean Provinces. The vegetation includes typical South West plants such as *Phyllanthus*, *Triglochin* and several species of *Myrtles*, while a number of plants from coastal dunes such as *Spinifex* and some of the *Daisy* family are common on both islands. The Desert or Eremaean flora is represented by the Poverty Bushes, *Wandoo*, *Sedum*, and species of the *Yoo* Flaxweed and the *Hibiscus* family. The *Triodia* (Spinifex) which occurs over a great part of the interior of the State is also present on Bernier Island and is well represented on Dorre Island. The Northern elements have also penetrated to the islands and occur chiefly among the grasses, of which there are several species. Other plants demonstrating Northern affinities are the native Fig, the Caper, *Leucadendron*, and the *Raphanocarpha*. Several species in the island flora are endemic in the Shark Bay area, and a few were originally collected on the islands. These reserves are of extreme importance biologically both as conditions to measure the effects of sheep grazing on the neighbouring Dirk Hartog Island and as natural laboratories in which to study and understand the processes of ecological interaction within our native plant and animal communities.

The *Perth Reserve* is situated to the east of Perth and is an outstanding example of extreme diversity of habitat types in a small area. It is no more than 3,000 acres in extent and consists of lateritic highlands in the northern and southern areas, between which erosion has uncovered masses of the country granite and produced extensive granitic soils. It is particularly rich in native mammals while the plant assemblage covers some seven well marked associations ranging from sandplain to a White Gum forest. This latter type is found in the more fertile loams in the valleys, where it is associated with Box-Parson and Jam. Two different associations of *Acacia* are evident, the more important being that dominated by Jam, occurring on the better class soils and merging into the White Gum area, the other being a Black Walley association occurring along the bottoms of the valleys and along the watercourses. Shrub forests almost pure stands in the granitic soils while thickets of *Mallet* clothe the steep rocky slopes below the gravelly tops of the hills. Few plants regularly grow in association with *Mallet* but, in this reserve, Bullock Poison (*Gastrolobium trichospermum*) forms a constant understorey. York Gum dominates the flora at certain places, while in the lateritic soils on the tops of the scarp there has developed a mixed association dominated by *Leptosiphon* and containing several other members of the Proteaceae, together with representatives of the Myrtaceae and other families. It is the sandplain association, however, for which the area is most noteworthy. This vegetation type occurs in seven localities scattered throughout the reserve, each of them being distinctive in one or more respects. For example, one of these localities is distinguished by the *Chrysopsis* Tree, another by the Narra-leaved *Banksia*, a third by a deep yellow sand development, and a fourth by heavily leached white sand where *Jarrah* is found. Despite its limited area, this reserve contains a remarkable diversity of flora and fauna, making it one of the most valuable of the nature reserves of Western Australia.

CHAPTER II — *continued*

PART 4 — THE FAUNA OF WESTERN AUSTRALIA

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ZOOGEOGRAPHY

Terrestrial Vertebrates

An analysis of most of the Western Australian groups of vertebrate animals shows that they can be referred to one or other of the three great faunal assemblages which zoogeographers recognise in Australia, namely the Bassian, Eyrean and Torresian faunas. Most members of these faunas are characteristic, respectively, of the following regions, the South-West (Bassian) with its regular winter rainfall, the arid and semi-arid interior and North West (Eyrean) with intermittent and unreliable rainfall and the Kimberley Division (Torresian) with regular summer rainfall. Several elements of these faunas are sufficiently widely in their requirements for them to occur as "foragers" in neighbouring regions, such as Torresian species which are found in the otherwise Eyrean Pilbara district of the North-West, and Eyrean species which occur in the Bassian South-West. Otherwise, the regions, as indicated above, have fairly distinctive faunas.

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 Prist Bats (*Pharynge*), various marsupials such as the Flying Possum (*Petaurus lewincorpi*), the Little Rock Wallaby (*Petrodonus ornatus*), the Jungle or River Wallaby (*Protemnodon aptis*), and among the birds the Scrub-Fowl (*Turnipodusa freycineti*), the Prist Pigeons (*Phapitreron*), Lorikeets (*Trichophaps*) and *Trichoceros*; White Cuckoos (*Cathartus gabrielis*) and most of the grass finches. Among the reptiles there is also a certain distinctness of fauna in the three regions, with overlaps in several species.

The Torresian species which penetrate further south include the Northern Native Cat (*Dasyurus hallucatus*) to the Fortescue River, the Brodiea (normally only to Ordland), White-breasted Wood-swallow (to Shark Bay), and the Brown Honeyeater (right through to the South-West).

The boundary between the majority of the Eyrean species and the bulk of the Bassian species is less well defined as there is a good deal of overlapping. For example the line which separates the woodland eucalypts and the mallee, the so-called "mallee-eucalypt line," is the extreme limit of most Bassian species, though many do not range as far beyond a line connecting Perth, Meekatharra, Northam and the Stirling Range. The mallee-eucalypt line extends, to quote an example, the main distribution of the Grey Kangaroo (Bassian) and the Red Kangaroo (Eyrean). This line is also the northern limit of such well-known Bassian species as the Red Wattle bird. It is also the northern boundary of many Eyrean species which are restricted to the south: such as the Rufous Tree-rook, Purple-crowned Lorikeet, Smoker Parrot and the Squeaker.

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 Bush Brumby, White-bellied 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 Tanami Wallaby, the Bush Possum and various domestic marsupial mice, *Swainthopomys*. Among frogs there are various *Cynix* and *Heteropoda* *infinites* and *maculatus*, and fish such as *Goniistius* and *Nummoperca*. 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 intruders as the Purple-crowned Lorikeet, the Twenty-eight Parrot, the Rufous Tree-rook, the Western Warbler, the Banded Blue Wren and the Red-tipped Diamondfin.

It should not be thought, however, that the distribution of animals is in any way permanent or static. The distribution of various species is very sensitively adjusted to climate, the main factors being temperature and rainfall and the time at which the rain falls. From the long-term point of view there have

have only drastic climate changes in Western Australia since the Pleistocene Ice Ages, and the discovery of fossil remains in local caves has shown that there has been a dramatic change in both faunal composition and distribution in the South West. The climate has been both wetter and drier than it is now. This has resulted in an ebb and flow, as it were, of faunal elements out of and into the South West. During the times when extensive humid conditions reigned, various mammals occurred which are now extinct in this State but still present in south eastern Australia. These included the Koala, the Tasmanian Wolf (*L. cynocephalus*) and the Tasmanian Devil (*Sarcophilus*). In the extremely arid times, creatures which are now living only in the desert corner of the northern interior ranged as close to Perth as Jurien Bay. Among these were the Crested Marnipal Mole (*Dasypus*) and the desert dirobat (*Smithopsis karispa*). The Ghost Bat (*Myotis macgregori*) once ranged as far north as the Margaret River; it is now known no farther than Walana, the Warburton Range country, and the Barlee Range.

Climatic adjustments 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 Eremean faunal assemblage, have made notable extensions of range into the south west corner. These include the Galah, Little Corella, Budgerigar, Smoker Parrot, Crested Pigeon, Black faced Woodswallow, Crested Bellbird, Blue and white Wren, Black throated Butcherbird and Little Crow. The records of local naturalists, and keep distinct 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 habitats due to settlement. Grass habitat changes act to the detriment of wood and bush but favour open country species (ake, quail and pigeon).

Coastal Marine Fauna (1)

The long Western Australian coastline (4,200 miles) extends from tropical to warm temperate waters, from Cape Londonderry at 14°S with a mean water temperature of 81°F to Albany at 35°S with a mean water temperature of 62°F. As is to be expected, the marine fauna is very different at the extremes. Two principal elements in this fauna have been recognised, a northern tropical and a southern temperate fauna. The southern fauna is found right around southern Australia and many of the animals have a more wide distribution through the tropical Indian and west Pacific Oceans. For example the sea pen's Head Cress (*Androsia capitegensens*) and the sea urchin, *Echinaster muriceus* are found from the east coast of Africa through the Pacific islands; both are abundant as far south as Rottnest Island. The southern fauna extends along the southern coasts of Western and South Australia, with some species being common also on the New South Wales coast, though absent from Victoria. The boundary between these faunas has been drawn at different points along the coast, according to the specialities of particular authors. However, there is in fact a broad area of overlap between North West Cape and Cape Leveque. Some southern species, such as the periwinkle *Melampus nebulosus*, are common as far north as Sharks Bay and even to North West Cape. On the other hand some northern species are common on the rocks between Cape Koolbata and Cape Leveque. For example the common murex mussel, *Mytilus*, and most even extend east to Albany or Melbourne. There are extensive communities of the coral *Porolithothamnium* in Geographe Bay and smaller colonies of *Porolithothamnium* on Rottnest Island. *Porolithothamnium* occurs also on the Archipelago of the Recherche.

In addition to these northern and southern faunal elements there is a considerable number of endemic species, found only in the south western part of the State. Both among the molluscs and the radiating animals such as the sea urchins there are typical species which have not been found outside this region. For example the Salt Pencil Urchin (*Thalassidroma magellana*) and the crested *Thyridina* *diversa*.

The islands of this part of the coast are of particular interest. At the Abrolhos Islands there are numerous coral reefs and other northern marine animals are much more numerous than at the adjacent mainland coast. At Rottnest also there are a number of species and families which although found elsewhere occur only as scattered colonies so far north, and again there are more northern species than along the adjacent mainland.

(1) Written in collaboration with Dr. E. F. Hedges and Mrs. L. March.

Fauna of Inland Waters (2)

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 system of the North-West from the De Grey to the Murchison; (3) the streams, 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.

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 element 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. preussi*) make burrows in the mud of swamps. A species of a closely related group, the so-called "land-crabs" (*Engaeus*), has been recently discovered in the swamps 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 characterized 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 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 Whales (*Balaenoptera musculus*), the largest mammals that have 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 outnumbers 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 categorized into one or other of the three main faunal groups which are described earlier in this Part under the heading *Zoogeography*. For example, in the kangaroo family, the Tammar Wallaby (*Protemnodon eugenii*), the Quokka (*Setonix brachyurus*), and the Brush Wallaby (*Protemnodon irma*) are found only in the South-West or on certain isolated islands off the coast. These species may be said to be Bassian and, of these, the Brush Wallaby is closely related to the South Australian Tolache Wallaby (*Protemnodon greyi*) and the Tammar to the Flinders Island Wallaby and the now extinct St. Peter Island Wallaby of South

(2) Written in collaboration with Dr. E. P. Hodgkin

Australia. The most familiar kangaroo of the dry country with moderate rainfall occupied by the Eyrean Gums is the Red Kangaroo (*Macropus rufus*), which is the largest of the kangaroos which inhabit the winter-rainfall country of the Kimberley. Besides these we find such species as the Grey or Blue Wallaby (*Peromyscus apudus*), the Little Red Wallaby (*Peromyscus rostratus*) and the Green-headed Wallaby or Karribul (*Onychogale usquifer*). In addition to the species which were met in this general 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 East or Biggum (*Macropus robustus*), the Beechey (*Notamacropus beecheyi*), and the Blue Wallaby (*Potagale astrolagus*). Of these the East may still be found anywhere in suitable local habitats from the Kimberley to the South-West coast and in the South Australian border. At one time this was true also of the Beechey and the Blue 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 assemblages of the mammals, i.e. marsupials, monotremes, and placental, occur in the State.

The cog-biting cock-shrikes are represented by the B. shrike (*Pachyphaps pectoralis*), sometimes called Spiny Antelope or Plover. This curious and completely different animal is not uncommon in the country around Perth and is even sparse on occasions in densely settled suburban areas. In these districts its diggings, made in its search for insects, are familiar around rocky hills and brickwork.

Marsupials, or pouch-bearing mammals, occur in great variety in Western Australia. The kangaroos and wallabies, already mentioned, are the numerous 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 those other peromyscids. 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 young. The embryo which is the product of this second mating does not develop immediately but it itself is a dormant state of the complete system. However, if the first embryo perishes before this point, the dormant embryo immediately begins to develop and a second young is produced after a pronounced period of delay.

In Western Australia the kangaroos and wallabies are all terrestrial (there are no tree kangaroos), and among these arboreal inhabitants, the possums, are the most numerous. Compared with other parts of Australia, the Bush Possum, the Pigmy Possum and the Ring-tail have Western Australian representatives, but the Koala and the striped Possum 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 district. 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 Honey-eating Possum (*Hyalinus*) of the Kimberley; unlike other Australian possums this animal has a hairless body but only fifteen specimens of it are known. There is also the curious and rarely seen Honey Possum (*Trochus*) of the South West. Wombats are known to have occurred in Western Australia around the turn of the century but have not been reported since that time.

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 (*Jaoparus procyon*) and a northern one (*Jaoparus bellerophon*) as well as many species of smaller carnivorous and insectivorous forms. One of the smaller members of this family, the Thaler (*Thaleria apudus*), which is probably the rarest of them all, is commonly found as a fossil in the sands of Jurien Bay, but no specimen of it has been collected in the living state for many years and the species is not even in the collections of the Western Australian Museum.

The remaining group of marsupials is that commonly called the bandicoot family. One of these, the Pig-banded Bandicoot (*Peromyscus maculatus*), is probably the bandicoot of our mind. It was first reported as having collected by John Gillard in 1841 when it was in the north-east of Northern. The species has not been seen in Western Australia since. On the other hand another species of bandicoot, the Quokka, or Short-eared Bandicoot (*Peromyscus obesus*), is one of the commonest of marsupials. Its scrubs are common in moister regions and the large animal is often met and found dead on roads. It is a large marsupial, with strong muscularity, it is seldom met, but it is a marvellous, 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 posited 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 come 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 (a)	Kinds of Wild Mammals	Number of Species occurring in Western Australia (a)
Monotremes	1	Introduced Placentals—	
Marsupials	105	Rodents	5
Native Placentals—		Land Chiroptera	2
Bats	22	Ungulates (Horses, Deer,	
Rodents	21	Camele, etc.)	1
Marine Mammals		Rabbits	1
Seals (b)	1		17
Dugong	1		
Whales	22		
Land Chiroptera (Dingo)	1	TOTAL, ALL SPECIES	143
	106		

(a) Total number of species are from a preliminary classification of Western Australian Mammals by W. D. S. Miles—of preparation. (b) Only resident seals are counted. However, seals are occasionally "shipwrecked" by rougher weather and 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 Euryecious like *Lepidodroma barrowensis*, the small mouse which builds mounds of pebbles on sand, ridges (2), others are Torresian like the majority of the Fruit-bats or Flying Foxes (*Pteropus* and *Mus*), *Quercus*, while yet others are typical *Sonorian* species and are restricted to the coasts of reliable waters (as well as the South-West, e.g. the Southern Bush-tat (*Bombus fuscus*). 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 clearly parallel in adaptation to our stringent ecological conditions their relatives in similar places in other lands. Thus, we have tiny hopping mice (*Zapus*) like miniature kangaroos, which are very similar in appearance and habits to the jumping mice (*Zapus*) of the American and Eurasian dry lands, and the porcupine (*Eupodius*) of Africa, but it must be emphasized that the hopping specializations of our own hopping mice have evolved quite independently within Australia.

Some of our native placental mammals are economically important. Until recently a shore-based Western Australian fishery at Carnarvon depended upon the migrating groups of Hump-back Whales (*Megaptera americana*) which move along the western coast between their feeding grounds in Antarctic waters and their breeding grounds in the tropics. Unfortunately, immediate exploitation of the stocks (principally at Antioch wharf) has so reduced the population that it is in danger of extermination and the shore-based fishery has now collapsed. Another whale fishery, at Albany, is dependent upon Sperm Whales (*Physeter macrocephalus*). The catching of Southern Fur seals (*Arctophila 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 Dugong (and *Enhydra*) has almost disappeared from the coast of Australia for as long as the other native mammals, and may well have died with the first of the Australoid people who were introduced to the present Aborigines. In some parts of the State the Dugong 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 not a part of the wild mammal fauna of Western Australia and are not placental.

(2) It is suspected that these may be dingo-bats.

Some of these species are also agricultural and pastoral pests and they have become so well entrenched in the settlement 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 elaphus*) occur sporadically in the South West around Pinjarra, Warroona and Harvey. Kangaroos (*Macropus fuliginosus*) occur in large numbers and are distributed through the Foothills (Greatfield) up through the Pillara and into the Kimberley. There have been declared reserves around Laverton, Nalagame, Port Hedland, and Halls Creek. Donkeys (*Equus asinus*) have a distribution very much like that of the sheep and also occur generally throughout the Kimberley. Wild goats (*Capra hircus*) are ubiquitous in dry country but are mostly concentrated in the Murchison and the North West. A good deal of Black back (sheep) (*Lepus arizonae*) occur about Geraldton. Rabbits (*Lepus sylvaticus*) are widespread in Western Australia but are only of economic significance south of the Murchison. They are by no means the pest that they used to be, due largely to programmes of intensive rabbit extermination. Foxes (*Falco vulpes*), declared vermin, are also widespread but do not commonly occur north of the Iceberg River, having only been reported sporadically from the Kimberley Division. The domestic rat (brown) (*Rattus norvegicus*) occurs commonly in the bush and is an efficient pest in the bush lands. It became fatal in the early days of settlement and soon spread throughout the Colony. The naturalist Kuartland, who is member of the "Colony Scientific Exploring Expedition" in 1896, recorded that "in the desert of North West Australia" he saw a table set with four hundred miles from the nearest house. Kestrel and the ornithologist Tom Claret writing in 1887 from the Carnarvon district speak of "the domestic cat, which is bred 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. macrotremes, marsupials, bats and native rodents, as set out in the next table, reveals that one quarter of all species recorded from the State today appear to be confined to Western Australia. In fact, it is probable that the number of species shown as indigenous to Western Australia is actually too high, because some of them are known only from very few specimens and occur in environments much outside of Western Australia onto the adjacent Northern Territory and South Australia. Examples of these are a small carnivorous marsupial *Dasyurus maculatus* from the Pillara and a native mouse *Perodromus rufescens* from Kardinia on the Trans Australian Railway. The South West contains by far the greatest number of indigenous species. Some of these, e.g. native rats like *Perodromus sherrinoni*, *P. occidentalis*, *Opomys merriami* and the Ringtail Possum *Pseudochirus occidentalis*, may later prove to be local subspecies of South Australian forms, but others like the Honey Possum (*Tarsipes rostratus*) and the Quokka (*Setonix brachyurus*) being distinctive genera which are not found elsewhere in Western Australia.

ENDEMISM OF NATIVE MAMMALS

(including native mammals)

Group	All Endemic and Non- endemic Species	Number of Endemic Species—			
		Total Endemic	Endemic north of Fitzroy River	Endemic of South West Land Division	Endemic of remainder of State
Macrotriches	1				
Native Utes	20	4	1	3	1
Marsupial Mole	1				
Bandicoots	6				
Possums	6	3	1	2	
Wombats	1				
Kangaroos and Wallabies	22	6		4	2
Rats	21	11	3	5	3
Bats	22	1		1	
Dingo	1				
Total	101	25	5	14	6

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, *Pargarepholus swainsoni*), 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 Breeding Species (a)		Number of Non-breeding Visiting Migratory Species (b)	
	Western Australia	Australia	Western Australia	Australia
Land birds	279	427	7	5
Inland water birds	66	69	28	34
Sea birds	26	39	32	47
Total	371	535	67	86

(a) Numbers of species are based on a three-species average, and do not include separate species of a species group are not separately stated. (b) The numbers given are either less than would be the case if all morphological species were admitted.

Representatives of most of the faunas and genera of Australian birds occur in this State. Notable absentees include the Cassin's Warbler (*Cassinia cassinii*), Bush Turkey (*Dendrocygna australis*), several of the fruit-pigeons, the Crimson Rosella (*Platycercus elegans*), Lyre bird (*Megascops novaehollandiae*), several honeyeaters including the Regent (*Zosterornis phryganeus*), Agouti bird (*Struthio australis*), Pardalids (e.g. *Pardaliparus*), Sooty Booby bird (*Phaethon rubricauda*) and Rall birds (*Ptilinopus*).

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

The Emu (*Dromaius novaehollandiae*) 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 (*Halodroma minor*), nests on islands off the southern and south western coasts as far north as Christmas Island. The Mallee-Eel or Crow (*Lepus caudatus*) is still plentiful and, after a period of decline during which its disappearance was feared, it is now increasing in abundance. All of the wide spread 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 increases in population strength. After a long period of scarcity the Common Rookwing (*Columba chinensis*) began a cycle of increase about 1939 and is still very abundant. The rare Pheasant Pigeon (*Streptopelia dussumieri*) 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 1948 when considerable flocks were observed in the Hamersley Ranges and the Portman River country. It has also reappeared in parts of the Kimberley District.

A very distinctive member of the rail family is the Black-tailed Native Hen or Gallinule (*Tringa melanoleuca*). It is common over the lower country but is subject to violent fluctuations in numbers, when it is liable to invade the South West in great numbers. A famous occasion was in May, 1933 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 1938 and 1941, have been on a much more modest scale. Of the many Australian grebes the most plentiful is the Heavy-headed Grebe (*Podiceps podiceps*) 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 many islands between Carnarvon in the south and Sable Island, in the Darling Archipelago, in the north. A second mutton-bird, the Pinky-footed Shearwater (*Puffinus*), 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 but more northern migrant is the White-faced Storm petrel (*Phaethon rubricauda*), a distinctive 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 macroura*) shows the

nesting islands off the south coast with the Pink-bellied Shearwater as a sort of "Bar and Out" relationship. The black and white Little Shearwater (*Calidris tenuirostris*) has a wider nesting range, from the Recherche to as far north as the Abrolhos; in former times it nested at Parakeet Island off Rottnest Island. In the winter months some 25 species of southern breeding petrels visit our seas. They vary in size from the little Wilson storm petrel (*Onychoprion fuscatus*), 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 Houtman and is a familiar sight amongst fishing boats at Shark Bay. The most common of the Albatrosses is the Yellow-nosed Albatross (*Diomedea chlororhynchos*) and may be seen as far north as Point Cloates. The most familiar of these visitors is the dusky Giant Petrel (*Macrorhynchus nigripennis*). Ringing experiments have demonstrated that the birds seen here are the same individuals making commutator flights round the Southern Hemisphere; marine 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 Ocean or the South Atlantic.

All of the 34 species of Australian Cormorants of large size are local. Though commensals of these depredations on commercially important fish, investigations have cleared the birds of blame, though one species, the Black Cormorant (*Phalacrocorax carbo*), superficially identical with the Cormorant of Europe, does occasionally include white fish in its diet. One marine species, the Pied Cormorant (*P. erythrorhynchos*), which enters the Swan River estuary and Peel Inlet, is mainly responsible for the guano deposits on the coastal marshes. Deposits at Shark Bay were commercially exploited in the last century and at one stage, in 1859, a detachment of troops was stationed at The Quoin Bluff, Peel (Barroge Island), to supervise the collection of guano. 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 Pearson Island, Shark Bay. However, since 1902 a breeding colony has become established at Peel Inlet, Mannara.

Fourteen species of terns are recorded for the northern parts of the State and three more for the Kimberley Interior. Three of the seventeen are migrants from the Northern Hemisphere and frequent visitors of the Fremantle Fronton. Turn (*Sterna bergii*) and the Arctic Tern (*S. bergii*), common, nested in northern Europe, have been recorded near Fremantle. These birds must have reached our coast via the Cape of Good Hope. The Silver Gull (*Larus argentatus*) is noteworthy for having two breeding seasons in the northern 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, plovers, and phalaropes) 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 very 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 75. Some 75 species of these birds, commonly called "snipe" (though the true Snipe of eastern Australia *Gallinago australis*, does not occur in this State) frequent the Western Australian. In addition there are 16 species of this Order which breed in Australia. One of them, the Red-capped Plover (*Charadrius melanotos*), 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 Red-tipped Stilts (*Chilidactylus melanoleucus*), which is an attractive object to the sight of Red-tipped Stilts. However, it is only for the inland stilts. The nesting habits remained long unknown until colonies were discovered at Lake Grace and Lake King in 1930.

The Australian Bushard or Wild Duck, *Egypthya australis*, is a magnificent bird which has been largely exterminated by shooting 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 estuary quite near Perth. It has recently been demonstrated by ringing that the State marked this ranges between south western Australia and northern and eastern Australia. Being large marked in the nests at Marden mark later taken taken in the North West, the Kimberley Downs, Arnhem Land and near Orange (New South Wales).

The Branta-Gos subvanda 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 1902. In the period before a few birds have been added to the State list—the Cattle Egret (*Ardeotis ibis*), which appears to have colonized southern Australia from Indonesia and has now spread over much of eastern and Western Australia.

There are 18 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 widely in many of our rivers, its movements being influenced by availability of surface waters.

The State is also well provided with hawks and eagles, 24 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 as vermin for the destruction of which a bonus is payable under the provisions of the Agriculture Protection Board Act.

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 (*Paraperoopsitta australis*), is restricted to the South West and has no near relatives elsewhere. The Twenty-eight Parrot is a form of the Port Lincoln Parrot (*Seraphicus magnirostris*) 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, 1867. A similar species, however, the Blue-winged Kookaburra (*D. leachii*) occurs in the north, as far south as the Wooramel River. The Rainbow bird (*Merope ornatus*) in the south is a strict migrant arriving regularly in the first week in December. Local birds migrate to the north of the State, the wintering area being from the Gascoyne River northwards, but some individuals cross the Indian Sea to the Indonesian islands. There are seven cuckoo species in our area, the commonest being the Pallid Cuckoo (*Cuculus pallidus*) whose plaintive monotonous 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-lark (*Atrichornis chloris*)—a primitive almost flightless bird which until recently was believed to be the only Australian lark which had become extinct since its settlement. The last specimen was collected by the ornithologist A. J. Campbell at Torbay in 1898, but late in 1961 a surviving population was discovered at Two Peoples Bay west 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 whom 93 occur in the southern, settled parts and at least 33 are found in King's Park. A distinctive robin, the White-breasted Robin (*Eopsaltria australis*), 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 southwards and west to Albany and the Perseus range. The Western Warbler (*Gerygone olivacea*) is a sweet-voiced singer 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 Herbsaint 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 lewinsoniae*), in the coastal dune scrubs, and the Causeway and Pelican Point samphire-birds, and the Variegated Wren (*Malurus lewinsoniae*) 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 confined to the Kimberley Division, where ten species are found. However, one of them, the widespread Zebra Finch (*Taeniopygia bichenovici*), breeds as near to Perth as Northam and York. Two bowerbirds occur in the State. The Great Bower-bird (*Chlamyschus nubilus*) is confined to the Kimberley Division, but the Spotted Bower-bird (*C. maculatus*) is found in the North West and ranges south to the East Murchison country and Mulka 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 turtle-doves 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 escapee, the Red-browed Finch (*Aegintha temporalis*), an eastern Australian species, has established itself east of Kalbarri in the Darling Range near Perth. The Indian or Ceylon Crow (*Corvus splendens*) reputedly 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

utilization of the unwanted immigrants. The House Sparrow (*Passer domesticus*) has been singularly kept at bay at Fremantle. This species did, however, make a temporary colonisation, from South Australia, in the vicinity of Koolah and Mandurah in 1917 but it failed to make any headway and disappeared from that sector.

Reptiles

In Western Australia the reptiles are represented by three major ecological groups or Orders. These are the Chelonia (four aquatic species of turtles and six of freshwater tortoises), Crocodilia (two of crocodiles) and the Squamata (62 species of snakes and 150 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 species of the South West, *Chelonia oblonga*, also occurs in the Kimberley but not in between. The common species of eastern and central Australia, *Emydura macquarii*, occurs in the Kimberley Division as a slightly more globose form which has been called *Emydura australis*. The river systems from the Irwin, in the Northern Agricultural Division to the De Grey in the northern Pilbara, have their own tortoise (*Chelonia mandchuriana*), while a highly specialized short-necked tortoise (*Pseudemys ambigua*) is apparently confined to a few square miles of winter swamps between Upper Swan and Bullsbrook in the north of Perth. Because of its vulnerability to extinction this last species is rigidly protected.

Marine chelivians 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, but no permanent industry has been successfully established.

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*). The former is protected by law, while the latter forms the basis of a lucrative trade in hides. Both species are confined to northern parts of the State.

Snakes and lizards are common and widespread throughout the State, and in numbers of thousands individuals they are probably surpassed among the vertebrates only by the birds. In the South West, Bobtails (*Tachyglossus lineatus*) can often be seen crossing the roads at most times of the year, while the walker among coasts and dunes on warm days cannot avoid noticing innumerable small dragon lizards when moving 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 Bungarra (*Varanus giganteus*) replaces it in size. A few species are confined to the South West and of these the most interesting are Mueller's Snake (*Rhynchophis phasma lineari*), the Latite Brown Snake (*Elapsocephalus scutellatus*), the Black Striped Snake (*Pseudonaja textilis*) and the Slender Snake Lizard (*Crotaphytus wislizeni*) which is also one of our rarest species of lizard. An *Elysius* species which never ceases to surprise the visitor is the terrible-looking Mountain Devil (*Moloch horreorum*). This lizard is actually one of the most gentle and inoffensive 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 scutellatus*), the Dugite (*Demansia affinis*), the Canebrake (*D. maculata*), the Death Adders (*Acanophis antarcticus* and *A. pyrrhus*) and the Mulga Snake (*Pseudochis australis*).

The snakes and lizards are well described in Blaxter'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 observed, 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

lizards, e.g. the Pecked Lizard (*Macropodactylus* *laxus*), though being commonly illustrated in journals because of their bizarre appearance, have become familiar to the public.

Amphibia⁽¹⁾

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

The frogs of Western Australia fall into the same grouping (Bassal, Eyzian and Toxostoma) 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, *Myobatrachus* and *Myobatrachia*, 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 so exceedingly dry it is of interest to note that frogs are common in these arid regions. These species of *Myobatrachus* which occupy marginal-desert habitats overcome drought conditions by burrowing into the damp sub-soil. However, the arid country species of *Myobatrachus* 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 *Bufo* species, but they do display an exceptional capacity for rapid replacement of water when water is present, as for example after thunder storms. The water-holding frog, *Cyclorana watsoni*, 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 having aquatic larval development occur in the wetter South West: these are *Myobatrachus* *pyralis*, *Myobatrachus* *minckleyi* and *Craugastor*. *Myobatrachus* *pyralis* is the only species which exhibits any strong diurnal preference and lays only terrestrial (terrestrial) eggs.

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 brownwater catfish ("cobbler"), are diminutive in size. Most of the species are representatives of eastern Australian genera, such as the Pigeon Perch (*Macropodus* *altivelis*), Mountain Trout (*Gularius* *protuberus*), Black-striped Minnow (*G.* *parvulus*), and the Native Minnow (*G.* *grammelius*). Others are more distinctive, with no near relatives in eastern Australia, such as the Nhillfish (*Bostolus* *peronii*), the King River Perch (*Duxnothermus* *belloni*) and the newly described, scaled galaxias (*Lepidogalaxias* *micromaculatus*). There are several colonies (*Channa* *argus* and *Macropodus* *obscurus*) and Hardyheads (including *Stethacanthus* *stentus*, *A.* *perchophagus* *rosei*, *A.* *elongatus* and *Channophryne* *canonius*). A lamprey (*Geotria* *australis*) ascends the rivers to breed and has been recorded north to the brown river system, but is more abundant in the streams emptying in the south coast. An eel (*Anguilla* *australas*) 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 (*Macropodus* *maculatus*), a useful food fish which ascends all rivers south to the Murchison. A large codfish (*Acanthaluteres*) reaching 5 lb. in weight, ascends to the upper reaches south to the Fortescue. The Rainbow Fish (*Mimaster* *viridis*), popular with aquarists, occurs in the river systems of the Pilbara and the Kimberley. The remarkable Blind Codgion (*Macropodus* *obscurus*), a blind eel (*Channophryne* *canonius*) and blind eel (*Channophryne* *canonius*) occur in wells and subterranean channels in the North West Cape area. The Kimberley-Darwin has no large variety of freshwater fishes. These include a catfish (*Macropodus* *maculatus*), an ornamental fish (*Mimaster*), various perch-like fishes (*Theraps*, *Stethacanthus*), Codgions (*Channophryne*) and two freshwater sea-fishes (*Perca* *fluviatilis* and *Pholis* *pholis*). There is also a freshwater eel (*Anguilla* *australas*) in these far northern waters.

Marine Fishes⁽²⁾

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 is a temperate one which includes many elements peculiar to Australian waters. The most up to date list of the species of Western Australian

(1) Written in collaboration with Dr. A. B. Muir.

(2) Contributed by Dr. G. F. Meis.

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 two thousand.

From this it can be seen that there is much to be learnt about the 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 Heintzman Abolhos.

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 *Chondrosteichthys* (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 (*Chelodactylus*), which can be caught in the Swan River as far upstream as the Cammeray. Its specific identity has not yet been established beyond doubt, but it is probably widely distributed. The foregoing species are regarded as harmless to man; of the dangerous species, the Grey Nurse (*Carcharias armatus*) is perhaps the best known. Three fatalities from shark attack have been recorded for Western Australia (in 1803, 1923 and 1926) 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 sagax*), will in future probably become of economic importance. The rather similar looking *Sardinops sagax* *poeysoni* seems to be confined to Western Australia. The State is particularly rich in sea-horses and pipe-fishes, there being some 25 species. The most familiar of these is perhaps the leafy sea horse (*Phyllopteryx foliaceus*) which is often found on the beaches after storms. The so-called Sand Shark or Rat Fish (*Chondrichthys* group), 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 (*Ophichthys 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 (*Myxodermus woodwardi*), found on rocky shores, yellowish green with a network of grey lines; and the Conger Eel (*Conger conger*), which normally is dark brown in colour.

Caracaras (*Hemiramphidae*) are common. Of them perhaps the Long Toms (*Brachypterus*), only *Belone punctatus* is common in the South-West the others being more tropical in distribution, though one of the northern species, *Belone argentea*, has been found as far south as Rottnest Island.

Silversides and hardheads (*Atherinidae*) are well represented and so are mullets (*Muridae*). Some representatives of these groups have been mentioned in the preceding section, where deals with fresh-water fishes.

The Goulet Serranidae, known as gropers, rock cod, etc., are well represented by nearly thirty species. The best known is the North-west Grouper (*Epinephelus lewisii*) which attains a length of more than seven feet. Most species have a very wide, mainly tropical, distribution, but *Epinephelus caudatus* 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.



RED KANGAROO
Megaleia rufa

Some small families, like the Australian bellows (Ampulidae), Whiting (Sillaginidae) and snappers (Sparidae) are of great economic importance, though there are only a few species. On the other hand the Sillaginids (Sillaginidae) 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 also subject to be Northern snappers and should not be confused with the Southern Snapper (*Chromophrys unicolor*) which belongs to the Sparidae.

Coral fishes (Pomacentridae) are well represented, mostly along with the tropics, but a number of species come down to the Alcock Islands, and some even west to Perth. Most species have a very wide distribution in the Indo Pacific, but some, like *Pomacentrus* species, are not 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 scaled mackerel and swordfishes, well known for supplying fishmeal, also occur in the State waters.

Flatfishes (Pleuronectidae) occur in a great variety of species, and the same can be said of Parrot fishes and Wrasse (Scaridae and Labridae). All these groups are as yet very inadequately known.

The surgeonfish and damselfish are several bottom fishes that deserve mention because of their unusual shape. One, *Acanthurus lineatus*, occurs off the north west coast and also in South Australia, and is regularly caught by anglers. Another species, *Acanthurus lineatus*, a common fish of the south west coast from Fremantle to near Bay, seems to be confined to Western Australia. The dragonets (Gobionidae), of which some species have been introduced, are small, but their pretty appearance attracts attention, and one species, *Gobionella* species, which is distributed in the Indo Pacific, is regularly found on sandy beaches as far south as Rockingham.

Blennies (Blennidae), woodfish (Ogilbyidae), and gobies (Gobiidae) are small fishes of which there are many species. Minnows are most plentiful in freshwaters and on reefs in the tropics, while gobies are also found on sandy bottoms.

There are some twenty species of Surgefish known from the State, the most common of which are *Surfscia* species in the north, and the small *Surfscia* species 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 *Syngnathidae*, the least known fish, three species are known from the State, one of which, *Leuresthes*, is apparently restricted to the North West and is known from but two specimens. A related species occurs in Queensland and Japan.

Parrotfish (Pomacentridae) are common in the temperate part of the State.

An interesting family is that of the snapper fishes or head fishes (Acanthuridae). Their curious shape with the big hair pointed fins does not fail to cause interest. There are about a dozen species, two of which are endemic to the State. One of these is *Echinophrys* species, which is occasionally found washed up on the beach.

Loachfishes (Moraenidae) are a large group distinguished by the rough scaly skin and a single large eye on the spine on the nose. Some species, like *Chasmodes* species, are common and of economic importance.

Of the blowfish family, the common Blowie (Puffers) (*Spherozetes* species) needs special mention; it is extremely plentiful off the coast of Fremantle and in the Swan River Estuary. It is poisonous to eat and is greatly disliked by anglers who find that it greatly takes their bait. Fishes of this family contain a poisonous substance called Tetrodotoxin and the celebrated incident (captured James Cook was very ill after eating a blowfish) in the house of a voyage in the Pacific in 1771. Box fishes (Ostracodidae) and porcupine fishes (Diodontidae) are related groups, each represented by a number of species.

Further information about the commercial fishes in Western Australia which is given in the Fisheries section of Chapter VIII, Part I—Primary Production.

THE INVERTEBRATE FAUNA

The invertebrate fauna of Western Australia is large and varied, as one would expect in a State of a continent which extends from temperate to tropical zones and includes both coastal and desert areas.

Rather than spread out descriptions too thin over the 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 mytilus (*Panostoma* spp.) which supports an extensive export fishery. Other commercially important include several species of octopus and squid, the Blue Swimming Crab (*Blue Mania*), *Portunus* pelagicus and several species of prawns. Pearls-shell is fairly extensively fished along the south west coast.

A summary of the terrestrial and freshwater invertebrate fauna and their distribution is given in *Marine Guide for Naturalists* (1934).

Echinodermata (%)

The echinoderms of Western Australia have been shown by Clark (1930) to be derived from the Indo-Malayan fauna. Most species of both the Australia and Sunda groups distributed in the Indian Ocean and Malayan Archipelago, while as one passes southwards 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 (Crinoids), sea stars (Asteridea), brittle stars (Ptycheroidea), sea urchins (Echinoidea) and sea cucumbers (Holotheroidea) are well represented. Light 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 endemia* which is widely distributed in the Southern Hemisphere. Sea urchins are represented by about twelve common species, the rocks shores the most abundant of these is *Helioscandra erythrogramma* which has a southern Australian distribution.

In Cockburn Sound, between Garden Island and the mainland south of Fremantle, an abundant but specialized echinoderm fauna exists. This consists mainly of the small sea urchin *Tremasterias madras*, the heart urchin (*Parasella lemane*), the heart urchin (*Echinocardium cordatum*) and the sea star (*Stellaster eurypranus*). On the north coast, King George Sound has long been known as a rich collecting ground for echinoderms, but the fauna of other bays and inlets is about less well known.

Little is known of the echinoderm fauna of the northern coast, and apart at that we do know comes from the publications of H. L. Clark (see bibliography) of the end of the Earth 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.

Mollusca (%)

The molluscan fauna of the Western Australian coastline has not been recently catalogued, but from the specimens in the collection of Fremantle 150 species of bivalves (Pelecypoda) and about 100 gastropods (Gastropoda) are recorded. The smaller groups, chitons (Chitons), octopus and cuttlefish (Cephalopoda), and nautilus shells (Nautilus), are also represented.

Molluscs dominate the intertidal rocks of the west coast, especially chitons, periwinkles, and limpets. The limpets range from the very large *Patellina lamellosa* to the small *Nannasteria emulata*. On the north western coast, sea urchins (*Saxostoma suberulata*) and barnacles take the place of limpets intertidally. The urchins 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 one of the most valuable sources of the open western coast. The pearl shell fishery of north west Australia is based on several species, mainly the Barbed-pearl shell (*Pandora margaritifera*) and the Silver-pearl (*P. marmorata*). The Shark Bay Pearl shell (*P. apiculata*) was a abundant in Shark Bay and has been fished there extensively.

Many species of cover shells occur on the rocky shores of the north west coast while a few species such as *Zeda frunda* and *Asarocyprea reesi* are confined to the south western corner of the State.

Coelenterata ⁽⁶⁾

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*, the small "sea-wasp", occurs on the open coast.

Crustacea ⁽⁷⁾

The most important commercial species of crustacean in Western Australian marine waters is the "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 *Jaes lalandii*, which is the commercial species of crayfish in south-eastern Australia, but it is not of economic importance in this State.

The Swan River Prawn or School Prawn (*Metapenaeus dalli*) occurs on the west coast of this State and extends into Indonesian waters. In Exmouth Gulf and in Shark Bay two species of tropical prawns are caught commercially. These are the Tiger Prawn (*Penaeus esculentus*) and the Banana Prawn (*Penaeus merguianus*). The Western King Prawn of the south is *P. latissulcatus*.

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 (*Lepidograpsus variegatus*) and the Ghost Crab (*Ocypode pygoides*). The Rock Crab scrambles among rocks and jetty piles of the west and south coasts, whereas the Ghost Crab digs near-vertical 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 ⁽⁸⁾

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.

(6) Written in collaboration with Dr. E. P. Hodgkin and Mrs. L. Marsh.

(7) Written in collaboration with Dr. R. W. George.

(8) Written in collaboration with Dr. B. Y. Main.

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

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CHAPTER II — continued

PART 5—ENTOMOLOGY IN WESTERN AUSTRALIA

WITH PARTICULAR REFERENCE TO AGRICULTURE

Compiled by

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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 effect on major agricultural industries have been outlined, and some of the more outstanding forms of general interest have been mentioned. A brief description of some effects of the use of insecticides in the metropolitan area in recent years is also given.

CLASS INSECTA (Insects)

Order Collembola (Springtails)

The Springtails include the *Loricaria* Flax (*Scutellaria* *torrida*) which was introduced into this State from eastern Australia in about 1910. It has spread to almost all the sown growing areas in the South-West and is a very serious pasture pest. Partial control is exercised by a predatory mite, *Ravennus bipedatus*.

Order Odonata (Dragonflies and Damselflies)

These insects are predaceous in both the immature and adult stages and are usually regarded as beneficial creatures. However, they sometimes injure vegetable seedlings by expelling them into furrow irrigated crops. This has occurred mainly in California where surface water is scarce and where irrigated plants are probably 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 live in highly saline waters and to take advantage of ephemeral inland pools.

Order Orthoptera (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 locust Plague Grasshopper (*Anacrida* *crucians*). The normal habitat of this species lies roughly between the 10 in. and the 15 in. isohyets. For breeding it favours hard-bare soil and as extensive areas once utilized 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 not as a plague species. In the Kimberley the Yellow-winged Locust (*Saccharicarpus* *minutus*), the Migratory Locust (*Locusta migratoria*) and the Spur-throated Locust (*Austroicaria guttata*) assume plague proportions, but in the southern agricultural districts they occur in the solitary phase only. The Praying Mantids (*Mantodea*) are represented by many different species. Their well-developed forelimbs are admirably adapted for catching prey and, like their foliage feeding relatives the Phasmids or leaf insects (*Phasmodidae*), their colouring harmonizes 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 cosmopolitan pest species is the cosmopolitan American Cockroach (*Periplaneta americana*). Some large and quite colourful forms occur in the inland regions with the genus *Polyestera* well represented.

Order Isoptera (Termites)

The so called White Ant is a serious pest to all parts of the State. Earth dwelling types occur mainly, and among the most important species may be cited the large *Macrotermes darwiniensis* of the north and the widely distributed *Coptotermes acaciiformis*. The large mounds of the grass-eating *Macrotermes* mounds are characteristic of certain localities in the pastoral areas. Heavy annual losses are caused by termite damage and the use of such chemicals as Dieldrin, Aldrin, Chlordane and Cyroseth is recommended for the protection of timber structures.

Order Anisoptera (Lace)

Indigenous species occur on birds and native mammals, and various introduced forms affect 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 *Paropis insignis* which may occur in apple blossoms and seriously affect the crop setting.

Paropis minor, often called the Tobacco or Onion Thrips, is a vector for the plant disease Spotted Wilt. Severe damage to tomato plants may result from this virus.

Order Hemiptera (Pugs, Aphs, Scale Insects)

This group contains a large number of pest species, many of them introduced. A serious vegetable pest is the Green Bug (*Neumia viridula*) which is partially controlled by an introduced wasp parasite, *Microphasma australis*. The native Rutherglen Bug (*Nysius vinosus*) 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 (*Mecurus profligator*), so named because of the light-colored St. Andrew's cross on the back of the adult, feeds normally on flowers and other native plants, but it frequently invades cultivated areas and it may be troublesome to young citrus.

One native aphid (*Homalaphis campocis*) has been recorded. The only two districts from which it has as far now collected are Albany and Karriale where it has been found infesting native peppermint (*Agonis flexosa*). A point of interest about these occurrences is that the aphid seems associated with a heavy Argentine Ant infestation in the area. Since the control of the Ant's following Dieldrin spraying, no further signs have been discovered.

Numerous introduced species occur as pests on vegetables, garden plants and fruit trees, e.g. *Myndus persici* (peaches, potatoes, etc.), *Toxoptera auranti* (citrus), *Brevicoryne brassicae* (cabbages, cress, flowers, etc.), *Brachycaudus longirostris* (Woody Aphid of apples). A recent record which may prove of some importance is *Aphis chrysanthemi*. This pest's attack is that of a kind of "black death" which causes the leaves to shrivel and die.

Of the native insects the soft form members of the genus *Aphis* are among the most remarkable. The woody galls in which the female insects pass their lives 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 José Scale (*Aspidiotus perniciosus*), which is a serious pest of apples.
- Citrus Red Scale (*Aonidiella auranti*), found mainly on citrus but with a wide host range.
- Olive Scale (*Aspidiotus oleae*), found attacking citrus, stone fruits and garden shrubs.
- Wax Scale (*Aspidiotus destructor*), which is mainly a pest of citrus but which attacks many cultivated shrubs.
- Soft Brown Scale (*Coccus longicauda*), which has a wide host range but is of greatest importance on citrus.

Order Coleoptera (Beetles)

This order is the dominant one among existing insects and is represented in Western Australia by many and varied forms. The various ground beetles or *Psephenidae* are widely distributed, one of the best known species being the bright green Stink Beetle (*Psephenus solignus*).

The Tiger Beetles (*Cicindelidae*) are of interest not only because of the metallic coloration seen in many forms but because of their association with the inland salt lakes. The larvae are carnivorous 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 aphides. Among the best known of the introduced species are *Cryptolaemus montrouzieri* and *Leis confusus*. The larvae of *Cryptolaemus* are covered with a whitish material which makes the insect superficially resemble the Mealy Bugs upon which it feeds. *Leis confusus* in conjunction with the wasp parasite *Aphidius mali* plays an important role in combating the Woolly Aphis of apple trees. Destructive leaf-eating Ladybirds belonging to the genus *Epidachna* were until recently found only in the northern parts of the State where they attack vegetation, especially grasses and sedges. In 1930, specimens of *Epidachna* 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 mulberry and sand plain flora. One of the commonest is the metal green *Stenomacrus griseus*, and one of the largest is *Dulobocarpa fulvirella*, measuring almost three inches in length. Although the beetle larvae are wood borers, closely resembling the "borers" in appearance and habits, they are of little economic importance.

The Cockchafer 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 brodia-coloured *Coleomegilla brevis* is a common pest of apple trees during the blooming period and the Saddle-banded Beetle (*Phyllotrox ustulatus*) sometimes visits citrus blossoms in large numbers. An introduced species commonly known as the Black Beetle (*Heteronychia senilis-labialis*) 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 pest of vegetation in some areas. A native species *Colpachidius* sp. has recently caused damage to cereal crops and clover pastures and is apparently increasing in certain clover districts in the southern portions of the State.

The Longhorn 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 "borer", not 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. aeneola* 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 cases the picture is obscure due to the extensive use of chemical sprays.

A common pest species in eastern Australia is the Pumpkin Beetle, *Aulacophora ulmariae*. This beetle is found in the north of the State but does not extend into the cooler districts.

The Weevils (Curculionidae) are a very specialized group characterized by the possession of a rostrum or "snout" which bears the mouth and antennae. The genus *Brachyodes* (*Lophus*) contains a number of large greyish weevils, many of which breed in association with Acacia. One of the best known members of the family is *Chionoceros 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*) now occurs.

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 unusual silk pots and are commonly known as Ant Lions. Amongst the most remarkable of the laral lacewings are two members of the family Neomepterae in which the hind wings are greatly modified. In the genus *Cross* they are long and thread-like and in the Spoon-winged Lacewing (*Clerocnema* spp.) they are spoon-shaped or paddle-shaped.

Order Diptera (Flies)

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 Domestic Mosquito (*Culex fatigans*) and the Yellow-fever Mosquito (*Aedes aegypti*). The latter species is the carrier for Gange 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 minimusculas*, have played an important part in the spread of the rabbit virus *Mycxomatosa*.

Of the introduced flies, those causing most trouble are the Australian Sheep Blowfly (*Lucilia cupressi*) and the Tasmanian Fly (*Chrysia tapinidis*). The Buffalo Fly (*Stomoxys calcitrans*) is a serious stock pest in the Kimberley Division of the State, but as 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 sarfens*). Despite its common occurrence and extremely wide range, the natural breeding habits of the latter fly are not known.

Modern insecticides such as DDT, Dieldrin and the various organic phosphates have outstanding control of numerous 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 kides operation and crutching in the case of the sheep blowfly.

The March flies (*Tobiasia*) 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 parasitize caterpillars, grasshoppers and other pests and the Bee Flies (*Bombilidae*) which parasitize the eggs of other insects. The maggots of the Bombyliid Fly (*Eristalisia flavicollaris*) are commonly found in the gut parts of the Small Purple Grasshopper (*Chorthippus curvipes*).

Order Siphonaptera (Flies)

A number of introduced as well as native flies occur in this State. *Exochophaga ingensensis*, found originally on native mammals, is a very common parasite of rabbits in the drier parts of the State. The Fox Tick-like Flea (*E. vellianus*) closely resembles the former species but is mainly a pest of poultry and domestic animals. The Rat Flea (*Xenopsylla cheopis*), the Human Flea (*Pulex irritans*) and the Cat and Dog Flea (*Ctenocephalides felis* and *C. canis*) are among the most important introduced species.

Order Lepidoptera (Moths, Butterflies, etc.)

The primitive Swift Moths (Hepalidae) 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 *Charaxes* occur in the lower South West.

A group of small native moths belonging to the family *Ctenodidae* and commonly known as Webworm Moths (*Tortrix peridomus*, *T. pastoreti*, etc.) is a serious pest of cereal crops (especially oats) and rice pastures. Depredations are continued 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 Eucosmidae, 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 the insect 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.

One of the best represented families is the Tortricidae (Caterpillars) which contains several important pests. Included under this heading are the Climbing Caterpillars (*Heliothis postigera*), the Cabbage Caterpillars (*Agrotis noxia*) and the Army Worm (*Pseudaletia cingulata*). One of the most remarkable members of the group is the Whirling Moth (*Plutella maculipennis*). The male of this species is seldom or not observed and makes a loud, jerking noise during its few circling flights. The Fruit Sucking Moth (*Homocidus ruficornis*) 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 caterpillars are regarded as pests it is only the caterpillar stage which is destructive. The Fruit Sucking Moth, however, has a butterfly-like prothorax capable of piercing oranges and citrus slices and then sucking up the juice. Fortunately the caterpillars do not normally range to the citrus areas of the South West.

Other common moth pests are the Cabbage Moth (*Plutella maculipennis*), the Potato Moth (*Gnortia macleodensis apicalis*), and the Apple Looper (*Chlorocystis latiorata*).

The beautiful *Carissus autumnoides* 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 *Hypolimnys bolina sericea* are quite colourful but the State has nothing to compare with the conspicuous and beautiful species found in the tropics of eastern Australia.

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

The Skippers (Hesperiidae) are relatively dark-coloured butterflies with strong powers of flight. Over 30 species are recorded from the State and many forms are endemic to the South-West.

Only one butterfly is of economic importance and that is the introduced Small Cabbage White (*Pieris rapae*) which reached this State in 1943. It attacks cabbage, cauliflowers and related plants as well as one or two other strong tasting herbs such as *saturnia*. 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 Cape White (*Aspropis* sp.) has been observed to carry out long migrations of remarkable proportions on the eastern side of the continent.

Order Hymenoptera (Bees, Wasps, Ants)

The Saw Flies (Tenthredinidae) are represented locally by a number of native forms. The larvae of the genus *Pezomachus* may often be seen in caterpillar-like clusters amongst the foliage of eucalypts. An introduced Saw Fly (*Caligus lineator*) is a common pest on pear and plum trees. The smaller parasitic wasps (Ichneumonidae) and Chalcids and their allies are well represented and play an important role in eliminating many insect pests. Some attack caterpillars, some aphids and scale insects and others coat eggs, so that without them 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 destructor*) which often nests on gravel paths and road sides. Among the most remarkable of the local ants may be listed *Crematogaster inferna*, the Honey-pot Ant of the interior, and *Myrmecodia regularis* of the karri forest area which has the frog *Metaxaphys 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. A five year control scheme against the Ant, with provision for an annual expenditure of £105,000 per annum was inaugurated in 1954. The scheme involved the spraying with Dieldrin of all known infested areas, which were originally estimated to cover approximately 25,000 acres. During the course of the campaign further outbreaks were discovered, giving an estimated total of 45,000 acres and, in consequence, a year's extension of the campaign was authorized by Parliament. As a result of this a total of over 44,000 acres have been sprayed and the Ant menace has been removed from the city and suburbs and most country districts. However, an area of almost impenetrable swamp country north of Perth still harbours the Ants. To prevent spread from this area and to deal with any successful or later introductions, a 'containment scheme' financed from Consolidated Revenue was appointed. Approximately 4,000 acres consisting of swamps and open infestations in metropolitan and country areas have been treated under this programme.

The Social Wasps (Vespidae) were, until recently, known only from the northern portion of the State. About 10 years ago, however, colonies of *Polistes aurigaster* were located in various parts of the suburban area and may have now extended to some of the orcharding districts in the Darling Range. How the introduction occurred is not known.

The Hymenoptera, including the Sand Wasps (Pompilidae), the Flower Wasps (Thynidae), the Hairy Flower Wasps (Scolidae) and Solitary Ants (Muralidae) 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 red spider (*Tetranychus urticae*) and the Bryobia mite (*Bryobia praetiosa*).

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 hasseltii*). This species, whose bite may even prove fatal, is easily recognized 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.

THE EFFECT OF PESTICIDES ON BENEFICIAL FORMS OF LIFE

Nature lovers and conservationists in many parts of the world are concerned at the ever-increasing use of pesticides and the detrimental effects that many of these chemicals may have upon a wide range of wildlife. The indiscriminate use of pesticides can have serious effects upon many forms of wildlife and also present a grave hazard to public health. Unfortunately, however, these dangers have often been overstressed and many of the incidents recorded to support the banning of chemicals for pest destruction have either been based on false premises or taken out of context.

The largest single pest-control programme ever undertaken in Western Australia involved the Argentine Ant (see section *Order Hymenoptera* earlier in this Chapter). Thousands of gallons of Dieldrin have been used to treat infestations in many parts of south-west Australia. The view has been widely expressed that the removal of the Argentine Ant from large sections of the Perth metropolitan area has been responsible for a great increase in many household garden pests, and particularly house flies. There is no doubt that, like most ants, the Argentine Ant is a scavenger and that consequently it would remove much material suitable for fly breeding and may devour some of the maggots themselves.

On the other hand, Dieldrin and Chlordane have been widely recommended for fly control and could be expected to reduce fly activity immediately after spraying. This actually occurred in many areas and although the house fly problem has been quite intense in recent years no valid evidence has been produced to link this fact with the campaign against the Argentine Ant.

As far as other pests are concerned, there is some evidence to suggest that certain caterpillars, spring-tails and perhaps cockroaches increased, possibly as a result of parasite destruction, but the picture was somewhat obscured by the fact that outbreaks were not always restricted to sprayed areas.

The reduction in certain insectivorous birds, particularly Willy Wagtails, was also alleged following the ant spraying but, although some deaths did occur where birds were noted to fly into the spray mist, the general bird population was not seriously affected.

Where heavy spraying was carried out in swamp country some water birds were unfortunately killed, and dead fowls, rats and snakes were also noted. Frogs suffered heavily, in both swamps and home gardens. The burrowing frog (*Hobomys agilis*), once common in metropolitan gardens, has diminished greatly in numbers, probably due to Argentine Aht spraying.

It was anticipated that some temporary upsets in the natural balance might follow large scale spraying of Dieldrin and Chlordane and indeed this matter was investigated during and after a preliminary experimental treatment at South Perth. Although the immediate results were in some cases quite spectacular, there was nothing to suggest that such upsets would be permanent, and in fact conditions in most areas have returned to normal except in regard to the frog population, which is re-establishing itself rather slowly.

In order to minimize the chance of future trouble from the use of dangerous chemicals, all pesticides must be registered under the Health Act. It is provided that very dangerous chemicals may be banned entirely, while others may be limited in concentration and made available to skilled operators only. Residue checks on foodstuffs and other sources of contamination are also undertaken.

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 50,000 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 writes: "A Glimpse of Western Australian Entomology."

Two short symposiums have also appeared in connection with recent conferences in this State. The Handbook and Review published for the 1976 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. Gilmer.

Readers interested in more technical matters are referred to Professor O. E. Nicholls' "The Composition and Biographical Relations of the Fauna of Western Australia" (*A.N.Z.A.S.*, Vol. XX, 1933, p. 93), the recent volumes of *Der Fauna Sydwest Australiens* by Michaelson and Hartmeyer, 1907-1930, and the report of the Swedish expedition under Dr. E. Nyberg.

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

Books covering the general aspects of Australian Entomology include—

- BABBITT, C. and BURNS, A. N. (1951)—*Birds of Australia and New Guinea*. N. H. Seward Pty. Ltd., Melbourne. 187 pp.
- McKEOWN, R. L. (1945)—*Australian Insects. An Introductory Handbook*. Published by R. L. S. of N.S.W., Sydney. 300 pp.
- MAIN, Barbara York (1964)—*Spiders of Australia*. Jacaranda Press, Brisbane. 174 pp.
- RIEB, Edgar (1963)—*Insects of Australia*. Jacaranda Press, Brisbane. 128 pp.
- TILLYARD, R. J. (1928)—*The Insects of Australia and New Guinea*. Angus and Robertson Ltd., Sydney. 260 pp.
- WATERHOUSE, G. A. (1937)—*What Nature is That—A Guide to the Butterflies of Australia*. Angus and Robertson Ltd., Sydney. 79 pp.
- WATSON, J. A. L. (1962)—*The Dragonflies (Zygoptera) of South-Western Australia*. Western Australian Naturalists' Club, Perth. 72 pp.

CHARACTERISTICS OF THE NATURAL REGIONS OF WESTERN AUSTRALIA

NATURAL REGION	TOPOGRAPHY	GEOLGYS	RAINFALL	WATER SUPPLY :	VEGETATION, ETC.
ANTHEM (geographical)	Tableland	Cambricn sediments and limest	Summer, occasional 20 in 10 days	Carbuncles, wells and springs	Grassland and savannah
NORTH KIMBERLEY (geographical)	Dissected stony table- land	Younger Proterozoic	Sulfuric, occasional 20 in 10 days	Shrubs, scrubs, water- wells	Likewise in the lower in the high
FITZROY (climatic)	Very wide valleys and low hills	Palaeozoic (largely Pro- terozoic)	Summer, occasional 20 in 10 days	Carbuncles and a number of wells	Grassland and savannah
CANNING (A. W. Crothers, ex- plorer and explorer)	Sand ridges and table- top hills	Palaeozoic and Mesozoic	Summer, 15 in or less	Shrubs, pools, water- wells, undeveloped	"Savanna" species of shrubs
YARNKING (A. W. Crothers, ex- plorer)	Sand ridges and table- top hills	"Tertiary" sandstone and younger Proterozoic	Variable and unreliable, probably about 5 in	Carbuncles	"Savanna" and shrubs
WARBURTON (H. B. Harrison, Range)	Hill (some over 3,000 feet) separated by sandy outcrops	Older Proterozoic	Variable and unreliable, perhaps about 10 in Probably better than Geraldton Range (10 in to 15 in)	Carbuncles, some springs	"Mallee" species of shrubs and Savanna
NORTH-WEST (Common name)	Rolling hills and rivers in wide valleys	Younger and older Pro- terozoic, many some micaceous	Variable, unreliable, 10 in or less	Wells, carbuncles, pools	"Savanna" low shrubs and trees
MURCHISON (Common name)	Rolling hills and broad valleys, rivers in small low basins, wide lakes	Older Proterozoic Kimmeridgian in partially gold	Summer or winter un- reliable, 15 in or less	Wells, possible ground water	"Mallee" species of shrubs except along rivers

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 met for the first time in February, 1832. The Council was non-elective and consisted of the Governor and four major officials. In 1859, membership was increased to nine when the Governor nominated four additional members. Additional appointments were made from time to time until the dissolution of the non-elector Legislative Council in 1879 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 this privilege from Western Australia until such time as the Colony should be able to defray all costs of government from its own resources, and it was not until 1878 that it was felt that Western Australia was able to satisfy this condition. The new Legislative Council, elected by which took place in October of that year, consisted of twelve elected members, three nominated and three officials. The number of members of the Council was increased to 15 in 1878 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, five nominated and four officials.

Following the passage by the Legislative Council of a Constitution Act in 1890 and independent representations made in London by delegates sent from the Colony, responsible government was granted to Western Australia by an Imperial Act passed by the British Parliament on the 19th 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 the 1st October 1890 and election of the twenty 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 the 30th December, 1890. The Constitution Act of 1890, while providing a Council which was originally non-elector, 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 1903 and an amendment to the Act of that year did the election of 11 members to the Legislative Council, and at the same time increased the Legislative Assembly to 33 members. By an amendment of 1899, membership of the Legislative Council was raised to 20 and of the Legislative Assembly to 40 and no change in these numbers has since been made.

On the 1st 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 8 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 taken on British practice. The legislative instrument of the Sovereign, represented by the Governor General of Australia as the representative 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 Cabinet must hold office 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. As Cabinet Ministers are members of the Executive Council, the supreme group of officials to the Governor, and the Cabinet thus provides the executive government of the Commonwealth in 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



GOVERNOR STIRLING'S COMMISSION

Part of the Commission dated 4th March, 1831 appointing Captain James Stirling, R.N., formerly Lieutenant-Governor, to be the first Governor and Commander-in-Chief of Western Australia. The complete document consists of three pages of parchment, each measuring 31 inches by 25 inches, and is now in the J. S. Battye Library of West Australian History. The full text is reproduced in the *Appendix* appearing at the back of the Year Book.

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 Constitution Clause 64 of the Executive the Right Honourable Baron Casey, P.C., G.C.M.G., G.B., D.S.O., M.B., E.D., who was sworn in on the 22nd September, 1965. During the absence from Australia of the Governor-General, it usual for one 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 that capacity. 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. The present Lieutenant Governor is the Honourable Sir John Patrick Dwyer, K.C.M.G. If there is no Lieutenant Governor, it is customary for the Chief Justice 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 the 29th June, 1960 and the first Governor of the State was Captain Sir Arthur Lawley, K.C.M.G., who was sworn in on the 1st May, 1961. The names and dates of assumption of office of Governors, Lieutenant Governors and Administrators from that time are shown in the following list. The Honourable Sir John Dwyer, K.C.M.G. was commissioned as Lieutenant-Governor on the 8th April, 1962 and since that date has performed the functions of Administrator of the State during absence of the Governor.

GOVERNORS, LIEUTENANT GOVERNORS AND ADMINISTRATORS FROM 1961 to

Name and Office	Date of Assumption of Office
Captain Sir Arthur Lawley, K.C.M.G., Governor	1961—1st May
Sir Edward Stone, Administrator	1962—4th August
Admiral Sir Frederick Bedford, G.C.B., Governor	1963—24th March
Sir Edward Stone, Administrator	1969—23rd April
Sir Gerald Strickland, K.C.M.G., Governor	1969—21st May
Sir Edward Stone, Administrator	1973—4th March
Major-General Sir Harry Barron, K.C.M.G., G.V.O., Governor	1973—17th March
Sir Edward Stone, K.C.M.G., Administrator	1977—27th February
Hon. Sir William Rhison-Macartney, P.C., K.C.M.G., Governor	1977—9th April
Sir Francis Newdigate Newdigate, K.C.M.G., Governor	1979—9th April
Sir Robert McMillan, Administrator	1979—17th June
Colonel Sir William Campion, K.C.M.G., D.S.O., Governor	1979—28th October
Sir Robert McMillan, K.C.M.G., Lieutenant-Governor and Administrator	1979—7th January
Colonel Sir William Campion, K.C.M.G., D.S.O., Governor	1979—7th May
Sir John Northmore, K.C.M.G., Administrator	1981—4th June
Sir John Northmore, K.C.M.G., Lieutenant-Governor and Administrator	1982—30th June
Hon. Sir James Mitchell, K.C.M.G., Lieutenant-Governor	1982—16th July
Hon. Sir James Mitchell, G.C.M.G., Governor	1982—20th October
Hon. Sir John Dwyer, K.C.M.G., Administrator	1981—1st July
Hon. Albert Asher Wolf, Administrator	1981—7th August
Hon. Sir John Dwyer, K.C.M.G., Administrator	1981—28th August
Lieutenant-General Sir George Gardner, K.C.M.G., K.C.V.O., K.B.E., C.B., Governor	1981—6th November
Hon. Sir John Dwyer, K.C.M.G., Lieutenant-Governor and Administrator	1982—27th June
Major-General Sir Douglas Kendrew, K.C.M.G., C.B., C.B.E., D.S.O., Governor	1982—20th October

(a) The names of the successive holders of these offices in the Constitution of the Colony are shown on page 55 of the Official Year Book of Western Australia, 1987, Pt. 1—New Series.

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, naturalization 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 of 1948.

The Senate

The Senate consisted originally of 36 members, six Senators being returned from each State. The Parliament is authorized 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 preferential system of counting of votes in elections for the Senate was altered by the Commonwealth Electoral Act to one of proportional representation, a summarized description of which is given in the *Official Year Book of the Commonwealth of Australia*, No. 38, pages 82-83.

Members are elected on the basis of adult suffrage by the people of the State which they represent. Enrolment as an elector is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aboriginal natives, although entitled to enrol, are not required to do so. Voting is compulsory for all enrolled persons. 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 the 5th December, 1964. The Western Australian membership of the Senate before the election and as from the 1st July, 1965 is shown in the following table.

WESTERN AUSTRALIAN MEMBERS OF THE SENATE

Before Election of 5th December, 1964			From 1st July, 1965		
Name	Political Party	Due Date of Retirement	Name	Political Party	Due Date of Retirement
		30th June :			30th June :
Branson, G. H.	Lib.	1965	Branson, G. H.	Lib.	1971
Cant, H. G. J.	A.L.P.	1965	Cant, H. G. J.	A.L.P.	1971
Cooke, J. A.	A.L.P.	1965	Drake-Brockman, T. C., D.F.C.	C.P.	1971
Drake-Brockman, T. C., D.F.C.	C.P.	1965	Scott, M. F.	Lib.	1971
Scott, M. F.	Lib.	1965	Wheeldon, J. M.	A.L.P.	1971
Paltridge, Hon. S. D.	Lib.	1968	Paltridge, Hon. S. D.	Lib.	1968
Prowse, E. W.	C.P.	1968	Prowse, E. W.	C.P.	1968
Sim, J. P.	Lib.	(a)	Sim, J. P.	Lib.	(a)
Tangney, Dorothy M.	A.L.P.	1968	Tangney, Dorothy M.	A.L.P.	1968
Willesee, D. R.	A.L.P.	1968	Willesee, D. R.	A.L.P.	1968

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

(a) Filling vacancy caused by death of Senator V. S. Vincent on 9th November, 1964; due to retire at time of next succeeding election for the Senate or the House of Representatives.

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 36 to 60 members, the membership of the House of Representatives was increased, from the date of the 1949 elections, from 74 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 the 30th June, 1954. At the same time, the total number of members of the House of Representatives was increased to 122, including 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. Enrolment as an elector is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aboriginal natives, although entitled to enrol, are not required to do so. Voting, which is on the preferential system, is compulsory for all enrolled persons.

Elections for the House of Representatives were held on the 30th November, 1963. The following table shows the Western Australian membership of the House before the election and at the 31st December, 1964.

WESTERN AUSTRALIAN MEMBERS OF THE HOUSE OF REPRESENTATIVES

Electorate	Before Election of 30th November, 1963		At 31st December, 1964	
	Name	Political Party	Name	Political Party
Canning	McNeill, Neil	Lib.	Hallett, J. M.	C.P.
Curtin	Hastack, Hon. P. M. C.	Lib.	Hastack, Hon. P. M. C.	Lib.
Swansea	Freeth, Hon. Gordon	Lib.	Freeth, Hon. Gordon	Lib.
Perth North	Beasley, K. E.	A.L.P.	Beasley, K. E.	A.L.P.
Kalgoorlie	Colford, P. W.	A.L.P.	Colford, P. W.	A.L.P.
Moore	Leslie, H. A.	C.P.	Maistry, D. W.	C.P.
Perth	Chaney, J. C., A.F.C.	Lib.	Chaney, Hon. J. C., A.F.C.	Lib.
Stirling	Webb, C. H.	A.L.P.	Webb, C. H.	A.L.P.
Swan	Cleaver, Richard	Lib.	Cleaver, Richard	Lib.

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

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 23 separate Ministries as shown in the following table. No organized political party existed in the Colony until the formation of a Labour party in the 1890's. 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—29th December	10	1	17
Throssell		1901—15th February	—	3	17
Isaacs		27th May	—	5	25
Morgan		21st November	—	1	2
Lowe	Labour	23rd December	—	4	8
James		1902—1st July	1	1	9
Daglish		1904—10th August	1	—	18
Ransom		1905—23th August	—	8	13
Mason	Liberal	1906—7th May	4	4	8
Wilson		1910—16th September	1	—	24
Swindan	Labour	1911—7th October	4	9	20
Wilson		1916—27th July	—	11	1
Lefroy	Liberal	1917—28th June	1	4	20
Colebatch		1919—17th April	—	1	—
Mitchell	Nat. and C.P. coalition	17th May	4	10	30
Gulbur		1924—18th April	6	—	8
Mitchell	Nat. and C.P. coalition	1930—24th April	2	—	—
Cyden		1933—24th April	3	1	27
Willcock	Labour	1936—20th August	6	11	11
Wise		1945—31st July	1	4	1
McLarty	L.C.L. and C.P. coalition	1947—1st April	5	10	21
HAMES		1953—23rd February	8	1	10
Brace	L.C.L. and C.P. coalition	1959—2nd April	Still in office		

C.P. = Country Party

L.C.L. = Liberal and Country League

Nat. = Nationalist

(a) No specific party designation.

The Constitution Act of 1899 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 Arts Amendment (Increase in Number of Ministers of the Government) Act, 1960. The present Ministry consists of twelve members, as authorised by the Constitution Arts Amendment Act, 1960. The names of the Ministers and the portfolios held by them are shown in the following list.

THE MINISTRY AS CONSTITUTED 12th AUGUST 1961

Name of Minister	Title of Office
Hon. David Brand, M.L.A.	Premier, Treasurer and Minister for Transport
Hon. Crawford David Nalder, M.L.A.	Deputy Premier and Minister for Agriculture and Electricity
Hon. Charles Walter Michael Court, O.B.E., M.L.A.	Minister for Industrial Development, Railways and the North West
Hon. Edgar Henry Mead Lewis, M.L.A.	Minister for Education and Native Welfare
Hon. Arthur Frederick Griffith, M.L.C.	Minister for Mines and Justice, and Leader of the Government in the Legislative Council
Hon. William Stewart Boyd, M.L.A.	Minister for Lands, Forests and Immigration
Hon. Ross Hutchinson, D.F.C., M.L.A.	Minister for Works and Water Supplies
Hon. Leslie Arthur Logan, M.L.C.	Minister for Local Government, Town Planning and Child Welfare
Hon. James Frederick Craig, M.L.A.	Chief Secretary and Minister for Police and Traffic
Hon. Desmond Henry O'Neil, M.L.A.	Minister for Housing and Labour
Hon. Raymond James O'Connor, M.L.A.	Minister for Transport
Hon. Graham Charles MacKinnon, M.L.C.	Minister for Health and Fisheries and Fauna

The right to vote at parliamentary elections was extended to women by the Constitution Acts Amendment Act of 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 Gungahy Cowan, C.H.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 of 1948, which came into operation on the 1st January, 1949.

The Legislative Council

The Legislative Council consists of thirty members.

The Constitution Acts Amendment Act (No. 2), 1963 provides for the division of the State into fifteen Electoral Provinces each returning two Members instead of, as formerly, ten Provinces each returning three Members. The term of office of a Member continues to be six years, and one half of the Members will retire every three years. The term of the ten Members who were due to retire in 1964 was extended to 1965. Of the ten Members who were due to retire in 1966, five were required to retire in 1965 and the term of the remaining five is extended to 1968. The fifteen Members elected in 1965 will hold office until 1971 and the fifteen to be elected in 1968, until 1974.

The Act provides further for amendments to the qualifications necessary for election as a Member of the Legislative Council. The minimum requirement relating to length of residence in Western Australia is reduced from two years to one year, and the minimum age, from 30 years to 21 years. As a result, the qualifications of a candidate for election to the Legislative Council are that he or she shall be at least 21 years of age, shall have resided in Western Australia for a minimum of one year, be a natural-born or naturalized 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 of 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 thus become identical with those necessary for election as a Member of the Legislative Assembly. By another provision of the Act, "the qualification of electors of members of the Legislative Council is that which is prescribed . . . as the qualification for members of members of the Legislative Assembly". The possession of certain property qualifications is thus no longer required for enrolment as an elector of the Legislative Council.

The Electoral Act, 1964 requires that to qualify for enrolment as an elector a person shall be at least 21 years of age, be a natural-born or naturalized British subject, and shall have lived in Western Australia for six months continuously and in the district for which he claims enrolment for a continuous period of three months immediately preceding the date of his claim. 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 (Commonwealth) or is a prohibited immigrant under that Act. Enrolment is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aboriginal natives, 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.

The Electoral Districts Act Amendment Act, 1963 provided for the appointment of Electoral Commissioners to make a redivision of the State into fifteen Electoral Provinces, instead of ten Provinces as formerly. The Act requires that the division be made on the basis of a Metropolitan Area; an Agricultural, Mining and Pastoral Area; and a North-West Area.

It is provided that each Electoral Province shall consist of complete and contiguous Electoral Districts as delineated for the purpose of representation in the Legislative Assembly. The fifty Electoral Districts in the State must be allocated among the several Areas, and Provinces within each Area, in the following way. The Metropolitan Area shall comprise five Provinces each containing at least four and not more than five Districts. The Agricultural, Mining and Pastoral Area, eight Provinces each containing three Districts. and the North West Area, two Provinces each containing two Districts. For the purposes of the Act, the Electoral District of Murchison is expressly excluded from the Agricultural, Mining and Pastoral Area and included in the North West Area.

The Electoral Districts Act, 1947-1963 provides that the Electoral Commissioners shall be the Chief Justice of Western Australia as Chairman, the Surveyor-General, and the Chief Electoral Officer. The Commissioners were appointed in terms of a Commission issued on the 5th March, 1964. The Chief Justice made a public announcement on the 20th March and published a map containing the Commissioners' tentative proposals for the redivision, at the same time inviting objections to the proposals or suggestions to vary them. After considering the objections and suggestions submitted, the Commissioners made their final report on the 20th May. This report, together with maps showing the tentative proposals and the final determinations of the Commissioners, was published in an issue of the *Government Gazette of Western Australia* dated the 29th May, 1964. The following list gives the names of the Electoral Provinces as finally determined, and the Electoral Districts contained within each Province.

ELECTORAL PROVINCES AND ELECTORAL DISTRICTS

Electoral Province	Component Electoral Districts	Electoral Province	Component Electoral Districts
METROPOLITAN AREA			
Metropolitan	Claremont Cottesloe Nedlands Perth Subiaco	South Metropolitan	Cockburn East Melville Fremantle Melville
North Metropolitan	Balcatta Karrinyup Mount Hawthorn Wembley	South-East Metropolitan	Beeloo Canning South Perth Victoria Park
North-East Metropolitan	Bayswater Belmont Maylands Mount Lawley Swan		
AGRICULTURAL, MINING AND PASTORAL AREA			
Central	Avon Mount Marshall Northam	South-East	Boulder-Eyre Kalgoorlie Merredin-Yilgarn
Lower Central	Collie Katanning Narrogin	South-West	Blackwood Vasse Warren
Lower West	Bunbury Murray Wellington	Upper West	Geraldton Greenough Moore
South	Albany Roe Stirling	West	Dale Darling Range Toodyay
NORTH-WEST AREA			
Lower North	Gascoyne Murchison	North	Kimberley Pilbara

A conjoint election for the Legislative Council and the Legislative Assembly took place on the 20th February, 1965. The Legislative Council election was held for the purpose of filling fifteen vacancies, ten of which were caused by the expiration of the extended term of office of Members normally due to retire in 1964, the remainder being due to the curtailment of the term of five of the ten Members normally due to retire in 1966. The following table shows the composition of the Legislative Council as a result of the election.

MEMBERS OF THE LEGISLATIVE COUNCIL FROM 2nd MAY, 1965 (a)

NAME	Political Party	Electoral Province
DUE TO RETIRE IN 1968 (a)		
Deven, Hon. L. C.	C.P.	Central
Dolan, Hon. John	A.L.P.	South-East Metropolitan
Heenan, Hon. E. M.	A.L.P.	Lower North
Jones, Hon. A. R.	C.P.	West
Logan, Hon. L. A.	C.P.	Upper West
MacKinnon, Hon. G. C.	L.C.L.	Lower West
Robinson, Hon. D. R.	L.C.L.	North Metropolitan
Strickland, Hon. H. C.	A.L.P.	North
Stubbs, Hon. B. 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
Watson, Hon. R. S.	L.C.L.	Metropolitan
Walters, Hon. W. F.	A.L.P.	North-East Metropolitan
Willmott, Hon. P. G.	L.C.L.	South-West

DUE TO RETIRE IN 1971 (a)

Abbey, Hon. C. R.	L.C.L.	West
Baxter, Hon. N. E. (a)	C.P.	Central
Brand, Hon. G. E. D. (a)	L.C.L.	Lower North
Ferry, Hon. V. J. (a)	L.C.L.	South West
Garrigan, Hon. J. J.	A.L.P.	South-East
Griffith, Hon. A. F.	L.C.L.	North Metropolitan
Griffiths, Hon. C. E. (a)	L.C.L.	South-East Metropolitan
Heitman, Hon. Jack	L.C.L.	Upper West
Husley, Hon. J. G., M.B., Ch.B., F.R.C.P., F.R.A.C.P.	L.C.L.	Metropolitan
House, Hon. E. C. (a)	C.P.	South
Hutchinson, Hon. Rufus F.	A.L.P.	North-East Metropolitan
Lavery, Hon. Y. R. B.	A.L.P.	South Metropolitan
McNeul, Hon. Ned (a)	L.C.L.	Lower West
Perry, Hon. T. O. (a)	C.P.	Lower Central
Wise, Hon. F. J. S.	A.L.P.	North

SUMMARY

Australian Labor Party (A.L.P.)	10
Country Party (C.P.)	8
Liberal and Country League (L.C.L.)	12

(a) Section 3 of the Qualification Acts Amendment Act, 1959-1961 provides that a retiring member shall vacate his seat on the 2nd May in the year of retirement. (b) Retained dropped. (c) New member.

The Legislative Assembly

There are 50 members of the Legislative Assembly, each member representing one of the 50 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 21 years of age, be a natural born or naturalized 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*. Enrolment is compulsory for all qualified persons except those who are aboriginal natives of Australia. Aboriginal natives, 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.

The following table shows the membership of the Legislative Assembly before and after the elections held on the 20th February, 1965.

MEMBERS OF THE LEGISLATIVE ASSEMBLY

Electoral District	At 19th February, 1965		After Election of 26th February, 1965	
	Name	Political Party	Name	Political Party
Albany	Han, Jack	A.L.P.	Han, Jack	A.L.P.
Aven	Gayfer, R. W.	C.P.	Gayfer, R. W. (a)	C.P.
Balcatta	Graham, Hon. H. E.	A.L.P.	Graham, Hon. H. E.	A.L.P.
Bayswater	Toms, J. M.	A.L.P.	Toms, J. M.	A.L.P.
Beaconsfield	Jamieson, C. J.	A.L.P.	Jamieson, C. J.	A.L.P.
Belmont	Hegney, James	A.L.P.	Hegney, James	A.L.P.
Blackwood	Bearman, Hon. J. M.	L.C.L.	Bearman, Hon. J. M. (a)	L.C.L.
Boulder-Eyre	Moir, A. M.	A.L.P.	Moir, A. M. (a)	A.L.P.
Bunbury	Williams, M. C.	L.C.L.	Williams, M. C.	L.C.L.
Canning	May, E. G.	A.L.P.	Ellerst, R. M. (a)	L.C.L.
Claremont	Crommelin, H. W.	L.C.L.	Crommelin, H. W.	L.C.L.
Cockburn	Curran, Henry	A.L.P.	Curran, Henry (a)	A.L.P.
Coolbe	May, Harry	A.L.P.	May, Harry	A.L.P.
Cottesloe	Hutchinson, Hon. Ross	L.C.L.	Hutchinson, Hon. Ross	L.C.L.
Dale	Ward, Hon. G. F. M.B.F.	L.C.L.	Ward, Hon. G. F. (a)	L.C.L.
Darling Range	Dunn, K. W.	L.C.L.	Dunn, K. W.	L.C.L.
East Melville	O'Neil, D. H.	L.C.L.	O'Neil, Hon. D. H.	L.C.L.
Fremantle	Fletcher, H. A.	A.L.P.	Fletcher, H. A.	A.L.P.
Freemantle	Norton, Daniel	A.L.P.	Norton, Daniel	A.L.P.
Geraldton	Sewell, W. H.	A.L.P.	Sewell, W. H.	A.L.P.
Greenough	Brand, Hon. David	L.C.L.	Brand, Hon. David (a)	L.C.L.
Kalgoorlie	Evans, T. D.	A.L.P.	Evans, T. D. (a)	A.L.P.
Karridrup	Nunne, L. C.	L.C.L.	Nunne, L. C.	L.C.L.
Katanning	Nalder, Hon. C. D.	C.P.	Nalder, Hon. C. D. (a)	C.P.
Kingsley	Khatagan, J. J.	A.L.P.	Khatagan, J. J.	A.L.P.
Marion	Oldfield, E. P.	A.L.P.	Marshall, R. J. P. (a)	L.C.L.
Merville	Toulson, Hon. J. T.	A.L.P.	Toulson, Hon. J. T.	A.L.P.
Merriman-Village	Kelly, Hon. L. F.	A.L.P.	Kelly, Hon. L. F.	A.L.P.
Murray	Lewis, Hon. E. H. M.	C.P.	Lewis, Hon. E. H. M.	C.P.
Mount Hawthorn	Hegney, Hon. William	A.L.P.	Hegney, Hon. William	A.L.P.
Mount Lawley	O'Connor, R. J.	L.C.L.	O'Connor, Hon. R. J.	L.C.L.
Mount Marshall	Cornell, G. M.	C.P.	Cornell, G. M. (a)	C.P.
Marchmont	Burt, R. P. S.	L.C.L.	Burt, R. P. S.	L.C.L.
Murray	Randall, Ewart	L.C.L.	Randall, Ewart	L.C.L.
Norridge	Manning, W. A. A.S.A.	C.P.	Manning, W. A. A.S.A.	C.P.
Northbridge	Court, Hon. C. W. M.	L.C.L.	Court, Hon. C. W. M.	L.C.L.
Northam	Hawke, Hon. A. R. C.	A.L.P.	Hawke, Hon. A. R. C.	A.L.P.
Perth	Hind, Stanley	A.L.P.	Hind, Stanley	A.L.P.
Perth	Bickerton, A. W.	A.L.P.	Bickerton, A. W.	A.L.P.
Perth	Hart, T. G.	C.P.	Hart, T. G. (a)	C.P.
South Perth	Grayden, W. L.	L.C.L.	Grayden, W. L. (a)	L.C.L.
Swan	Mitchell, C. C. B.	C.P.	Mitchell, C. C. B. (a)	C.P.
Swan	Guthrie, H. N.	L.C.L.	Guthrie, H. N.	L.C.L.
Swan	Brady, J. J.	A.L.P.	Brady, J. J.	A.L.P.
Trinity	Craig, Hon. J. P.	C.P.	Craig, Hon. J. P.	C.P.
Yanchew	Boydell, Hon. W. S.	L.C.L.	Boydell, Hon. W. S.	L.C.L.
Victoria Park	Darius, Ronald	A.L.P.	Darius, Ronald	A.L.P.
Warren	Rowberry, J. N.	A.L.P.	Rowberry, J. N.	A.L.P.
Wellington	Manning, I. W.	L.C.L.	Manning, I. W.	L.C.L.
Wembley	Hann, G. G. M.B.C.S.	L.C.L.	Hann, G. G. M.B.C.S.	L.C.L.
	Australian Labor Party	36	Australian Labor Party	31
	(A.L.P.)		(A.L.P.)	
	Country Party (C.P.)	8	Country Party (C.P.)	8
	Liberal and Country League	14	Liberal and Country League	21
	(L.C.L.)		(L.C.L.)	
	TOTAL	58	TOTAL	60

(a) Retired member. (b) New member. (c) Elected at by-election held 26th May, 1965 in general election. (d) Resigned. (e) Resigned. (f) Resigned. (g) Resigned. (h) Resigned. (i) Resigned. (j) Resigned. (k) Resigned. (l) Resigned. (m) Resigned. (n) Resigned. (o) Resigned. (p) Resigned. (q) Resigned. (r) Resigned. (s) Resigned. (t) Resigned. (u) Resigned. (v) Resigned. (w) Resigned. (x) Resigned. (y) Resigned. (z) Resigned. (aa) Resigned. (ab) Resigned. (ac) Resigned. (ad) Resigned. (ae) Resigned. (af) Resigned. (ag) Resigned. (ah) Resigned. (ai) Resigned. (aj) Resigned. (ak) Resigned. (al) Resigned. (am) Resigned. (an) Resigned. (ao) Resigned. (ap) Resigned. (aq) Resigned. (ar) Resigned. (as) Resigned. (at) Resigned. (au) Resigned. (av) Resigned. (aw) Resigned. (ax) Resigned. (ay) Resigned. (az) Resigned. (ba) Resigned. (bb) Resigned. (bc) Resigned. (bd) Resigned. (be) Resigned. (bf) Resigned. (bg) Resigned. (bh) Resigned. (bi) Resigned. (bj) Resigned. (bk) Resigned. (bl) Resigned. 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ELECTIONS, ELECTORS ON ROLL AND VOTES RECORDED

The Federal Parliament

General elections for the House of Representatives were held on the 30th November, 1963. The Liberal-Country Party Government, led by the Right Honourable Sir Robert Menzies, K.T., C.H., Q.C., M.P., was returned to office with a majority of 22 seats, instead of two seats as in the previous Parliament.

Elections for the Senate took place on the 5th December, 1964. As a result, Government representation in the Senate from the 1st July, 1965 was reduced from 31 to 30.

The following table shows, for each of these elections, the number of electors enrolled for each Division in Western Australia, the number who voted and the number of informal ballot papers returned.

FEDERAL PARLIAMENT -ELECTORS ON ROLL AND VOTES RECORDED

Electoral Division	Number of Electors Enrolled			Number of Electors Who Voted			Percentage of Enrolled Electors who Voted			Number of Informal Ballot Papers
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	
HOUSE OF REPRESENTATIVES - GENERAL ELECTIONS OF 30th NOVEMBER, 1963										
Gamilara	21,551	19,927	41,478	20,594	19,219	39,813	95.57	96.17	95.85	922
Griffith	19,735	23,354	43,089	18,412	22,173	40,585	93.42	95.01	94.30	2,509
Isaacs	21,468	20,988	42,456	21,025	19,875	40,900	98.18	96.64	97.41	555
Meekatharra	25,035	26,912	51,947	24,457	26,135	50,592	97.71	97.10	97.40	1,355
Perth	19,524	18,465	37,989	17,424	18,370	35,794	89.24	99.16	94.20	407
South	1,086	16,270	17,356	25,042	8,466	33,508	16.94	55.22	36.47	670
Stirling	39,131	35,114	74,245	25,397	31,139	56,536	64.92	88.69	76.80	1,128
Swain	23,440	27,978	51,418	23,672	26,092	49,764	96.79	93.27	95.03	657
Total - Western Australia	206,556	207,974	414,530	189,106	195,807	384,913	91.79	95.88	93.44	9,772
SENATE - ELECTION OF 5th DECEMBER, 1964										
Griffith	22,212	20,361	42,573	21,913	19,547	41,460	98.65	96.20	97.43	2,113
Isaacs	19,735	23,354	43,089	18,412	22,173	40,585	93.42	95.01	94.21	2,504
Perth	19,524	18,465	37,989	17,424	18,370	35,794	89.24	99.16	94.20	407
South	1,086	16,270	17,356	25,042	8,466	33,508	16.94	55.22	36.47	670
Swain	1,028	17,025	18,053	14,181	17,318	31,499	68.18	93.54	80.86	949
Stirling	39,131	35,114	74,245	25,397	31,139	56,536	64.92	88.69	76.80	1,128
West	23,440	27,978	51,418	23,672	26,092	49,764	96.79	93.27	95.03	657
Total - Western Australia	206,556	207,974	414,530	189,106	195,807	384,913	91.79	95.88	93.44	9,772

The State Parliament

At the compulsory election for the Legislative Council and the Legislative Assembly which was held on the 20th February, 1965 the Liberal-Country Party Government, led by the Honourable David Brand, was returned to office, its majority in the Legislative Assembly being increased from two seats to eight seats. Government representation in the Legislative Council was increased from 17 to 20.

The Legislative Council election was the first to be held in accordance with the revised provisions contained in the Constitution Acts Amendment Act (No. 2), 1963, the Electoral Districts Act Amendment Act, 1963, and the Electoral Act Amendment Act of 1964. It was thus the first election for the Legislative Council to which the compulsory enrolment and compulsory voting conditions applied. Fourteen Provinces were contested, the retiring Member for the Central Province being returned unopposed.

At the election for the Legislative Assembly, 11 of the retiring Members were returned unopposed, 30 were re-elected and three were defeated.

The table on the next page shows the number of electors enrolled in each Province and in each District. The numbers of effective 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, 1947-1963 that the Electoral Commissioners, in determining the quota of electors for each District, shall 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 Area is fixed by the Act at three.

LEGISLATION DURING 1963 AND 1964

The Federal Parliament

The legislative enactments of the Commonwealth Parliament in 1963 are listed in summarized form on pages 78-83 of the *Official Year Book of the Commonwealth of Australia, No. 56—1964*. The legislation of 1964 is treated similarly on pages 80-84 of the succeeding issue, No. 57—1965.

The State Parliament

During the second session of the twenty-fourth Parliament, which lasted from the 1st August to the 6th December, 1963, the Western Australian legislature enacted 88 Statutes and, in addition, dealt with 15 Bills which were introduced but not passed. In the third session, between the 30th July and the 27th November, 1964, the Parliament passed 105 Public Acts and one Private Act and discarded 17 Bills.

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 complete details are required. To provide a brief review of some of the more important Statutes of 1963 and 1964, a short summary of the main provisions is given in this section. Supply, Appropriation and Loans Acts are excluded from this summary, as well as continuance measures except as they relate to the renewal of certain important agreements between the Commonwealth and the State.

Acts Passed during 1963

Agricultural Products Act Amendment Act—Extends to the 31st December, 1965 the operation of the Apple Sales Advisory Committee.

Bushy Harbour Board Act Amendment Act—Confers additional borrowing powers on the Board.

Bees Industry Compensation Act Amendment Act—Entitles a beekeeper to compensation equal to the full value of diseased bees or other property destroyed, instead of two-thirds of the value as formerly.

Bees Industry Compensation Act—Establishes a fund, to be financed from a cattle sales duty and other sources, for the compensation of owners of diseased cattle destroyed under the provisions of the Act. See also reference under *Stamp Act Amendment Act* (No. 4).

Beekeepers Act—Repeals the Bees Act, 1930-1957. Prescribes measures for the eradication of disease among bees, the orderly conduct of the beekeeping industry and for the improvement of the products of the industry.

Bushy Harbour Board Act Amendment Act—Confers additional borrowing powers on the Board.

Bush Fires Act Amendment Act—Increases from ten to thirteen the number of members of the Bush Fires Board, by providing for one additional member to be nominated by the Country Shire Councils' Association of W.A. and appointing two new members, one to be nominated by the Commissioner of Police, and one by the Associated Sawmillers and Timber Merchants. Gives effect to other recommendations of the Royal Commissioner appointed in 1961 to inquire into bush fires.

Constitution Acts Amendment Act (No. 2)—Provides for the division of the State into fifteen Electoral Provinces each returning two Members of the Legislative Council, instead of 6—Provinces each returning three Members. Makes the qualifications of electors and Members of the Legislative Council identical with those of electors and Members of the Legislative Assembly.

Convicted Inmates Rehabilitation Act—Establishes an Inmates Advisory Board of three members, comprising two psychiatrists and a welfare officer, to assist in the clinical treatment and rehabilitation of convicted criminals.

Electoral Districts Act Amendment Act—Appoints three Electoral Commissioners, comprising the Chief Justice as chairman, the Surveyor General and the Chief Electoral Officer, to make a red vision of the State into 50 new Electoral Provinces for representation in the Legislative Council, instead of ten Provinces as formerly.

Factories and Shops Act—Repeals the Factories and Shops Act, 1920-1959. Consolidates and amends the law relating to the supervision and regulation of factories, shops and warehouses.

Fire Brigades Act Amendment Act—Varies the proportions in which the expenditure of the Western Australian Fire Brigades Board during the three year period ending 30th September, 1967 shall be met by the several statutory contributors, by increasing from 5/9ths to 64 per cent. the contribution of insurance companies, and reducing from 2/9ths to 16 per cent. and 20 per cent. respectively the contributions of the State Government and the local government authorities.

Foreign Judgments (Reciprocal Enforcement) Act—Repeals relevant sections of the Supreme Court Act, 1935. Enables the enforcement in Western Australia of judgments given in the United Kingdom and other countries which accord reciprocity of treatment, and facilitates the enforcement in those countries of judgments given in Western Australia.

Government Railways Act Amendment Act—Removes the limit of £1,000 on the amount of damages recoverable in any action against the Western Australian Government Railways Commission in respect of loss of life or injury.

Industrial Arbitration Act Amendment Act No. 11—Abolishes the former Court of Arbitration. Establishes The Western Australian Industrial Commission, consisting of a Chief Industrial Commissioner and three other Commissioners. Constitutes the Western Australian Industrial Appeal Court, comprising three Judges of the Supreme Court, to hear and determine appeals from any decision of the Commission.

Iron Ore (Hamarley Range) Agreement Act—Approves an agreement between the State Government and Hamarley Iron Pty. Limited for the mining and export of iron ore from deposits in the Hamarley Range, for the secondary processing of the ore in a steel development, with alterations for the establishment of an integrated iron and steel industry.

Iron Ore (Hamarley Range) Agreement Act Amendment Act—Enables the parties to the Agreement to substitute another port for Depuch Island and, in the event of such a substitution being made, to make consequential amendments with respect to other matters.

Land Act Amendment Act—Enables pastoral leases, which were due to expire in 1951, to be extended to the year 2011, upon application by the lessee. Abolishes the former Board of Appraisers and establishes in its stead a Pastoral appraisement Board.

Licensing Act Amendment Act No. 4—Lunatic is declared aware of the State the operation of the provision relating to an offence the supplying of alcoholic liquor in abnormal nature.

Municipalities Water Supply, Sewerage, and Drainage Act Amendment Act—Establishes a Metropolitan Water Supply, Sewerage, and Drainage Board of seven members to replace the former Metropolitan Water Supply, Sewerage and Drainage Department as the authority responsible, subject to the Minister, for the general administration of the Act. Provides that members of the Board shall be appointed by the Governor, that one member shall be appointed subject to the suggestion of the Governor, and that the remaining members shall comprise the General Manager of the Board, a qualified engineer, the Under Treasurer or an officer of the Treasury nominated by him, a representative of ratepayers of the City of Perth, and two representatives of ratepayers of other municipal districts within the Metropolitan Water, Sewerage, and Drainage Area constituted under the principal Act. Invests the Board with independent borrowing powers.

Mining Act Amendment Act—Increases from an acre to 500 acres the maximum area pertaining generally to the grant of a mineral lease. Varies the conditions relating to the acquisition of land.

Motor Vehicle Drivers Instruction Act—Requires a person to be licensed as an instructor if he engaged for pupils.

Native Affairs Act—Repeals earlier legislation and consolidates and amends the law relating to the welfare of aboriginal natives.

Noxious Weeds Act Amendment Act—Imposes a special rate in respect of holdings (other than certain exempt holdings) not exceeding, in the case of a pastoral lease, 500 acres, or in the case of other land, 50, or the £ of the unimproved value of the holding.

Occupational Therapists Act Amendment Act—Eliminates the requirement that a person shall have attained the age of 21 years before being registered as an occupational therapist, but prohibits a minor from engaging in private practice.

Offenders Probation and Parole Act—Authorises the release of offenders on probation or parole, and establishes a Parole Board of five members to succeed the former Indeterminate Sentences Board. Provides that the Parole Board shall consist of a chairman who shall be a Judge of the Supreme Court nominated by the Chief Justice, the Comptroller General of Prisons, and three other members appointed by the Governor. Provides that, where a general matter or a matter affecting a male prisoner is to be dealt with, the three members appointed by the Governor shall be men and that, where the matter to be dealt with affects a female prisoner, they shall comprise two women and one of the male members.

Pig Industry Compensation Act (Amendment) Act—Raises the amount of compensation payable in respect of the destruction of a diseased pig to the full market value of the pig instead of, as formerly, three-quarters of the value, and increases from £21 to £40 the maximum amount payable in respect of any pig destroyed.

Prisons Act Amendment Act—Repeals sections relating to the former Indeterminate Sentences Board. See also reference under *Offenders' Probation and Parole Act*.

Public Service Act Amendment Act—Increases from two weeks to three weeks, with effect from the 1st January, 1963, the period of annual recreation leave for persons employed under the Act. Simplifies certain administrative procedures and amends the provisions relating to the making of regulations.

Road and Industries Bank Act Amendment Act—Deletes the provision limiting the funds of the Bank to the sum of £12 million, and extends the borrowing powers of the Bank.

Stamp Act Amendment Act (No. 2)—Imposes, subject to certain exemptions, a duty on a motor vehicle licence at the transfer of a licence at the rate of 10s. for every £100, or part of £100, of the value of the vehicle to which the licence or the transfer relates.

Stamp Act Amendment Act (No. 3)—Leaves duty as provided for by the Reef Cattle Industry Compensation Act. Prescribes a rate of £1 in the Commission of cattle or camels up to a maximum of 5s. in respect of any one animal or animal.

Taxi-cab (Control and Control) Act—Constitutes a Taxi Control Board of seven members to regulate and control the operations of taxi cabs in the Metropolitan Traffic Area and such other areas as may be declared. Provides that the Board shall consist of the Commissioner of Transport, or his deputy, as chairman; a member of the police force appointed by the Commissioner of Police; and five members, appointed by the Governor, comprising one nominated by the Local Government Association of Western Australia to represent the interests of local authorities; one nominated by the W.A. Taxi Operators' Association; two elected by taxi-car owners and operators who are not members of the Association; and one nominated by the Metropolitan (Public) Passenger Transport Trust.

The Midland Railway Company of Western Australia Limited Acquisition Agreement Act—Authorizes the Government of Western Australia to purchase the assets of the Company.

Traffic Act Amendment Act—Provides that no licence fee shall be payable in respect of a motor vehicle used exclusively for interstate transport. Increases penalties for the overloading of goods vehicles.

Traffic Act Amendment Act (No. 2)—Increases from 10s. to £2 the fee payable on each application for a licence to drive a motor vehicle.

Traffic Act Amendment Act (No. 3)—Provides that where a person has not previously held a driver's licence or has not held a licence elsewhere than in Western Australia for a period of three years or more he shall be issued with a licence on probation only and shall remain on probation for a period of three years.

Wheat Industry Stabilisation Act—Repeals the Wheat Industry Stabilisation Act of 1958. Authorizes the operation in Western Australia of the Wheat Industry Stabilisation Act 1963 (Commonwealth) relating to the marketing of wheat harvested during the seasons 1953-54 to 1971-55.

Workers' Compensation Act Amendment Act—Increases from £150 to £200 the maximum amount of medical expenses payable in respect of an injured worker, and from £250 to £325 the maximum amount of hospital expenses.

Acts Passed during 1964

Abattoirs Act Amendment Act—Extends provisions relating to the borrowing powers of The Midland Junction Abattoirs Board by specifying means by which money may be raised.

Agricultural Products Act Amendment Act—Authorizes an inspector to take samples of agricultural products to determine whether a product complies with the requirements of the Act; to order such measures to be taken as may be necessary to bring the product to the required standard; or, with the written approval of the Minister or a person authorized by him, to order the destruction of the product.

Agriculture Protection Board Act Amendment Act—Empowers the Board to acquire any real or personal property where, in the opinion of the Board, such action is necessary for carrying into effect the objects and purposes of the Act. Authorizes the Board to dispose of any property acquired by or vested in the Board. Removes the limit of £100,000 on the amount to be appropriated annually from the Consolidated Revenue Fund to the Agriculture Protection Board Fund.

Bulleen-Mount Helena Railway Discontinuance and Land Revestment Act—Authorizes the closure of the Bulleen-Mount Helena railway and reverts in the Crown portions of the land comprised therein.

Bitter Lake Armadale Railway Discontinuance and Land Revestment Act—Authorizes the closure of the Bitter Lake Armadale railway and reverts in the Crown portions of the land comprised therein.

Bush Fires Act Amendment Act—Limits to three years the term of office of members of the Bush Fires Board other than the chairman. Provides that a retiring member shall be eligible for reappointment.

Cancer Council of Western Australia Act Amendment Act—Allows the membership of the Cancer Council of Western Australia to be enlarged from sixteen to eighteen by authorizing an increase from two to four in the number of members who may be nominated by the Council.

Chevron-Hidlex Hotel Agreement Act Amendment Act—Authorizes the Perth City Council to sell to the Commonwealth Government land formerly intended to be used as the site of a hotel and tourist centre in terms of the agreement contained in the principal Act.

Chiropodists Act—Provides for the training, qualification and registration of persons as chiropodists. Establishes a Chiropodists Registration Board of five members, including a chairman, with the power, among others, to prescribe the course of training to be undertaken and the examinations to be passed in order to qualify for registration.

Clean Air Act—Constitutes an Air Pollution Control Council comprising the Commissioner of Public Health as chairman, and thirteen other members. Establishes a Scientific Advisory Committee of seven members to advise and assist the Council. Defines premises required to be licensed under the Act and authorizes the imposition of licence fees. Describes offences against the Act and prescribes penalties. Enables the making of regulations.

Coal Mine Workers' (Pensional) Act Amendment Act—Amends the provision whereby a worker, having accepted a lump sum payment under the Workers' Compensation Act in respect of incapacity arising from injury, was disqualified from receiving a pension during a period calculated by dividing the amount of the lump sum by the maximum weekly amount payable as compensation under that Act. Provides that, for the purpose of determining the non-pensionable period, any part of the lump sum payment used by the worker for the purchase of a home or the redemption of a mortgage on his home, or for meeting medical expenses in connexion with the injury shall be disregarded. Restores the pension rights of certain retrenched workers subsequently re-employed in the coal mining industry.

Companies Act Amendment Act—Effects amendments in a form agreed upon by the Standing Committee of Attorneys General as being appropriate for enactment in all States and Territories of the Commonwealth. Complements legislation passed by, or to be presented to, the Parliaments of other States.

Country Areas Water Supply Act Amendment Act—Introduces a revised system of charges for the supply of water in areas within the metropolitan area as constituted under the Metropolitan Water Supply, Sewerage, and Drainage Act, 1909-1963.

Criminal Code Amendment Act—Authorizes a person in command of an aircraft on a flight to use such reasonable force as is deemed necessary for maintaining good order and discipline. Prescribes penalties for carrying or placing dangerous goods on board an aircraft; endangering the safe use of an aircraft; assaulting a member of the crew; stealing on aircraft; using an aircraft without authority; and making statements threatening the safety of an aircraft.

Damage by Aircraft Act—Provides that no action lies in respect of trespass or nuisance by reason of the flight of an aircraft at a reasonable height over any property, so long as Air Navigation Regulations are complied with. Enables a person not guilty of contributory negligence who suffers loss or damage caused by an aircraft, or anything falling from an aircraft, to recover damages from the owner.

Debt Collection Licensing Act—Requires that every debt collector, other than specified persons and institutions expressly exempted, shall be the holder of a licence under the Act.

Don to Don (Sales) Act—Enables a purchaser or buyer, having made a credit purchase agreement with respect to prescribed goods, including books, engravings and pictures, to terminate the agreement by notice given within seven days of the making of the agreement. Excludes agreement initiated at the request of the purchaser or buyer.

Education Act Amendment Act—Extends the period of compulsory school attendance, with effect from the 1st January, 1966, to the end of the year in which the child attains the age of 15 years. It creates financial assistance to non-government schools by way of subsidy for the purchase of equipment, instruments and appliances.

Electoral Act Amendment Act—Defines "optional election", being "a general election for the Council and the Assembly that are held to be held on the same day pursuant to writs issued on the same day". Extends compulsory enrolment and compulsory voting provisions to include elections for the Legislative Council. Makes the qualifications for an elector of the Legislative Council the same as those for an elector of the Legislative Assembly. Enacts consequential and other amendments.

Electoral Act Amendment Act (No. 31)—Amends the provision relating to disqualification as an elector of the Legislative Council and the Legislative Assembly. Makes amendments dealing with the conduct of elections and other matters.

Fire Brigades Act Amendment Act—Amends the definition of "insurance company" expressly to include the State Government Insurance Office.

Fishing Act Amendment Act—Enables the Governor, on the recommendation of the Minister, to declare a specific portion of the State south of 12°S latitude to be a "proclaimed fishing zone" during any specified time in any specified year or during a specified portion of every year. Empowers the Chief Inspector of Fisheries, or an inspector delegated by him, to authorize any person to enter a proclaimed fishing zone and remain there for a specified period; to regulate and control the use of a zone, and to regulate or prohibit the entry or use in a zone of any vehicle, boat, engine, gear or appliance. Details offences in respect of proclaimed fishing zones and prescribes penalties.

Forests Act Amendment Act—Requires that a copy of any Order in Council dedicating land as a State Forest shall be laid on the Table of each House of Parliament. Enables the Parliament by a resolution of each House to disallow any such Order. Provides that disallowance does not affect or invalidate any thing done in good faith by the Minister, or any officer performing duties under the Act, before the passing of the resolution.

Fremantle Harbour Trust Act Amendment Act—Alters the title of the Fremantle Harbour Trust Commissioner to "Fremantle Port Authority" and makes consequential amendments. Removes the limit of £2,000 on the cost of any single project in the nature of port works which the Authority may undertake subject to the approval of the Minister. Extends the borrowing powers of the Authority to include borrowings from any bank approved by the Treasurer.

Friendly Societies Act Amendment Act—Repeals the Friendly Societies Act Amendment Act, 1936. Permits registered friendly societies to build and equip hospitals for the accommodation and treatment of members and their dependants. Provides that a society may contract with any person for the maintenance of a grave-plot up to a limit of £3,000, instead of £500 as formerly. Authorizes friendly societies to procure which were approved under the National Health Act (Commonwealth) before the 24th April, 1964 to trade with members of the general public. Validates the registration of certain societies. Requires that the rules of a society, and amendments to rules, shall be approved by the Minister before registration.

Government Employees' Housing Act—Makes provision for adequate and suitable housing accommodation for employees of the State Government. Establishes a Government Employees' Housing Authority of four members, and a Government Employees' Housing Authority Fund. Confers borrowing powers on the Authority.

Industrial Lands (Kwinana) Agreement Act—Approves an agreement between the State Government and B P Refinery (Kwinana) Proprietary Limited and C S B & Farmers Ltd. relating to the disposition of land at Kwinana for the establishment of plant for the manufacture of ammonia, nitrogenous fertilizers and other products.

Industrial Lands (Maddington) Agreement Act—Approves an agreement between the State Government and Davison Esstates Pty. Ltd. for the sale to the company of land at Maddington for the establishment of industries.

Iron Ore (Clarendon Hills) Agreement Act—Ratifies an agreement between the State Government and Base Materials Pty. Limited relating to the development of iron ore deposits of lower grade in the Robe River area east of Onslow, and the production and export of iron ore pellets and iron ore from those deposits.

Iron Ore (Barrowley Range) Agreement Act Amendment Act—Approves an agreement supplementary to that contained in the principal Act (see preceding section Acts Passed during 1964).

Iron Ore (Mount Goldsworthy) Agreement Act—Repeals the Iron Ore (Mount Goldsworthy) Agreement Act, 1962 (see *Official Year Book of Western Australia*, No. 4—1964, page 118) and the Iron Ore (Mount Goldsworthy) Agreement Act Amendment Act, 1963 (see *Acts Passed during 1963* earlier in this Chapter). Ratifies a revised agreement between the State Government and the joint venturers.

Iron Ore (Mount Newman) Agreement Act—Ratifies an agreement between the State Government and Mt. Newman Iron Ore Company Limited for the mining and export of iron ore from deposits at Mount Newman, 22½ miles to the south of Port Hedland; for the secondary processing of the ore, and for the establishment of an integrated iron and steel industry.

Iron Ore (Talling Peak) Agreement Act—Repeals the Iron Ore (Talling Peak) Agreement Act, 1961-1962 (see *Official Year Book of Western Australia*, No. 4—1964, pages 106, 110). Incorporates a revised agreement between the State Government and Western Mining Corporation Limited.

Iron Ore (The Broken Hill Proprietary Company Limited) Agreement Act—Ratifies an agreement between the State Government and The Broken Hill Proprietary Company Limited relating to the development of iron-ore deposits of lower grade in the Disputes area about 60 miles east of Onslow. Makes provision for the secondary processing of the ore and the export of iron ore and processed products.

Judges' Salaries and Pensions Act Amendment Act—Increases the annual salary of the Chief Justice of Western Australia from £6,400 to £7,000; of the Senior Puisne Judge from £5,750 to £6,350; and of each of the other Judges of the Supreme Court from £5,000 to £5,200. Makes the increases effective from the 1st July, 1964. Ratifies the provision authorizing adjustments to salary in accordance with variations in the State basic wage.

Land Agents Act Amendment Act—Requires that, in order to qualify for the grant of a licence as a land agent, an applicant shall have passed a prescribed examination, shall have held a licence in another State, or shall have been engaged in business as a land agent or as a land salesman for a specified period prior to the application. Provides that land salesmen must hold a certificate of registration issued by The Land Agents Supervisory Committee of Western Australia.

Long Service Leave Act Amendment Act (No. 2)—Reduces from 20 years to 15 years the period of continuous service with the same employer in order to entitle an employee to 13 weeks' long service leave. Provides that entitlement for each succeeding 10 years shall be 8½ weeks and amends *pro rata* conditions accordingly.

Members of Parliament (Legislative Council) Retirement Act—Preserves the rights in respect of salaries and pensions of the five Members of the Legislative Council whose period of membership was reduced by one year in terms of the Constitution Acts Amendment Act (No. 2), 1963. (See reference earlier in this Chapter in the section *The Legislative Council*.) Extends to the 21st May, 1966 the application of the Pathology, Chemistry Act and the Parliamentary Superannuation Act in the case of any such retiring Member who may cease to be a Member of Parliament during the period from the 21st May, 1965 to the 21st May, 1966.

Milk Act Amendment Act—Empowers the Milk Board of Western Australia to require that before any milk or cream is delivered for sale for human consumption in any district which the Board may specify it shall be pasteurized and, if for sale to householders, shall also be bottled and sealed or placed in a carton.

Moora Koolanooka Hills Railway Act—Authorizes the construction of a railway approximately 11 miles, 51 chains in length between Moora and Koolanooka Hills, as provided in the Iron Ore (Talling Peak) Agreement Act.

Motor Vehicle (Third Party Insurance) Act Amendment Act—Reduces from 7½ per cent. to 6 per cent. the amount of the dividend which may be credited to participating insurers from any annual surplus of The Motor Vehicle Insurance Trust. Provides that the remaining surplus shall be applied firstly against a deficit incurred in any previous year, and then by transfer to a Disaster Reserve Fund. Specifies that the amount transferred to the Fund shall not exceed £12,000 per year, and limits to £100,000 the amount standing to the credit of the Fund at any time. Authorizes the Trust to withdraw from the Fund the amount necessary to satisfy any claim or judgment exceeding £30,000.



Above—Port Hedland with Finucane Island (foreground), the site of iron-ore port development

Below—Iron-ore shipping installation at Koolan Island in Yampi Sound



Museum Act Amendment Act—Defines "historic wreck" being any ship, together with anything contained in it, which was wrecked in Western Australian waters before 1900, expressly including wrecks listed in a schedule which were wrecked between 1800 and 1777. Enables any historic wreck to be visited in The Western Australian Museum Board, after recommendation by the Board. Requires a person fishing a historic wreck to report the matter to the Board, and enables the Board to pay to the finder an amount not exceeding £1,000. Prohibits unauthorized interference with wrecks. Provides penalties for offenders against the Act.

National Trust of Australia (W.A.) Act—Establishes, incorporates and confers powers upon The National Trust of Australia (W.A.). Provides that the affairs of the Trust shall be administered by a Council consisting of 25 members, of whom 16, including the President, shall be elected from among members of the Trust, and nine shall be appointed by the Trust. Enables the Trust to accept any gift of real or personal property. Exempts from taxes and duties any property belonging to the Trust. Empowers the Council to make by laws, which may impose a penalty not exceeding £50 for any breach.

1950-51 "Seafaring Rights" Act Amendment Act (No. 1)—Provides for the issue of Certificates of Citizenship, on the attainment of 16 years of age, to persons whose names as children of their mothers, while seafaring, have been included in the White List granted or issued to those parents.

Parliamentary Superannuation Act Amendment Act—Increases from £398 to £417 the annual gratuity to be paid to a Member of Parliament to the Parliamentary Superannuation Fund, and from £15,646 to £16,960 the amount to be paid annually to the Fund from the Consolidated Revenue Fund. Provides that the total payments shall apply from the 1st January, 1950. Increases from £20 to £25 the maximum amount payable to a former Member during his lifetime, and from £15 to £25 to the maximum benefit payable to the widow of a Member in pension. Prescribes increased pensions and benefits for retiring pensioners and widows beneficiaries.

Pharmacy Act—Consolidates and amends the law relating to pharmacy and the registration of pharmaceutical chemists and of pharmacists. Repeals the Pharmacy and Poisons Act Consolidation Act, 1916 and the Pharmacy and Poisons Act, 1916-1922.

Public Health Act—Regulates and controls the profession, sale and use of persons and other substances. Constitutes a Public Health Advisory Committee of twelve members under the chairmanship of the Commissioner of Public Health or a medical officer of the Department of Public Health nominated by him.

Police Act Amendment Act—Prescribes increased penalties for a large number of offences under the Act.

Police (Compensation) Act—Provides for the payment of compensation to persons injured and to assisting police officers in the execution of their duty, and to the dependants of such persons.

Radiation Safety Act Amendment Act—Enables stricter control of the use of radiating apparatus. Authorizes the Radiological Advisory Council, when registering such apparatus, to impose conditions with respect to its use. Empowers the Minister to cancel the registration of an apparatus when, in the opinion of the Council, it may imperil the health of any person.

Rail Property (Foreign Governments) Act Amendment Act—Authorizes the lease to the Government of the United States of America of land in the townships of Bingham up to a maximum of 100 acres.

State Housing Act Amendment Act—Raises from £1,500 to £1,800 the limit on the cost of any house to be built by The State Housing Commission and also on the amount of the advance available to a worker to enable him to acquire a home. Increases from £1,500 to £1,800 the maximum cost of a house in respect of which the Commission may provide assistance by way of second mortgage.

Stores (Law Reform) Act—Revises the Stores Law by repealing spent, unnecessary or superfluous enactments.

Workers' Fund Act—Establishes a Workers' Fund for the purpose of indemnifying litigants for legal costs ordered to be paid in particular circumstances. Constitutes an Appeal Court Board of three members to control and manage the Fund. Provides that the Fund shall be financed from a levy of 1s. but not more than 2s. to be paid in addition to certain specified Court fees.

Superannuation and Family Benefit Act Amendment Act—Permits the Superannuation Board to apply Superannuation Fund moneys to the acquisition of land and the construction of a building or buildings to provide office accommodation for the Board and approved persons.

Traffic Act Amendment Act—Authorizes the making of regulations to empower licensing authorities to impose limitations on the use of a vehicle for which a particular class of licence is issued.

Traffic Act Amendment Act No. 2—Authorizes each local government authority outside the Metropolitan Traffic Area to continue to retain the revenue collected each year from vehicle licence fees up to the limit of the amount of its collections in the "base year" 1958-59. Requires the authority to spend on road construction at least three-quarters of the amount so retained. Deletes the provision whereby an authority could elect to pay to the Central Road Trust Fund the amount of revenue in excess of its collections in the base year, and requires that, in all cases, such amounts shall be paid to the Fund. Provides that such authority shall receive from the Fund a grant equal to the amount of its payment to the Fund, together with an addition of 75 per cent. instead of 50 per cent. as formerly. Allows for a similar increase in the total amount to be allocated, in the form of grants, among local government authorities in the Metropolitan Traffic Area. Requires that the whole of the grant made from the Central Road Trust Fund to any local authority shall be spent on road construction. (See also letterpress under the heading *Finance for Roads in the section Roads and Road Traffic in Chapter IX, Part 2—Transport*).

Used Car Dealers Act—Makes better provision for the licensing and control of dealers in used motor vehicles. Repeals Part IIIA—*Used Car Dealers* of the Traffic Act, 1919-1963.

Vernum Act Amendment Act—Raises the limit on the rate which may be levied under the Act from 3d. to 6d. on the £ of the unimproved capital value in the case of land held under pastoral lease. Provides that, where any class of animal, bird or insect has been declared to be vermin by reason of being at large or of being in a particular part of the State, it shall continue to be vermin so long as the prohibition remains in force notwithstanding that it may have been domesticated or taken to another part of the State.

Weights and Measures Act Amendment Act—Requires that drugs shall be sold by metric weight or metric measure of capacity instead of by apothecaries' weight as formerly prescribed by the Act.

Wills (Formal Validity) Act—Facilitates the validation of wills executed in other Australian States and Territories or in another country. Incorporates additional cases which relate to wills executed on board ships or aircraft.

Workers' Compensation Act Amendment Act—Extends an employer's liability, on account of injury sustained in the course of a journey, to include travel between the worker's place of residence and the place of employment or place of pick up, and between his place of residence and any trade, technical or other training school that he is required, by the terms of his employment or as an apprentice, to attend. Increases from £300 to £250 the maximum amount of medical expenses payable in respect of an injured worker, and from £125 to £240 the maximum amount of hospital expenses. Raises from £2,400 to £2,500 the limit on the amount of compensation payable, in addition to medical and hospital expenses, in respect of injury. Provides for similar increase in compensation on account of death (where there are dependants) or total incapacity. In the case of death, prescribes payment of an additional sum, in respect of each dependent child, of £100 instead of £75 as formerly. Liberalizes conditions applying to benefits in relation to pneumoconiosis and other diseases associated with mining and quarrying operations.

Youth Service Act—Provides for the development of a youth service and for assistance to youth organizations and clubs. Constitutes The Youth Council of Western Australia, comprising a chairman and eleven other members. Establishes The Youth Service Assistance Fund.

THE JUDICATURE

Commonwealth Courts

Under the provisions of section 71 of the Commonwealth Constitution the judicial power of the Commonwealth is vested in a Federal Supreme Court called the High Court of Australia and in such other courts as the Parliament creates or invests with federal jurisdiction.

The *High Court of Australia* is the principal Commonwealth Court and has both original and appellate jurisdiction. The Court is constituted by the *Judiciary Act 1903-1969* and consists of a Chief Justice and six other Justices. The Principal Registry is at Melbourne, Victoria and there is a District Registry in each of the other State capital cities, where sittings of the Court are held from time to time as required. A Full Court may consist of any two or more Justices sitting together, but the Act specifies cases where a Full Court shall be comprised of not less than three Justices and, in some circumstances, a greater number. The High Court is the ultimate court of appeal in Australian jurisdiction except where leave is given for an appeal to the Privy Council in London.

The *Commonwealth Industrial Court* was established by an amendment of 1956 to the Conciliation and Arbitration Act which gives the Court power to deal with industrial matters, as distinct from the functions of conciliation and arbitration performed by the Commonwealth Conciliation and Arbitration Commission. The Commonwealth Industrial Court comprises a Chief Judge and four other Judges, in terms of the Conciliation and Arbitration Act 1904-1964. The Act provides that, except in certain specified circumstances, the jurisdiction of the Court shall be exercised by not less than two Judges. Although, in general, decisions of the Industrial Court are final, appeal may be made to the High Court, subject to a grant of leave by the High Court.

The *Federal Court of Bankruptcy* is constituted under the Bankruptcy Act 1924-1960 which provides that the Court shall consist of a Judge or two Judges. The Act also extends jurisdiction in bankruptcy to certain Courts of the States, and in Western Australia it is exercised by the Supreme Court of the State.

State Courts of Western Australia

The *Supreme Court of Western Australia*, as constituted under the Supreme Court Act, 1935-1963, 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 is exercised by a single Judge unless it is provided that an action must be brought before a Full Court. Any two or more Judges together comprise a Full Court except at a sitting as a court of criminal appeal, when there must be an even number of Judges. In addition to appeals in criminal cases, matters within the jurisdiction of the Full Court include applications for a new trial or to set aside a judgment, cases referred by a Judge for the consideration of the Full Court and special cases where all parties agree that a hearing should be before the Full Court. The Act provides for sittings of the Court as a circuit court in proclaimed districts and enables the appointment of days at each year for sittings in these districts. 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 1903-1960 in commonwealth, and may also be made direct to the Privy Council.

As the 31st December, 1964 the composition of the Supreme Court was as shown below.

Chief Justice—

The Honourable Sir Albert Wolfe, K.C.M.G.

Senior Puisne Judge—

The Honourable Sir Lawrence Jackson

Puisne Judges—

The Honourable J. E. Viner

The Honourable R. V. Neville

The Honourable G. B. D'Arcy

The Honourable John Haas

The Honourable G. J. Noyes

The *Western Australian Industrial Appeal Court* is constituted under the provisions of the Industrial Arbitration Act Amendment Act 1 (No. 75, 1963, which came into operation on the 1st February, 1964. The Act abolishes the former Court of Arbitration. The Western Australian Industrial Appeal Court consists of three Judges, one of whom is President of the Court. The President and two 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 Commissioner in Court sessions, but only on the ground that such decision is erroneous in law or is in excess of jurisdiction. (Reference to the constitution, powers and functions of The Western Australian Industrial Commission is made in Chapter 3, Part 2.)

STATE REPRESENTATION OVERSEAS AND IN OTHER STATES

Western Australia has been represented in the United Kingdom 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 purchase of government stores and equipment, service to Western Australian commercial and business interests and the provision of various types of assistance to visitors from Western Australia. The Agent-General for Western Australia is the Honourable G. P. Widd, M.B.E., who was appointed to the office with effect from the 16th March, 1965, in succession to the Honourable E. K. Hoar.

Branches of the Tourist Bureau have been established in New South Wales at 22 Martin Place, Sydney, in Victoria at 2 Royal Arcade, Melbourne, C.I., in South Australia at 34 King William Street, Adelaide, and in the Northern Territory at Western Australia House, Coughran Street, Darwin.

THE LOCAL GOVERNMENT SYSTEM

The function of local government in Western Australia is performed by a number of Councils exercising powers conferred by the Parliament of the State. Each of these authorities 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 1835 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 1855 and replaced by a City Council, the town of Perth having been constituted a city when it became the seat of a Bishop in 1846.

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, 1960-1964 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 the 1st 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 the 31st December, 1964 there were five Cities, 16 Towns and 126 Shires in Western Australia.

Local Government Districts

The only unincorporated area in 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 Minister, 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 £100,000 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 five Cities in Western Australia are all signified in the Metropolitan Statistical Division and each of them had been granted city status before the requirements imposed by the present legislation became operative. The Cities are Perth (proclaimed in 1850), Fremantle (1929), Subiaco (1952), Nedlands (1959) and South Perth (1959).

The boundaries of local government districts as they existed at the 1st January, 1964 are delineated on the map of the State at the back of the Year Book and the names and designations as of 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 ashire 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 made by a poll of the electors entitled 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 enquiry as 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.

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. Membership of a Council is restricted, in all cases, to qualified electors being adult natural born or naturalised British subjects who own or occupy estate land in the district. The proportional system of voting is used and representation is generally on the basis of wards into which the district may be divided. Polling is by ballot, an elector being entitled, on 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 members of corporations voting in a district to vote at local government elections and to be elected to membership of the Council. Subject to disqualifications on certain specified grounds, all adult persons who are natural born or naturalised British subjects owning or occupying estate 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 them retiring, 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 not sufficient councillors to form a Council, a Commission 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 2, the provision of parks, gardens and recreation grounds in Chapter VII Part 1, libraries in Chapter V Part 2, public transport facilities in Chapter IX Part 2, water supply 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 2. Among the many other powers of local authorities are those relating to hospitals and nursing homes, kindergarten, houses for school children, community centres, dental clinics, infant and maternal health centres, day nurseries, public swimming baths, swimming pools, recreation and disposal of refuse, fire prevention, regulation of noxious waste and water, electricity generation, aerodromes, stations, quays, ponds and canals. 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, 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 of the 1st July, 1961, a number of rates, in addition to those authorized 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 limit, by dividing the anticipated total financial requirement for that year by the total value of rates properly in the district. In assessing this value, every local authority must adopt valuations made by the 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 capital value" or "annual value". The unimproved value generally represents the price which the rated land might be expected to realize if sold on the open market and, or 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 its 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 authorized 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 redeemable principal or by means of a sinking fund. Payments to debenture holders are made at prescribed intervals. Under the system of redeemable 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 raising 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 purpose 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 first publish in a newspaper and in the *Gazette of Western Australia* 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 and the Council may proceed with the raising of the loan only if the result of the poll is favourable.

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 the 30th June.

Details of the revenue and expenditure of local authorities during the five-year period ending with the financial year 1963-64 are given in the section *Local Government Finance* in Chapter VI, Part 1.

CHAPTER IV—POPULATION AND VITAL STATISTICS

NOTE—Reference is made in the final section of Part 2 of this Chapter to the full-blood aboriginal population of Western Australia. In accordance with Australian wide practice, all population and vital statistics dealt with elsewhere in this Chapter exclude particulars of full-blood aborigines.

PART 1—POPULATION

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

At the end of 1829, the year of establishment of the colony, there were 1,003 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 48,562 at the end of 1890 to 179,967 in 1900. The rate of growth in those years has never been approached in the present century, as will be seen from the table below, but the average annual rate of increase of Western Australia's population from the beginning of the century to the end of 1964, 2.36 per cent., has been higher than that of any other State and of the Commonwealth as a whole, 1.72 per cent.

The table shows the population at ten yearly intervals from 1830, the numerical and percentage increase during each decade and the corresponding average annual rate. The population at the end of each year from 1955 to 1964 is also shown, together with the increase in each year and during the ten-year period ended 31st December, 1964.

ESTIMATED POPULATION: 1830-1964

At 31st December	Males	Females	Persons	Increase		
				Number	Per cent.	Average Annual Rate (per cent.)
1830	877	795	1,672	—	—	—
1840	1,454	877	2,331	1,110	67.18	7.03
1850	3,572	2,210	5,782	3,450	148.02	9.80
1860	9,589	5,806	15,395	9,613	168.20	9.97
1870	15,574	9,210	24,784	9,389	64.73	6.12
1880	15,556	12,470	28,026	3,242	13.09	1.87
1890	26,854	19,648	46,502	18,476	67.14	6.27
1900	110,008	59,879	169,887	123,385	271.05	14.01
1910	127,971	119,501	247,472	87,585	64.32	4.40
1920	170,693	154,428	325,121	77,649	34.49	1.61
1930	232,608	198,148	430,756	105,635	32.17	1.08
1940	248,734	205,242	453,976	23,220	5.44	0.24
1950	284,755	217,697	502,452	48,476	10.74	1.31
1960	374,665	303,364	678,029	175,574	27.06	2.47
1955	343,535	281,771	625,306	18,902	3.27	—
1956	350,333	289,063	639,396	14,090	2.26	—
1957	356,105	293,099	649,204	9,810	1.55	—
1958	361,441	295,735	657,176	7,972	1.22	—
1959	366,263	297,432	663,695	6,519	1.00	—
1960	372,665	303,864	676,529	12,834	1.92	—
1961	379,997	306,209	686,206	9,677	1.41	—
1962	386,304	310,411	696,715	10,509	1.53	—
1963	393,691	318,019	711,710	15,005	2.14	—
1964	403,771	323,253	727,024	15,314	2.13	—
Ten years ended 31st December, 1964				180,918	28.01	3.11

(1) See *Interim Estimates of Population* at page 126.

CENSUSES

In this section, some figures relating to the Census of the 30th June, 1961 have been amended in accordance with the final Census tabulations.

The first systematic census of the Colony was taken on the 10th October, 1848. Since then, there have been 12 enumerations, the latest at the 30th June, 1961.

The population disclosed at each census, its relation to the Australian total, and its masculinity are shown in the next table.

POPULATION AT EACH CENSUS DATE—WESTERN AUSTRALIA AND AUSTRALIA
1848-1961

Date of Census	Western Australia		Australia		Western Australia	
	Males	Females	Persons	Persons	Proportion of Australia (per cent.)	Masculinity (a)
1848—10th October	2,819	1,804	4,623	325,815	1.43	158.2
1854—10th September	7,779	5,964	13,743	571,439	1.75	191.2
1859—21st December	9,302	6,311	15,613	1,097,366	1.35	178.5
1870—19th March	15,371	9,412	24,783	1,808,057	1.34	192.4
1891—26th April	17,082	12,648	29,730	2,255,134	1.32	194.9
1901—16th April	28,807	19,273	48,080	1,777,321	1.57	145.2
1911—21st March	112,871	71,069	184,124	1,773,991	4.89	161.1
1921—2nd April	191,569	130,149	321,714	3,495,095	6.80	184.9
1921—4th April	177,278	135,454	312,732	3,438,734	6.12	174.0
1933—10th June	211,937	204,511	416,448	6,623,939	6.02	174.2
1947—16th June	265,070	241,104	506,174	7,579,036	6.63	191.9
1954—30th June	439,059	409,471	848,530	12,895,010	1.12	196.5
1961—30th June	572,402	501,177	1,073,579	16,508,186	7.01	194.9

(a) Number of males to each 100 females.

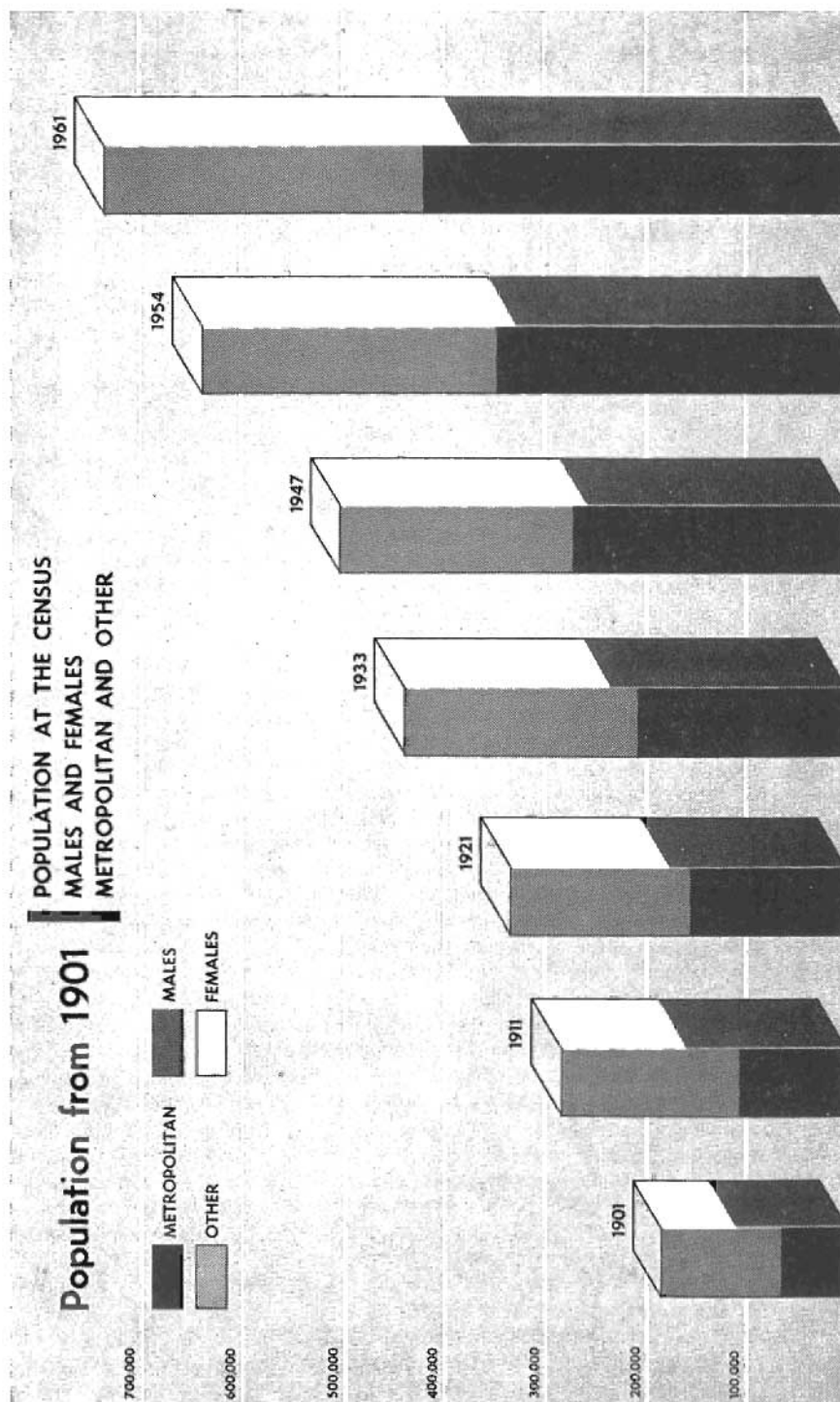
The Census of 1851 was the first taken simultaneously in all the Australian Colonies. For the dates shown in the years 1848, 1854 and 1870, the Australian population totals have been estimated from other sources. However, it is thought that the figures showing the proportion which Western Australian population bore to the Australian total at these dates are not seriously affected on that account.

Masculinity.—The sharp rise in masculinity between the Census of 1848 and the three succeeding enumerations was doubtless a result of the transportation of convicts which began in 1830 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 level 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 1887 and later years.

The masculinity of Western Australian population has continued to be high. At the 30th June, 1961, it stood at 191.9 and was higher than in any other State except Queensland (191.1) and was significantly higher than the Commonwealth figure of 192.2.

Age Composition.—The following table shows a division of the population into the proportions of those aged under 15 years, from 15 to 64 years, and 65 years and over at each census from 1881. These divisions have been chosen as being broadly representative of the child population, persons of working age, and those beyond normal working age. The proportions of minors in the population are also shown.

Of particular significance are the contrasts between 1921 and 1947 in the proportion of children in the population, due mainly to the fall in the birth rate during the late 1920's and the 1930's, and the high level shown by the 1961 figure, resulting from the improvement in the birth rate and the introduction of large numbers of migrant children during the post-war period. The decline, to 60.0 per cent., in the proportion of those of working age is another important feature.



PERCENTAGE OF POPULATION IN CERTAIN AGE GROUPS—CENSUSES, 1881-1961

Census Year (a)	Under 15 years	15 years and under 65	65 years and over	Under 15 years	15 years and over
MALES					
1881	33.7	48.0	18.3	44.5	55.5
1891	29.6	47.1	23.3	38.1	61.9
1901	24.8	44.5	30.7	32.2	67.8
1911	27.5	40.1	32.4	35.8	64.2
1921	30.7	38.9	30.3	40.9	59.1
1931	28.2	37.8	34.0	38.7	61.3
1947	28.7	35.4	35.9	35.8	64.2
1954	30.1	33.1	36.8	33.5	66.5
1961	31.7	30.5	37.8	31.9	68.1
FEMALES					
1881	44.5	59.7	15.8	56.3	43.7
1891	42.0	59.1	18.9	54.7	45.3
1901	37.1	51.6	11.3	41.1	58.9
1911	36.0	51.7	12.3	40.8	59.2
1921	34.1	52.9	13.0	45.4	54.6
1931	28.8	50.9	20.3	40.3	59.7
1947	27.3	54.4	18.3	37.0	63.0
1954	30.5	51.1	18.4	39.2	60.8
1961	32.4	50.2	17.4	41.6	58.4
PERSONS					
1881	38.4	53.1	8.5	50.7	49.3
1891	34.7	52.5	12.8	45.0	55.0
1901	29.6	49.5	20.9	39.7	60.3
1911	31.1	50.5	18.4	40.9	59.1
1921	32.1	54.5	13.4	45.0	55.0
1931	27.4	50.9	21.7	39.4	60.6
1947	27.3	54.9	17.8	36.6	63.4
1954	30.4	52.2	17.4	38.8	61.2
1961	31.5	50.0	18.5	41.7	58.3

(a) For Census data, see table on page 121.

AGE DISTRIBUTION OF THE POPULATION—CENSUS, 30th JUNE, 1961

Age Last Birthday (Years)	Number			Proportion of Total (per cent)		
	Males	Females	Persons	Males	Females	Persons
0-4	41,385	39,951	81,336	11.13	11.08	11.11
5-9	41,225	39,329	80,554	10.98	10.84	10.96
10-14	40,421	37,670	78,091	10.50	10.45	10.48
15-19	39,609	36,129	75,738	9.83	9.79	9.84
20-24	38,565	35,112	73,677	9.54	9.48	9.56
25-29	37,693	34,026	71,719	9.09	8.98	9.08
30-34	36,748	33,099	69,847	8.80	8.61	8.74
35-39	35,298	31,395	66,693	8.39	8.15	8.27
40-44	31,979	27,689	59,668	7.85	7.60	7.80
45-49	27,065	22,177	49,242	6.73	6.44	6.64
50-54	21,342	17,114	38,456	5.78	5.53	5.68
55-59	15,782	12,110	27,892	4.01	3.81	3.91
60-64	14,099	10,340	24,439	3.79	3.59	3.72
65-69	9,445	10,795	20,240	2.51	2.86	2.75
70-74	7,194	8,544	15,738	1.92	2.21	2.14
75-79	4,381	5,644	10,025	1.17	1.54	1.35
80-84	2,602	3,479	6,081	0.64	0.94	0.79
85-89	915	1,191	2,106	0.24	0.31	0.30
90-94	227	428	655	0.06	0.11	0.09
95-99	30	77	107	0.01	0.02	0.01
100 and over	1	6	7	0.00	0.00	0.00
Total	371,452	361,177	732,629	100.00	100.00	100.00
0-4	41,385	39,951	81,336	11.14	11.08	11.11
5-9	40,548	37,119	77,667	10.48	10.28	10.45
10-14	34,714	32,029	66,743	9.38	8.88	9.15
Under 15	1,7,346	15,139	32,485	4.71	4.17	4.45
15-64	138,092	115,028	253,120	34.50	31.86	33.20
65-84	77,432	70,317	147,749	20.85	19.48	20.19
85 and over	24,583	35,594	60,177	6.59	9.82	7.48
Total	371,452	361,177	732,629	100.00	100.00	100.00

Birthplace.—The following table gives a summary of population classified according to birthplace as shown by the 1961 Census. More than three quarters (77.68 per cent.) of the population at the 30th June, 1961 gave Australia as their birthplace. A total of 617,460 persons, almost nine-tenths of the population, were found to have been born in Australia, New Zealand, the United Kingdom or the Republic of Ireland. Of the 66,413 persons born in non-British Europe more than one-half were born in Italy (25,249 persons) or the Netherlands (11,163 persons).

BIRTHPLACE OF THE POPULATION—CENSUS, 30th JUNE, 1961

Birthplace	Number			Proportion of Total (per cent.)		
	Males	Females	Persons	Males	Females	Persons
Australia	584,796	587,401	576,192	77.68	77.57	77.63
New Zealand	961	941	1,911	0.26	0.26	0.26
Europe—						
United Kingdom and Republic of Ireland	44,452	38,913	52,005	11.04	10.75	11.02
Italy	14,034	10,973	25,544	3.62	3.66	3.63
Netherlands	6,154	5,009	11,163	1.64	1.55	1.61
Yugoslavia	3,580	2,980	6,560	0.95	0.94	0.94
Germany	2,715	2,669	5,384	0.71	0.70	0.70
Poland	2,705	2,954	4,711	0.74	0.92	0.84
Greece	2,580	1,895	4,475	0.65	0.51	0.58
Other	5,721	4,027	9,748	1.45	1.13	1.33
Total—Europe	92,931	67,171	140,703	22.90	19.61	20.80
Other Europeans	7,090	6,953	12,743	1.86	1.81	1.73
Grand Total	775,432	761,177	768,329	100.00	100.00	100.00

Nationality. The population at the 1961 Census is classified in the next table according to nationality. Over 95 per cent. of the population (702,800 persons) were of British nationality. Of the 66,442 persons born outside Australia, 130,708 (79.45 per cent.) were of British nationality, 13,907 (38.45 per cent.) of Italian nationality, and 7,367 (4.45 per cent.) of Dutch nationality.

NATIONALITY OF THE POPULATION—CENSUS, 30th JUNE, 1961

Nationality	Number			Proportion of Total (per cent.)		
	Males	Females	Persons	Males	Females	Persons
British—						
Born in Australia	584,796	587,401	576,192	77.68	77.57	77.63
Born outside Australia	71,601	56,997	130,708	19.19	14.91	17.14
Total British	656,397	644,398	702,895	96.87	92.48	94.67
Foreign—						
Italian	1,607	4,970	11,909	2.03	1.74	1.89
Dutch	1,014	1,453	2,463	1.04	0.95	0.99
German	1,507	445	2,177	0.34	0.25	0.30
Greek	1,051	791	1,897	0.33	0.24	0.28
Other	900	977	1,895	0.34	0.33	0.33
Polish	1,002	730	1,762	0.28	0.21	0.24
Anglo-Saxon (E.C.)	377	173	494	0.08	0.04	0.06
Japanese	770	161	101	0.07	0.04	0.06
Yugoslav	74	100	194	0.06	0.06	0.06
Other (including Swiss)	1,119	1,271	1,160	0.45	0.41	0.43
Total Foreign	15,961	14,679	31,720	3.96	4.12	4.00
Grand Total	672,358	659,077	728,329	100.00	100.00	100.00

of all persons of individual nationality status held by status of the Nationality and Citizenship Act 1948 are deemed to be British subjects. For the purposes of this table Irish nationality is included with British.

Religion. At the 1961 Census, as in the three previous enumerations, it was stated on the schedule that there was no legal obligation to reply to the question on religion. The proportion of non-reply to the total population was 16.42 per cent., 14,766 persons refraining from answering the question. Non-reply appeared more completely among the males than among the females, 11.15 per cent. of males failing to answer compared with 9.69 per cent. of females.

Industry—Classifications of the population according to industry at the 1961 Census will be found in Chapter X—*Employment, Wages and Prices*.

Occupational Status—An analysis of the population according to occupational status at each Census from 1901 to 1961 appears in Chapter X—*Employment, Wages and Prices*. A classification according to occupational status in conjunction with age and conjugal condition as recorded at the Census of 30th June, 1961 is also given in Chapter X.

Dwellings—Certain particulars of dwellings at the Censuses of 1954 and 1961 are presented in Chapter V—*Social Condition*.

ESTIMATES OF POPULATION

Estimates as at Specific Dates

For dates other than those of the periodic census of population, it is necessary to rely upon estimates based on statistics of births and deaths and of recorded movements of population interstate and overseas. The estimates are made by adding to the census figures the subsequent *natural increase* (the excess of births over deaths) and recorded *net migration* (the excess of arrivals over departures). The sum of the elements *natural increase* and *net migration* is referred to as *total increase*.

Estimates of the population of Australia and of each of the States and Territories are prepared by the Commonwealth Statistician as at 31st March, 30th June, 30th September and 31st 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.

For this reason, all State population statistics for dates or periods subsequent to the 30th June, 1961, when the last census was taken, are to be regarded as subject to revision after the next census.

ESTIMATED POPULATION

Year	At 30th June			At 31st December		
	Males	Females	Persons	Males	Females	Persons
1955	338,076	319,040	657,115	343,838	324,771	668,609
1956	346,762	327,787	674,529	350,333	330,935	681,268
1957	352,424	335,181	687,605	356,195	339,039	695,234
1958	357,425	342,140	699,565	361,441	345,755	707,196
1959	363,019	349,051	712,070	366,253	352,438	718,691
1960	367,685	354,395	722,080	372,665	358,368	731,033
1961	(a) 375,452	(a) 361,177	(a) 736,629	379,947	366,258	746,205
1962	384,132	370,345	754,477	389,304	376,411	765,715
1963	392,598	379,913	772,511	398,091	386,016	784,107
1964	401,102	388,815	789,917	405,771	393,855	799,626

(a) Census figures.

Estimates of 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 the 30th June, or motor vehicles per head of population at the 31st 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

$$\frac{1}{4}\left\{\frac{1}{2}(a + b) + \frac{1}{2}(b + c) + \frac{1}{2}(c + d) + \frac{1}{2}(d + e)\right\}$$

which may be more simply expressed as $\frac{1}{3}(a + 2b + 2c + 2d + e)$. 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

$$1/12(a + 4b + 2c + 4d + e)$$

which is now commonly used in Australian statistics. In order to establish conformity with current practice, estimates of mean population for 1961 and later years have been revised, where necessary, by the application of this formula.

ESTIMATED MEAN POPULATION

Year	Year ended 30th June			Year ended 31st December		
	Males	Females	Persons	Males	Females	Persons
1955	313,897	314,328	628,225	438,041	413,282	851,323
1956	342,877	324,367	667,245	516,631	427,828	944,459
1957	346,473	341,474	687,947	552,223	435,225	987,448
1958	354,769	338,769	693,538	557,575	447,340	1,004,915
1959	360,785	345,564	706,349	567,796	447,641	1,015,437
1960	365,252	352,564	717,816	569,112	454,796	1,023,908
1961	371,804	357,665	729,469	575,744	461,642	1,037,386
1962	379,594	366,507	746,101	584,424	470,840	1,055,264
1963	388,792	375,549	764,341	592,966	480,270	1,073,236
1964	397,314	384,664	781,978	601,246	488,978	1,090,224

SOURCES OF INCREASE

The following table shows the population of the State at each census from 1933 to 1961, and the intercensal gains by natural increase and by migration. The annual rates of total increase for each period are also shown.

POPULATION—ANALYSIS OF INTERCENSAL INCREASE: 1933 TO 1961

Particulars	Intercensal Period (a)		
	1933-1947 (14 years)	1947-1954 (7 years)	1954-1961 (7 years)
Population at Beginning of Period	425,558	507,440	606,771
Natural Increase			
Births	134,871	165,665	175,136
Deaths	(13) 61,147	(15) 35,050	(18) 70,702
Excess of Births over Deaths	(12) 73,724	130,615	104,434
Migration—			
Recorded Arrivals	(a) 173,945	335,440	635,156
Recorded Departures	(b) 196,550	61,857	607,320
Excess of Arrivals over Departures	(1) —22,605	273,583	27,836
Total Recorded Increase	51,119	394,198	106,270
Intercensal Adjustment (c)	15,744	—1,966	—9,912
Population at End of Period	505,480	605,771	716,853
Increase during Period—			
Total	61,028	392,232	96,358
Per Cent.	14.50	27.32	15.14
Average annual rate (per cent.)	1.04	3.91	2.19

(a) For Census data, see table on page 121. (b) Includes deaths of defence personnel. (c) See note (a).
 (d) Based on troop movements. Interstate migration has also been excluded for the period July, 1963 to June, 1964. (e) Unrecorded movement of population disclosed by the Census.

The population made considerable gains by natural increase during each intercensal period, the rates per thousand of mean population being 10.58 (1933-1947), 16.48 (1947-1954) and 16.40 (1954-1961), compared with rates for Australia as a whole of 9.01, 13.53 and 13.84. Western Australia's rate of increase from this source during each of the periods 1947-1954 and 1954-1961 was greater than that for any other State except Tasmania, which recorded rates of 17.11 and 17.52 per thousand of mean population.

The total increase of Western Australia's population in the period 1933-1967 was 41,628 persons, equivalent to an average annual gain of 0.97 per cent., compared with the Australian average of 0.96 per cent. In the succeeding period Western Australia experienced a higher rate, 1.61 per cent., than any other State and a considerably greater rate of growth than Australia as a whole, 2.46 per cent. per annum. During the period 1954-1961, Western Australia's increase of 2.08 per cent. per annum was lower than that of any other State except New South Wales (1.74 per cent.) and Tasmania (1.82 per cent.). The corresponding rate for Australia as a whole was 2.36 per cent. per annum.

GEOGRAPHICAL DISTRIBUTION

Western Australia is divided into a number of municipal districts for the purposes of local government administration. At the 31st December, 1964 there were 146 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 administrative problems but is often more detailed than is required for a broader geographical assessment. For this reason, the municipal districts are combined into eleven Statistical Divisions which provide significant areas for the publication of statistics in a convenient summary form. The Statistical Divisions and their component districts are shown on the map of the State appearing at the back of the Year Book.

POPULATION IN STATISTICAL DIVISIONS—1964 AND 1961

Statistical Division	Census, 30th June, 1964				Census, 30th June, 1961			
	Males	Females	Persons	Male-female ratio	Males	Females	Persons	Male-female ratio
Metropolitan	171,522	179,311	350,833	95.7	205,107	211,020	416,127	97.2
Swan	74,170	77,033	151,203	96.6	78,477	80,748	159,225	97.1
South West	16,407	17,041	33,448	96.3	17,314	18,023	35,337	96.6
Southern Agricultural	18,180	18,280	36,460	99.5	21,999	22,024	44,023	100.0
Central Agricultural	32,502	33,422	65,924	97.3	38,484	39,631	78,115	97.1
Northern Agricultural	17,403	17,406	34,809	99.9	18,379	18,369	36,748	100.0
Eastern Goldfields	16,360	16,114	32,474	101.5	16,440	16,117	32,557	102.0
Leisure	2,800	2,804	5,604	100.0	2,804	2,804	5,608	100.0
North West	2,711	2,482	5,193	109.2	2,754	2,409	5,163	114.3
Pilbara	1,795	854	2,649	209.4	2,119	1,124	3,243	188.5
Kimberley	2,800	2,240	5,040	124.5	3,816	2,501	6,317	152.6
Total - All Divisions	329,433	331,851	661,284	100.0	372,925	381,699	754,624	100.0
Unusually 75	7,960	802	8,762	99.2	8,329	489	8,818	16.9
Where Supply	337,393	332,653	670,046	101.7	381,254	382,188	763,442	100.0

100 Number of males to each 100 females. 101 Comprises persons (both passengers and crew) not enumerated elsewhere also at midnight on Census night, were on board ships or were travelling on long-distance trains, motor coaches or aircraft.

The growing urbanisation occurring in other States is also apparent in Western Australia. The population of the Metropolitan Statistical Division at the Census of the 30th June, 1961 was 416,127, or 55.8 per cent. of the State total, compared with 348,647 (54.5 per cent.) seven years earlier, an increase of 19,480 persons, or 5.5 per cent. The State's natural increase between the Censuses was 19,432 of which the Metropolitan Division contributed 45,946. In addition, this Division experienced a net gain by migration of 38,640. The larger towns of the Agricultural and South-West Statistical Divisions also showed substantial population increases, the greatest being those of Bunbury (3,317 persons, or 26.6 per cent.), Geraldton (2,395; 31.1 per cent.) and Albany (2,261; 37.4 per cent.).

The total population of the non-metropolitan Divisions rose by 24,622 or little more than 5.5 per cent. The natural increase recorded in these Divisions was 43,386, so that there was a loss of 18,764 persons by migration from the area. Of the net increase of 24,622 persons, the Swan Division accounted for more than one-third with a population gain of 8,983, equivalent to 19.1 per cent. The greatest proportional increase, 99.9 per cent., occurred in the Kimberley Division which added 2,125 persons to its population

of 3,843 at the 1956 Census. Other Divisions showing an increase were Southern Agricultural, 2,498 (11.2 per cent.); Northern Agricultural, 3,717 (11.6 per cent.); South-West, 1,664 (11.1 per cent.); Central Agricultural, 1,650 (8.0 per cent.); Polina, 593 (21.4 per cent.); and North-West, 341 (6.1 per cent.). Divisions which experienced a decrease in population were Central (which lost 585 persons (17.4 per cent.)) and Eastern (which lost 428 (11.3 per cent.)).

Outside the Metropolitan Statistical Division, the largest towns are Kalgoorlie-Boulder (gold mining), Renmark, Cedricton, and Albury (papermills), Geelong (iron mining), and Narracan (agricultural centre). These towns are included in the following list, which shows the names and populations of all towns with less than 1,000 inhabitants at the Census. Those designated 'N.M.' are non-municipal towns, which are unincorporated towns having a Census population of 1,000 or more, are situated outside the Metropolitan Statistical Division and for which boundaries have been specified for Census purposes.

PRINCIPAL TOWNS (a) POPULATION AT CENSUS OF 30th JUNE, 1961

[illegible]

1. The name and designation used for some years before 1960 of the Lake Michigan A.C. 1960 form was obsolete.

The area described within the South West Land Division 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 Metropolitan, Swan, South West, Southern Agricultural, Central Agricultural and Northern Agricultural Statistical Divisions. It embraces an area of 96,305 square miles, a little more than one-fifth of the whole State (1075,920 square miles), and had a population of 684,077 persons at the 1961 census compared with 87.5 per cent of the State total.

The Karner, Gifford, Central and Pilbara Statistical Divisions together comprised an area of 636,198 square miles or almost two-thirds of the State and had a population of only 11,344 persons at the Census of the 30th June, 1901. A vast unstocked country much of it virtually uninhabitable and desert or near desert conditions prevail over some 300,000 square miles which includes much of the eastern and northern parts of the area and extends into the northern 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 less than ten. Of the total of 11,344 persons enumerated in the three Divisions at the Census, there were 14,000 were living at or near the towns of Kalbarrie Boulder (21,771), Newman (12,471), Esperance (1,365), Geraldton (970), Port Hedland (965), Southern Cross (939), Mount Magnet (908), Watkinson (881), Bullock (774), Leederville (687), Meekatharra (640) and Ravensthorpe (599). Little more than 8,000 persons, therefore, were resident in the remainder of the area.

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, almost all of the North-West and the whole of the Pilbara and Kimberley Statistical Divisions, is 529,485 square miles in extent. It is therefore somewhat greater in area than half the entire State, but has a population at the 1961 Census of only 13,657 persons. Of these, more than 8,800 were to be found at or near the ports of the north and north-west coasts, and only about 5,000 on the sheep and cattle stations and at mines and developmental projects in the hinterland.

Density—The most densely populated part of the State is the Metropolitan Statistical Division. At the Census of the 30th June, 1961 it had a population of 420,133 and an area of 122 square miles, representing a density of 3,190 persons per square mile. The Central Division is the most sparsely populated with an area of 215,970 square miles (more than one-fifth of the entire State) and a Census population of only 3,959 persons, equivalent to an average of one person to every 54 square miles.

AREA, POPULATION AND DENSITY—STATISTICAL DIVISIONS CENSUS, 30th JUNE, 1961

Statistical Division	Area		Population				Persons per square mile
	Square Miles	Proportion of State (per cent)	Males	Females	Persons	Proportion of State (per cent)	
Metropolitan	122	0.56	275,107	215,028	490,135	57.00	3,190.56
Swan	1,289	0.59	28,177	26,788	54,965	7.10	29.30
South-West	11,025	5.13	27,214	24,321	51,535	9.78	2.90
Southern Agricultural	22,060	2.28	21,999	19,324	41,323	6.35	1.89
Central Agricultural	10,070	2.28	10,964	26,230	37,194	7.22	1.95
Northern Agricultural	16,840	1.77	10,579	16,207	26,786	4.26	0.97
Eastern Goldfields	250,225	25.44	14,430	15,712	30,142	4.45	0.14
Central	215,970	22.04	3,761	1,511	5,272	0.54	0.02
North-West	75,732	7.76	2,711	1,810	4,521	0.62	0.06
Pilbara	171,482	17.57	2,139	1,125	3,264	0.44	0.02
Kimberley	152,383	15.54	3,834	1,622	5,456	0.77	0.02
Total—All Divisions	975,920	100.00	375,921	380,099	756,020	100.00	0.75
Metropolitan			2,579	455	3,034	0.41	
White State	975,920	100.00	375,442	381,177	756,619	100.00	0.75

(a) Does not include persons (both persons and dogs) not enumerated elsewhere who, at nightfall on Census night, were on board ships or were travelling on long-distance buses, motor coaches or aircraft.

Western Australia had a population density at the 1961 Census of only 0.75 persons per square mile, compared with an average of 3.54 for Australia as a whole. Victoria was the most densely populated State, having an average of 33.34 persons per square mile.

The following table shows the area of each of the States and Territories together with the population and its density at the Census of 30th June, 1961.

AREA, POPULATION AND DENSITY STATES AND TERRITORIES CENSUS, 30th JUNE, 1961

State or Territory	Area in square miles	Population			Persons per square mile
		Males	Females	Persons	
New South Wales	209,430	1,972,909	1,941,104	3,914,013	12.46
Victoria	87,894	1,475,486	1,455,713	2,931,199	33.34
Queensland	397,000	774,379	781,244	1,555,623	2.28
South Australia	380,070	380,325	479,125	859,450	2.55
Western Australia	975,920	375,442	381,177	756,619	0.75
Tasmania	28,338	177,826	172,712	350,538	13.25
Northern Territory	420,280	16,200	16,800	33,000	0.08
Australian Capital Territory	910	80,356	37,970	118,326	12.90
Australia	2,967,900	5,315,292	5,190,011	10,505,303	3.54

* Revised

ABORIGINALS

It is provided in section 127 of the Commonwealth of Australia Constitution Act 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." Commonwealth legal authorities have given an opinion that persons of the half blood are not "aboriginal natives" within the meaning of the Constitution, and a further that persons of less than half aboriginal blood are not aboriginal natives.

The principle followed in classification for census purposes is that persons having a preponderance of aboriginal blood are regarded as full blood, those of full aboriginal and half European blood as half casts, while those having aboriginal blood to a degree less than one half and European blood to a degree greater than one half are regarded as being of European race. Full blood Australian aboriginals as defined are thus excluded, by the requirements of the Constitution Act, from the main tabulations relating to the population census. Nevertheless, every individual is liable in the course of the census inquiries to be recorded as full blood aboriginals in contact with civilization. The nomadic habits of the natives, even of those on employment, in remote areas make this comparison extremely difficult, and much more so in the case of those living under tribal conditions. At the 1961 Census, 8,121 full blood aboriginals were enumerated in Western Australia, and of these one half were in the Kimberley Statistical Division, one quarter in the Eastern Goldfields and Central Divisions and one fifth in the Pilbara and North-West Divisions. It is estimated by the Department of Native Welfare that some 2,000 full blood aboriginals are living "beyond the confines of civilization," so that the total population may reasonably be assumed to be about 10,000.

CHAPTER IV - *continued*

PART 2 - BIRTHS, DEATHS AND MARRIAGES

THE REGISTRATION SYSTEM

Compulsory registration of births, deaths and marriages in Western Australia was originally provided for by legislation of the year 1843. The Statute currently in force is the Registration of Births, Deaths and Marriages Act, 1961 which came into operation on the 1st September, 1963 to coincide with the commencement of the Marriage Act 1961 (Commonwealth). For the administration of the Act, the State is divided into 27 Registry Districts, each having a District Registrar. Returns and duplicates of all registrations, together with the original supporting documents, are sent weekly from the district offices to the Registrar General at Perth, where a Central Registry Office has been maintained since 1843.

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.

In the case of the birth of a child of at least 28 weeks' gestation not born alive, registration is required both as a birth and a death.

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 (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.

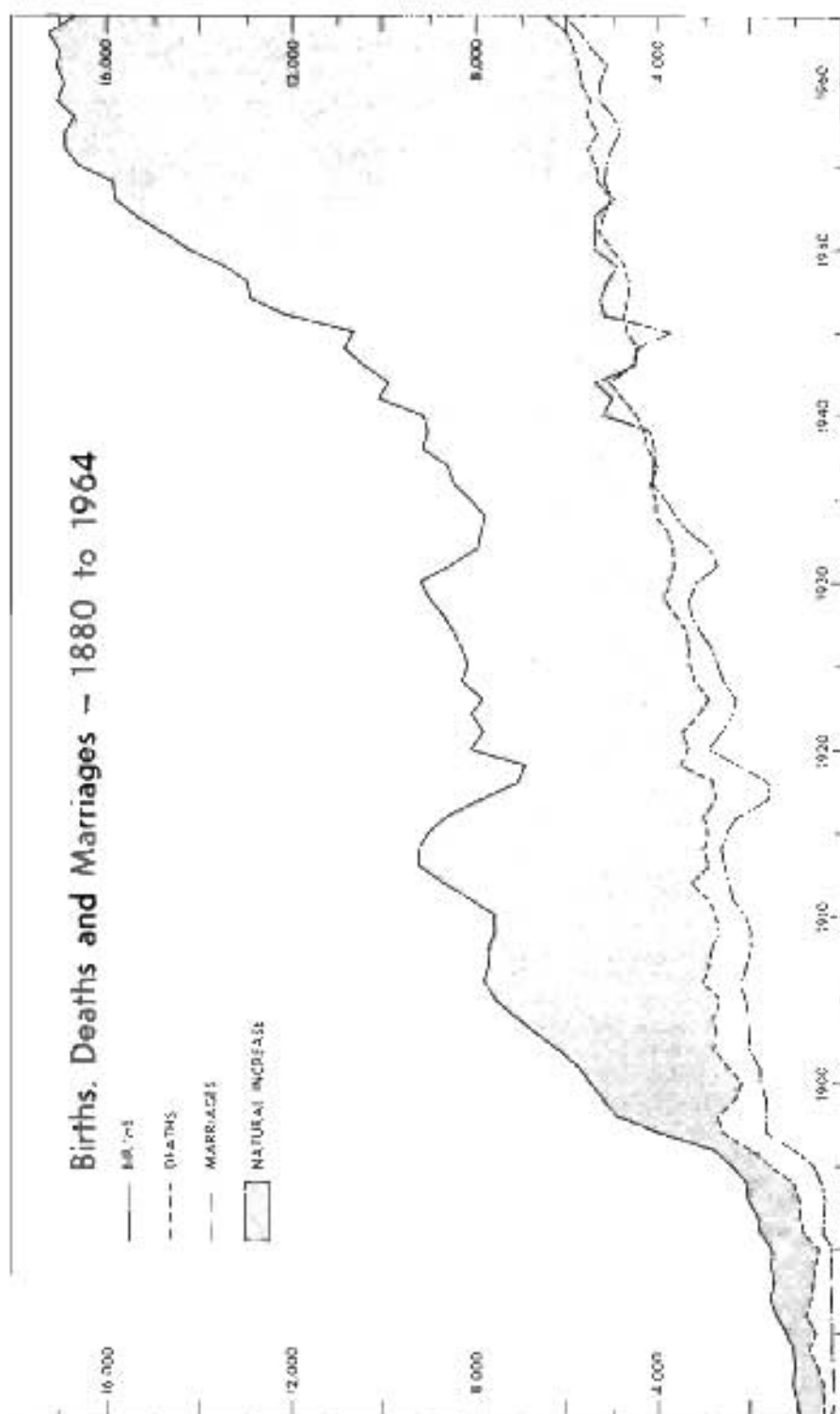
Statistics of births, deaths and marriages are prepared from the registration documents. These vital statistics are compiled according to date of registration and not date of occurrence, and according to place of usual residence and not place of occurrence.

BIRTHS

Statistics of births in each of the five years 1960 to 1964 in the Metropolitan Statistical Division, the rest of the State, and in Western Australia as a whole are shown in the following table.

BIRTHS						
Year	Births (a)			Extra-nuptial Births (a)	Multiple Births (a)	Stillbirths
	Male	Females	Total			
METROPOLITAN STATISTICAL DIVISION						
1960	4,587	4,178	8,765	418	393	117
1961	4,545	4,337	8,782	471	169	121
1962	4,541	4,542	9,083	482	187	111
1963	4,630	4,384	9,014	592	161	70
1964	4,447	4,182	8,629	515	151	51
REST OF STATE						
1960	4,182	4,054	8,236	508	166	139
1961	4,555	4,041	8,596	468	145	110
1962	4,288	4,398	8,686	521	144	32
1963	4,213	4,137	8,350	597	173	86
1964	4,125	3,935	8,060	506	165	69
WHOLE STATE						
1960	8,769	8,232	16,999	926	559	226
1961	8,690	8,378	17,068	939	519	140
1962	8,829	8,940	17,769	1,003	351	143
1963	8,869	8,521	17,390	1,189	334	175
1964	8,572	8,117	16,689	1,030	305	129

(a) Figures represent the number of children live-born.



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 1911 to 1961 and the rates for single years from 1955 to 1964, for Western Australia and Australia as a whole, are shown in the following table.

CRUDE BIRTH RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period	Average Annual Rate		Year	Annual Rate	
	Western Australia	Australia		Western Australia	Australia
1911-1915	28.67	27.75	1955	25.23	22.57
1916-1920	24.49	25.95	1956	25.06	22.51
1921-1925	22.85	21.85	1957	24.03	22.26
1926-1930	21.54	20.95	1958	23.90	22.40
1931-1935	19.06	19.04	1959	24.04	22.17
1936-1940	19.15	17.52	1960	23.51	22.42
1941-1945	17.72	20.78	1961	23.16	22.55
1946-1950	22.84	23.50	1962	22.59	22.14
1951-1954	25.97	25.80	1963	22.16	21.63
1955-1960	24.25	22.50	1964	21.11	20.58

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 latter part of the first World War and during the early 1920's.

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 1953 when the rate reached 25.96, its highest level since 1917. Since 1952 there has been a decline and in 1964 the rate was 21.11, the lowest since 1942.

Gross and Net Reproduction 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. Gross and net reproduction rates, which do have regard to these factors, are therefore generally to be preferred to the crude birth rate as measures of fertility.

The gross reproduction rate is derived from age specific fertility rates, which represent the number of female births occurring to women of specified ages per thousand women of those particular ages. It thus takes cognizance of the considerable variations in fertility experienced by women at the successive stages of their child bearing life. The gross reproduction rate is 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.

The gross reproduction rates for Western Australia and the Commonwealth in 1961, the latest Census year for which particulars are available, were 1.780 and 1.724, and the corresponding net rates 1.712 and 1.638.

The following table shows the age specific fertility rates, in terms of female births only, the gross reproduction rates and the net reproduction rates for Western Australia and Australia in each of the Census years 1947, 1954 and 1961.

FERTILITY RATES AND REPRODUCTION RATES
WESTERN AUSTRALIA AND AUSTRALIA

Rate	Western Australia			Australia		
	1947	1954	1961	1947	1954	1961
Age Specific Fertility Rates (a): Age Group (years)						
15-19	12.87	20.58	22.32	15.38	19.12	22.87
20-24	89.45	116.72	114.85	80.68	95.24	110.01
25-29	69.76	106.22	109.40	90.05	94.49	107.73
30-34	72.12	65.07	63.15	65.78	50.01	45.62
35-39	42.87	34.72	30.12	38.44	31.17	30.53
40-44	14.48	11.02	9.08	11.44	9.85	8.26
45-49	1.17	0.76	0.65	0.80	0.71	0.70
Gross Reproduction Rate	1.683	1.772	1.780	1.493	1.586	1.724
Net Reproduction Rate	(b) 1.595	(c) 1.704	(c) 1.717	(b) 1.410	(c) 1.497	(c) 1.658

(a) Number of female births per 1,000 women in each age group.

(b) Based on 1940-1945 mortality experience.

(c) Based on 1950-1955 mortality experience.

DEATHS

Statistics of deaths in each of the five years 1960 to 1964 in the Metropolitan Statistical Division, the rest of the State, and in Western Australia as a whole appear in the next table. Infant deaths (those which occur in the first year of life) are also shown.

DEATHS

Year	Deaths (a)			Infant Deaths (b)		
	Males	Females	Total	Males	Females	Total
METROPOLITAN STATISTICAL DIVISION						
1960	2,028	1,567	3,595	87	81	168
1961	2,043	1,687	3,730	85	63	148
1962	2,157	1,675	3,832	106	73	179
1963	2,149	1,770	3,919	86	63	149
1964	2,084	1,910	3,994	87	55	142
REST OF STATE						
1960	1,127	757	2,084	107	90	197
1961	1,203	718	1,921	103	68	171
1962	1,240	728	1,968	120	61	181
1963	1,264	758	2,022	110	90	200
1964	1,280	781	2,061	49	91	140
WHOLE STATE						
1960	3,155	2,324	5,479	194	172	366
1961	3,246	2,405	5,651	188	133	321
1962	3,397	2,413	5,810	226	134	360
1963	3,413	2,528	5,941	196	137	333
1964	3,364	2,691	6,055	136	146	282

(a) Including infant deaths.

(b) Deaths occurring in the first year of life.

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 1911 to 1964 are compared in the following table.

CRUDE DEATH RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period	Average Annual Rate		Year	Annual Rate	
	Western Australia	Australia		Western Australia	Australia
1911-1915	9.86	10.73	1955	6.18	8.92
1916-1920	9.93	10.78	1956	8.26	9.13
1921-1925	9.17	9.52	1957	7.71	8.81
1926-1930	8.91	9.28	1958	7.94	8.50
1931-1935	8.83	9.00	1959	7.72	8.87
1936-1940 (a)	9.22	9.63	1960	7.88	8.61
1941-1945 (a)	9.86	9.98	1961	7.77	8.47
1946-1950 (a)	9.23	9.74	1962	7.60	8.70
1951-1955	8.49	9.25	1963	7.73	8.69
1956-1960	7.90	8.78	1964	8.14	9.03

(a) 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 1962 when the rate was 7.69, the lowest ever recorded in Western Australia. The rates for 1963 and 1964 were 7.73 and 8.14 per thousand of mean population.

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 1911 to 1964 are shown in the following table.

INFANT MORTALITY RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period	Average Annual Rate		Year	Annual Rate	
	Western Australia	Australia		Western Australia	Australia
1911-1915	72.43	70.32	1955	22.44	22.01
1916-1920	61.73	64.67	1956	22.70	21.72
1921-1925	59.14	57.88	1957	21.09	21.41
1926-1930	49.27	51.99	1958	21.52	20.49
1931-1935	40.81	41.27	1959	20.16	21.54
1936-1940	39.70	38.81	1960	21.62	20.16
1941-1945	33.30	34.97	1961	19.67	19.54
1946-1950	28.15	26.98	1962	22.27	20.41
1951-1955	24.41	23.34	1963	20.42	19.55
1956-1960	21.42	21.05	1964	19.66	19.06

In the first decade of the century, the average annual rate (106.07) 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 reveals a less favourable situation than for the Commonwealth as a whole. In the five years ended 1964, Western Australia's average annual rate was 20.73 compared with the Australian rate of 19.75 and was greater than that for any other State.

Causes of Infant Deaths—The causes of death in the first year of life, in certain broad groups, during the period 1901 to 1964 are set out in the following table. Changes in description and in method of classification make such a comparison somewhat difficult, but it is thought that the figures give a reasonably reliable indication of trends within the various groups.

INFANT DEATHS†—NUMBERS AND RATES (a)

Year	Cause of Death											
	Diseases of Early Infancy		Congenital Malformation		Diseases of Digestive System		Infective and Parasitic Diseases		All Other Causes		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1901	249	43.55	6	1.05	277	48.44	51	8.92	154	26.93	737	128.89
1911	222	27.43	19	2.35	213	26.34	30	3.71	131	16.19	615	76.01
1921	195	24.98	28	3.59	197	25.23	(b)	(b)	(b)191	(b)24.46	611	78.26
1931	179	20.94	37	4.33	40	4.08	25	2.92	74	8.66	355	41.53
1941	180	17.79	43	4.25	54	5.34	9	0.89	71	7.02	357	35.28
1951	284	17.85	61	4.12	25	1.69	9	0.61	66	4.46	425	28.73
1961	177	10.36	55	3.22	27	1.58	10	0.59	67	3.92	336	19.67
1960	218	12.88	63	3.72	13	0.77	10	0.59	62	3.86	366	21.62
1961	177	10.36	55	3.22	27	1.58	10	0.59	67	3.92	336	19.67
1962	200	11.72	72	4.22	29	1.70	12	0.70	67	3.93	380	22.27
1963	217	12.55	54	3.12	20	1.21	5	0.29	57	3.24	353	20.42
1964	184	11.03	55	3.30	21	1.26	6	0.33	62	3.72	328	19.65

† Excluding stillbirths.
in "All Other Causes."

(a) Rate per 1,000 live births.

(b) "Infective and Parasitic Diseases" included

The greatest decrease has taken place in the group "Diseases of the Digestive System." The principal cause of death in this group is diarrhoea and enteritis, which in 1901 accounted for 223 of the 737 deaths under one year of age. This represented a mortality rate from this cause alone of 39.00 per thousand live births. The corresponding rate for 1964, when there were 17 infant deaths from diarrhoea and enteritis, was 1.02.

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. The importance of stillbirths is evident from the fact that, in the period 1955 to 1964, the average annual number of stillbirths registered was 218, compared with an average of 358 deaths in the first year of life.

STILLBIRTHS AND INFANT DEATHS

Year	Stillbirths				Deaths under One Year of Age			
	Males	Females	Total	Masculinity (a)	Males	Females	Total	Masculinity (a)
1955	126	113	239	111.5	217	156	373	139.1
1956	113	113	226	100.0	211	173	384	122.0
1957	135	113	248	119.5	213	144	357	147.9
1958	136	89	225	152.8	197	163	360	120.9
1959	127	96	225	129.6	195	150	345	130.0
1960	121	105	226	115.2	194	172	366	112.8
1961	137	103	240	133.0	183	153	336	119.6
1962	108	95	203	113.7	226	154	380	146.8
1963	98	80	178	122.5	196	157	353	124.8
1964	92	78	170	117.9	180	143	328	121.6

(a) 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 AND INFANT DEATHS—NUMBERS AND RATES

Year	Stillbirths	Infant Deaths			Stillbirths and Infant Deaths	
		Under One Week	Under One Month	Under One Year		
		NUMBER				
1955		239	324	268	515	612
1956		228	223	289	284	610
1957	++	218	233	258	357	605
1958	++	225	217	240	380	665
1959		226	214	234	345	570
1960		232	198	209	366	562
1961	++	240	179	218	316	679
1962	++	203	208	227	390	553
1963		178	214	207	335	531
1964		170	169	217	328	498
RATE (a)						
1955		14.17	19.26	16.78	21.12	16.29
1956		15.18	10.07	10.60	22.40	15.89
1957		14.44	18.57	14.91	20.79	16.23
1958	++	15.27	12.60	14.15	21.23	14.56
1959		12.68	12.34	13.50	18.60	12.88
1960		15.18	10.93	16.86	21.34	14.51
1961	++	15.86	10.34	12.69	19.40	13.84
1962	++	11.79	12.03	14.30	22.01	15.78
1963	++	10.19	12.25	14.71	20.51	13.40
1964		10.09	11.81	12.87	19.46	12.58

(a) Rate per 1,000 of total births (+, including stillbirths).

Of the 5,782 failures during the ten years to complete the first year of life, due either to stillbirth or to death in the first year, 2,180 or 37.63 per cent. were attributable to stillbirth.

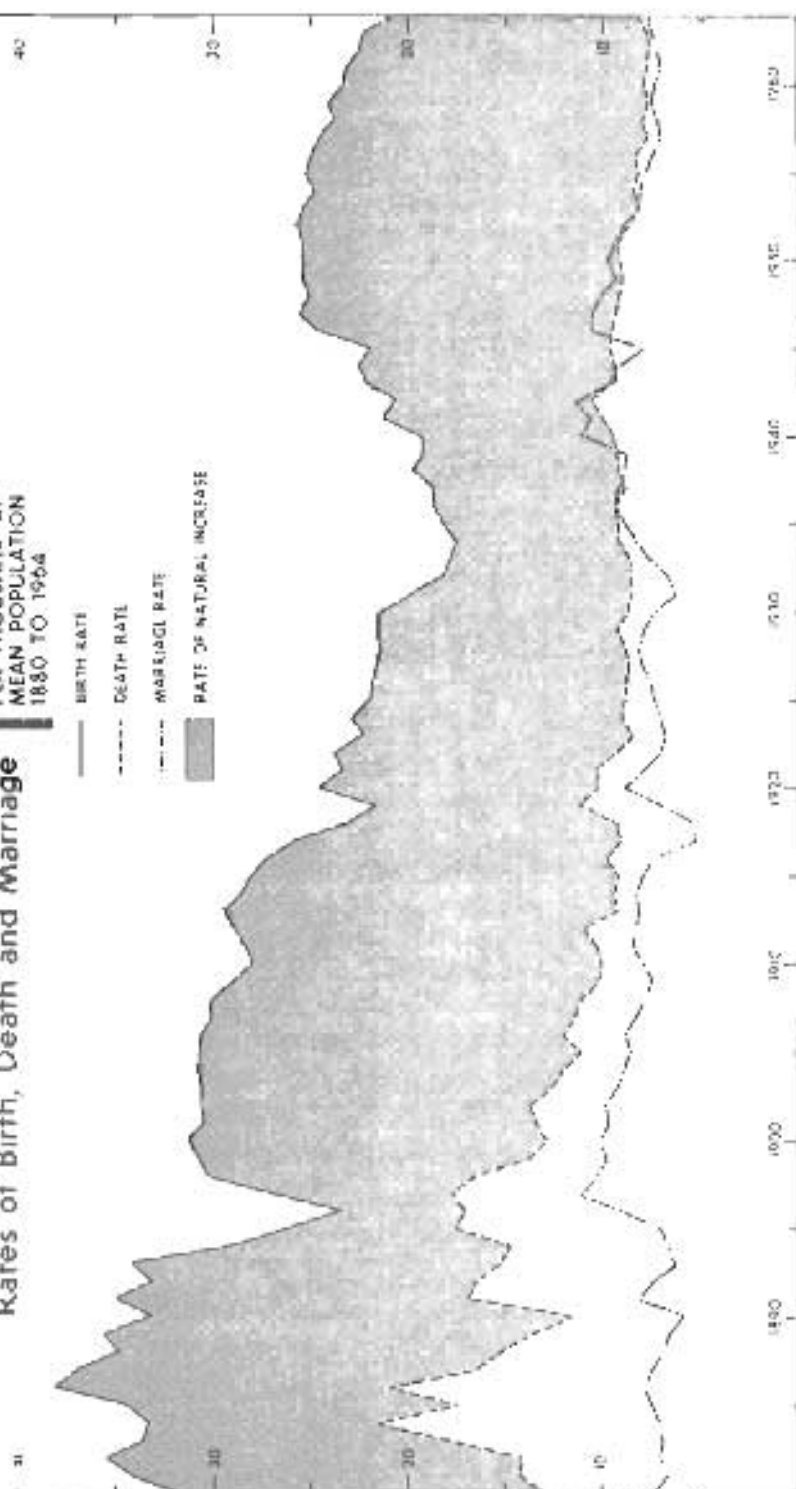
Standardized Death Rates—The crude death rate, as noted earlier, expresses simply the number of deaths occurring in a population during any period as a proportion of the mean population for that period. Although this rate is useful as a measure of the absolute level of mortality, its value is necessarily 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 of 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 19 European countries at their censuses nearest to the year 1900, has been used as the basis of the standardized death rates for Western Australia and Australia quoted in the following 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 standardized 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 and 1961 the standardized death rates for Western Australia were 11.86, 8.74, 7.28, 6.71 and 6.03, and the corresponding rates for Australia as a whole were 10.58, 8.63, 7.24, 6.30 and 6.27.

Rates of Birth, Death and Marriage PER THOUSAND OF MEAN POPULATION 1880 TO 1964

- BIRTH RATE
- - - DEATH RATE
- · - · - MARRIAGE RATE
■ RATE OF NATURAL INCREASE



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 1893. Subsequently this Classification was periodically revised by the Institute in collaboration with the League of Nations Health Organization. The current revision, the seventh to be made, was carried out by a Committee of the World Health Organization.

The following table shows the number of deaths in Western Australia during each year from 1960 to 1964 classified according to cause, together with the corresponding rates per thousand of mean population.

DEATHS CLASSIFIED ACCORDING TO PRINCIPAL CAUSE—NUMBERS AND RATES (a)

Cause of Death	1960	1961	1962	1963	1964
NUMBER					
Diseases of the heart	1,066	1,087	1,074	1,117	1,166
Cancer	507	531	523	1,029	1,015
Cerebral haemorrhage, etc.	861	862	849	840	708
Automobile accidents	215	180	175	199	232
Other accidents	191	195	21	190	270
Pneumonia	200	227	224	271	225
General arteriosclerosis	192	177	227	273	260
Dysentery and diarrhoea	21	20	25	17	45
Other diseases of digestive system	136	140	135	125	130
Nephritis	48	42	47	40	41
Other diseases of genito-urinary system	78	77	72	76	47
Suicide	90	95	105	117	124
Homicide	10	17	7	12	12
Born still	25	91	104	116	128
Rickets mellitus	20	22	24	23	27
Tuberculosis	20	18	22	15	20
Maternal causes	8	7	12	4	6
All other causes	786	704	512	740	756
All Causes	5,637	5,729	5,510	6,076	6,429
RATE (a)					
Diseases of the heart	2.76	2.74	2.76	2.74	2.81
Cancer	1.25	1.26	1.22	1.25	1.23
Cerebra, haemorrhage, etc.	5.90	5.96	5.87	5.93	5.00
Automobile accidents	5.28	4.26	4.23	4.28	5.20
Other accidents	5.17	5.26	0.28	4.25	6.77
Pneumonia	0.29	0.32	0.30	0.37	0.30
General arteriosclerosis	0.27	0.24	0.29	0.27	0.26
Dysentery and diarrhoea	0.05	0.05	0.06	0.05	0.05
Other diseases of digestive system	0.20	0.19	0.19	0.16	0.19
Nephritis	0.07	0.07	0.08	0.06	0.06
Other diseases of genito-urinary system	0.11	0.12	0.10	0.09	0.11
Suicide	0.22	0.22	0.24	0.20	0.20
Homicide	0.01	0.01	0.01	0.02	0.02
Born still	0.12	0.15	0.14	0.15	0.16
Rickets mellitus	0.05	0.05	0.07	0.06	0.07
Tuberculosis	0.04	0.03	0.04	0.03	0.05
Maternal causes	0.02	0.01	0.01	0.01	0.01
All other causes	1.68	1.26	0.94	1.25	1.19
All Causes	7.50	7.77	7.49	7.70	8.14

(a) Rate per thousand of mean population.

Expectation of Life—The Australian Life Tables prepared on the basis of the results of the national population census, form a comprehensive series covering the experience of seven separate periods, 1881-1890, 1891-1900, 1901-1910, 1911-1920, 1921-1930, 1931-1940 and 1941-1950. The expectation of life of males and females at various ages as revealed by these investigations is shown in the following table.

It will be seen that there has been a substantial and consistent increase in the expectation of life of both the Australian male and the Australian female. Thus, while males, according to the experience of the period 1881-1890, had at birth an average expectancy of 47.20 years of life, the latest investigation shows that this expectancy has risen to 67.14 years. The anticipated life span of females at birth has increased from 50.84 years to 72.75 years in the same period. This greater expectation of life of females than of males applies, with very few exceptions, at each age and in each period covered by the table.

EXPECTATION OF LIFE—AUSTRALIA : 1881-1890 TO 1953-1955
(Years)

Age last birthday (years)	1881-1890	1891-1900	1901-1910	1920-1922	1932-1934	1946-1948	1953-1955
MALES							
0	47.20	51.08	55.20	59.15	63.48	66.07	67.14
1	53.34	56.88	59.06	62.67	65.49	67.25	67.86
2	54.28	57.41	60.04	62.60	65.00	66.47	67.05
3	54.01	56.98	59.46	61.99	64.26	65.80	66.17
4	53.49	56.33	58.71	61.25	63.43	64.70	65.26
5	52.86	55.61	57.91	60.43	62.57	63.77	64.32
10	48.86	51.43	53.53	56.01	58.02	59.04	59.53
15	44.45	46.98	49.03	51.44	53.36	54.28	54.72
20	40.58	42.81	44.74	46.99	48.81	49.64	50.10
25	37.10	38.90	40.60	42.70	44.37	45.04	45.54
30	33.84	35.11	36.52	38.44	39.60	40.40	40.90
35	30.06	31.34	32.49	34.20	35.46	35.79	36.25
40	26.50	27.65	28.56	30.05	31.11	31.23	31.65
45	23.04	23.99	24.78	26.03	26.87	26.83	27.18
50	19.74	20.45	21.16	22.20	22.83	22.67	22.92
55	16.65	17.08	17.67	18.61	19.03	18.84	19.00
60	13.77	13.99	14.36	15.08	15.57	15.86	15.47
65	11.06	11.25	11.31	12.01	12.40	12.25	12.33
70	8.82	8.90	8.67	9.26	9.60	9.65	9.59
75	6.72	6.70	6.58	6.87	7.19	7.23	7.33
80	5.11	5.00	4.90	5.00	5.22	5.36	5.47
85	3.86	3.79	3.65	3.62	3.90	3.84	4.01
90	2.91	2.91	2.64	2.60	2.99	2.74	2.93
95	2.10	2.18	1.88	1.86	2.11	1.93	2.10
100	1.32	1.23	1.18	1.17	1.10	....	....
FEMALES							
0	50.84	54.78	58.84	63.31	67.14	70.63	72.75
1	56.44	59.69	62.89	66.03	68.67	71.45	73.22
2	57.39	60.46	62.95	65.86	68.12	70.66	72.40
3	57.16	59.98	62.34	65.21	67.34	69.77	71.49
4	56.63	59.35	61.60	64.44	66.60	68.84	70.55
5	56.00	58.64	60.80	63.64	65.64	67.91	69.61
10	51.95	54.46	56.39	59.20	61.02	63.11	64.78
15	47.54	49.97	51.86	54.55	56.29	58.27	59.90
20	43.43	45.72	47.52	50.03	51.07	53.47	55.06
25	39.07	41.69	43.36	45.71	47.19	48.74	50.24
30	36.13	37.86	39.33	41.48	42.77	44.08	45.43
35	32.58	34.14	35.37	37.28	38.37	39.46	40.67
40	29.08	30.49	31.47	33.14	34.04	34.91	36.00
45	25.56	26.69	27.59	28.99	29.74	30.45	31.44
50	22.06	22.93	23.69	24.90	25.58	26.14	27.03
55	18.64	19.29	19.85	20.95	21.68	22.04	22.81
60	15.39	15.66	16.20	17.17	17.74	18.11	18.78
65	12.27	12.75	12.88	13.60	14.16	14.44	15.02
70	9.70	9.69	9.66	10.41	10.98	11.14	11.62
75	7.24	7.37	7.59	7.73	8.23	8.32	8.69
80	5.27	5.40	5.73	5.61	6.01	6.02	6.30
85	3.90	4.12	4.19	4.06	4.30	4.32	4.52
90	2.98	3.07	2.99	2.91	3.05	3.08	3.24
95	2.25	2.18	2.10	2.07	2.00	2.14	2.31
100	1.37	1.23	1.24	1.24	1.02	....	....

MARRIAGES

The number of marriages celebrated in Western Australia in each of the five years 1960 to 1964 is shown in the following table. Marriages celebrated by ministers of religion are distinguished from those celebrated by District Registrars, and the numbers of minors marrying are also shown.

MARRIAGES							
Year	Marriages Celebrated by		All Marriages	Proportion Celebrated by Registrars (per cent.)	Number of Minors Married		
	Ministers	Registrars			Males	Females	Persons
METROPOLITAN STATISTICAL DIVISION							
1960	2,495	476	3,171	15.1	890	1,164	1,444
1961	2,556	452	3,008	15.0	892	1,227	1,409
1962	2,628	526	3,213	16.3	845	1,218	1,566
1963	2,962	521	3,613	14.5	445	1,425	1,845
1964	3,122	572	3,934	14.1	413	1,476	1,889
REST OF STATE							
1960	1,249	401	2,150	14.0	213	974	1,187
1961	1,221	311	2,142	14.5	216	962	1,178
1962	1,963	280	2,253	12.9	217	962	1,229
1963	1,975	327	2,242	14.6	280	1,014	1,294
1964	2,039	360	2,399	15.1	308	1,182	1,490
WHOLE STATE							
1960	4,544	777	6,221	14.6	603	2,126	2,603
1961	4,387	763	6,160	14.3	446	2,069	2,507
1962	4,651	815	6,466	14.3	532	2,397	2,789
1963	4,907	848	5,765	14.7	704	2,437	3,142
1964	5,161	932	6,093	14.5	714	2,615	3,329

The statistics of minors marrying during the five-year period as shown above record that 41.38 per cent. of brides were minors, compared with only 10.87 per cent. of bridegrooms.

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 1911 to 1960, as well as the rates for each of the years from 1955 to 1964, are shown in the following table.

MARRIAGE RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period	Average Annual Rate		Year	Annual Rate	
	Western Australia	Australia		Western Australia	Australia
1911-1915	6.28	6.38	1955	7.33	7.34
1916-1920	6.30	7.33	1956	7.63	7.62
1921-1925	7.27	8.34	1957	7.12	7.49
1926-1930	7.49	7.52	1958	7.20	7.42
1931-1935	7.28	7.15	1959	7.67	7.49
1936-1940	9.42	9.32	1960	7.28	7.34
1941-1945	9.74	9.94	1961	6.89	7.30
1946-1950	10.01	9.77	1962	7.26	7.29
1951-1955	8.14	8.22	1963	7.14	7.41
1956-1960	7.29	7.59	1964	7.62	7.72

CHAPTER V—SOCIAL CONDITION

PART I—EDUCATION

PRIMARY, SECONDARY AND TECHNICAL EDUCATION

The Blue Books of the Colony of Western Australia indicate that some form of education was available from the earliest years of settlement but it was not until 1867 that an authority for the control of public schools was appointed. This body, the General Board of Education, was empowered to charge fees but provision was made for an adjustment in accordance with the parents' ability to pay. There was thus a measure of assistance in education but school attendance was not compulsory.

The first Elementary Education Act was passed in 1871 and established a Central Board of Education. The Act provided for payment by the Government of grants in aid to non-government elementary schools, and designated as "assisted" schools those to whom grants were made. The Central Board was "to exercise a general supervision over all schools receiving Government aid in secular instruction only, and a more special direction over partly Government schools." It was also the function of the Central Board to apportion and distribute lands provided for educational purposes by the Legislature and to fix a scale of fees for attendance at government schools which, however, were not to be charged in cases of hardship. District Boards were established to inspect and supervise both government and "assisted" schools in their areas and to report periodically to the Central Board. Compulsory schooling was prohibited for all children aged more than six but less than fourteen years who lived within three miles of a school.

The Elementary Education Act Amendment Act, 1893 abolished the Central Board of Education and vested control in a Minister of Education. In 1896 grants-in-aid to "assisted" schools were discontinued under the provisions of the Assisted Schools Abolition Act. These measures were the forerunners of the Public Education Act, 1899. By this Act the payment of fees was abolished for children of the ages to which the terms of compulsory attendance applied. The Elementary Education Act of 1871, with its amendments, and the Public Education Act of 1896 as amended were repealed by the Education Act of 1928 which, with the incorporation of later amendments, is the Statute now in force for the administration and control of education in Western Australia.

Government Financial Assistance

The State Government each year awards to country students 100 scholarships, valued at £20 per annum, tenable for the first three years of secondary education at government or non-government schools and a further ten scholarships, valued at £80 per annum, tenable in the fourth and fifth years. Selected students intending to enter the sea-bird service are granted bursaries, also valued at £80 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. Each year, eight scholarships valued at £100 per annum for three years are granted to full-time students in Associate ship courses at the Perth Technical College and a further eight scholarships, valued at £50 per annum for three years, to part-time students in Associateship or Diploma courses.

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 meeting part of the costs incurred in purchasing certain equipment, instruments and appliances, including such items as film projectors, radio equipment, library books and musical instruments.

The Commonwealth Government makes an annual award to Western Australian students of 708 scholarships tenable in the fourth and fifth years of secondary education at government and non-government schools, and 111 technical scholarships for certain courses at technical institutions and the Western Australian School of Mines and the Murdoch Agricultural College. Beneficiaries, who are not subject to a means test, receive—(1) with the 1960 school year and onwards, for full-time students, a living allowance of £100 per annum, £75 per annum for text books and equipment, and up to £75 per annum for fees. For part-time technical students, allowances of £50 per annum, not subject to a means test, are granted and compulsory fees are reimbursed. Commonwealth Advanced Education Scholarships, which are tenable in approved courses of technical studies, provide benefits comprising payment of compulsory fees and a living allowance which is subject to a means test.

In terms of legislation passed in 1964 and 1965 the Commonwealth Government makes grants to the States for specified purposes in connection with secondary education and technical training. The States Grants (Science Laboratories and Technical Training) Act 1964 authorizes payment to Western Australia during the financial year 1964-65 of maximum amounts of £153,805 for laboratories and equipment for use in the teaching of science at secondary level in government and non-government schools, and £137,166 for buildings and equipment for use in trade training and technical education in government institutions. Under the provisions of the States Grants (Science Laboratories) Act 1964 and the States Grants (Technical Training) Act 1965 payment of these amounts is continued for each year up to and including the financial year 1967-68.

Increased assistance by the State Government in respect of education at non-government schools is provided by the Education Act Amendment Act, 1966. As a contribution towards tuition fees, remission is made available, commencing with the 1966 school year, at the basis of £15 annually for a student in the first three years of secondary education and £15 in each of the fourth and fifth years. Assistance is extended to schools by way of reimbursement of interest paid, up to a prescribed maximum rate, on moneys borrowed since the 1st January, 1965 for expenditure on new residential accommodation for scholars. In addition, the Act authorizes payment of subsidies for the installation of swimming pools.

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 fourteen years, unless satisfactory instruction is provided elsewhere. The Education Act Amendment Act, 1966 provides that, from 1966, children will be required to remain at school until the end of the year in which they attain the age of fifteen years.

SCHOOL CHILDREN CLASSIFIED ACCORDING TO AGE—AUGUST, 1964

Age last birthday (years)	Children attending						Total		
	Government schools (a)			Non-government schools (b)					
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Under 6	2,396	2,080	4,476	3,063	3,732	6,795	5,457	5,721	11,178
6 and under 11	27,008	25,337	52,345	17,371	13,981	31,352	69,339	69,308	138,647
11 and under 15	8,630	8,211	16,841	2,865	3,181	6,046	11,305	11,317	22,622
15 and over	2,984	2,797	5,781	1,553	1,161	2,714	4,307	2,956	7,263
Total	72,554	68,215	140,769	24,552	22,055	46,607	91,440	87,254	178,694

(a) Excluding Technical Schools and Colleges, see table on page 145

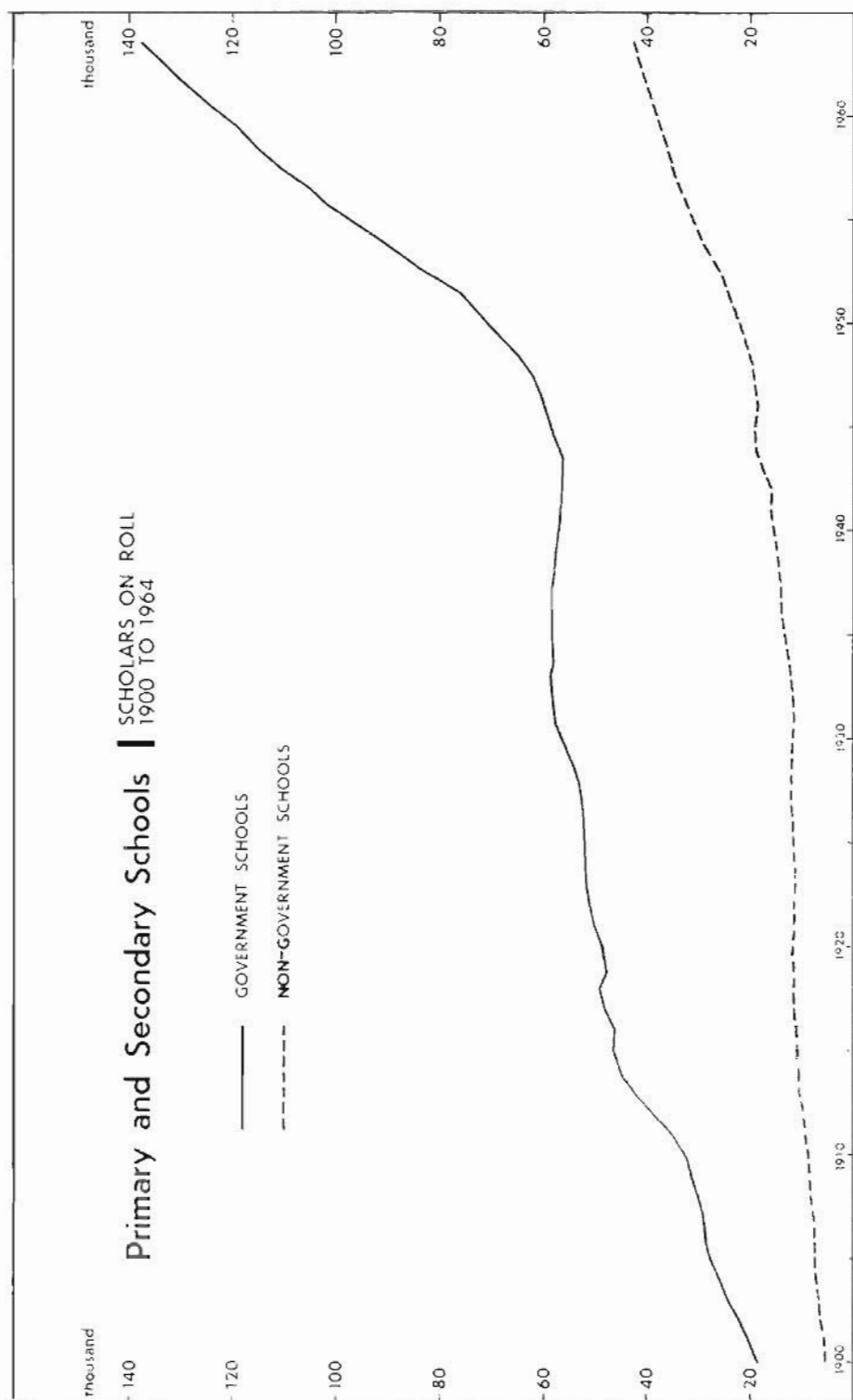
(b) Including universities

THE EDUCATION DEPARTMENT

The Education Department is responsible for the organization 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 and a number of Special Branches. The Divisions, each of which is in the charge of a Director, are those of Primary Education, Secondary Education, Technical Education, Teacher Training and Special Services. The work of the Special Branches is related to such activities as physical education (including swimming instruction), music, drama, art and crafts, social education, library services 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 11 years and may then enter high school. A Senior High School provides tuition to standards required for the Junior Certificate examination, usually taken at the age of 15 years, and the Leaving Certificate examination, which is the final examination in Western Australian secondary schools and is normally taken at the age of 17 years. A person who has specified subjects qualifies a candidate to matriculate at the University. A High School provides instruction in the first three



years of the elementary school curriculum leading to the Junior Certificate examination. A Junior High School is one which provides primary and post-primary education to Junior Certificate level. At some districts where there is no high school, post-primary subjects are taught at the primary school.

Children who do not enter for the Junior Certificate examination may elect to sit for a High School Certificate examination, which is also taken at about the age of 15 years.

The following table shows the number of schools in each category, the number of teachers employed in primary and secondary education and the number of scholars classified according to grade of education for each of the years 1960 to 1964. The figures shown under the heading of Special Duties represent teachers engaged in activities associated with the Division of Special Services and the Special Branches of the Department.

GOVERNMENT SCHOOLS

Particulars	At 31st August—				
	1960	1961	1962	1963	1964
NUMBER OF SCHOOLS					
Primary Schools	436	436	443	451	461
Junior High Schools	35	36	35	35	35
High Schools	11	11	10	11	14
Senior High Schools	14	14	17	20	21
Total	506	507	505	517	531
NUMBER OF TEACHERS (a)					
Employed in Teaching Duties	9,560	9,511	9,577	9,471	9,759
On Special Duties	77	81	95	72	71
Total	9,637	9,592	9,672	9,543	9,830
Males	5,167	5,087	5,077	5,447	5,581
Females	4,470	4,505	4,595	4,096	4,249
Total	9,637	9,592	9,672	9,543	9,830
NUMBER OF SCHOLARS					
Grade of Education—					
Primary	82,226	84,190	86,227	86,545	100,548
Secondary: Years 1, 2 and 3	25,234	27,795	30,120	31,509	31,202
Years 4 and 5	8,518	9,377	9,116	8,935	8,028
Total	115,978	121,362	125,463	126,989	139,778
Males	62,564	64,376	65,131	71,454	77,558
Females	53,414	56,986	60,332	55,535	62,220
Total	115,978	121,362	125,463	126,989	139,778

(a) Excluding parent teaching part-timers.

The Education Department's policy of "consolidating" its schools in country areas has resulted in concentrating teaching in the larger towns. Pupils are taken to and from school by motor bus at government expense and it has been possible by this means to close a number of small rural schools, so enabling teaching staff to be used more effectively in the better equipped consolidated schools.

Primary and Secondary Curriculum

In primary schools the subjects taught are English, arithmetic, social studies, elementary science, physical education, handicrafts, music and art. Handicrafts in the primary schools consist of needle work for girls and such crafts as leatherwork, book-binding, paper mache work and ranswork for boys. At the post primary level, mathematics, languages, science subjects, economics, home science, woodwork, metalwork and technical drawing are introduced. The teaching of elementary sciences aims at a better understanding of the child's physical environment. The course is adapted to the conditions of

the particular neighbourhood, and is varied 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.

The general curriculum differs slightly between urban and rural areas, an example being the teaching of elementary agricultural science in country schools. It is nevertheless sufficiently consistent to ensure a uniform standard of education throughout the State.

Radio, Television and Film Aids

Extensive use is made of radio and film, most schools having radio receivers and many being equipped also with film projectors and sound-reproduction systems. Increasing use is being made of television as an aid in education, particularly in secondary schools, for which mathematics and science programmes are telecast. 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 Visual Education Branch of the Department maintains an extensive film library.

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 organized 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 organizations, such as the Spastic Welfare Association and the Slow Learning Children's Group, by making teachers available to them.

Correspondence Tuition

Tuition by correspondence was introduced in 1918 to provide education for children living in remote areas or unable to attend school for other reasons. The service of the Western Australian Correspondence School now extends also to post-primary students in the smaller country schools, to sick and invalid children, and to some adults in country areas. Adults attend mainly to prepare for nursing training or for the Junior Certificate and similar examinations, or to improve their general education. During 1964, instruction was given to 1,556 students of whom 625 were adults.

Schools of the air are conducted through the radio network of the Royal Flying Doctor Service from bases at Derby, Kalbarrie, Meekatharra and Port Hedland to supplement tuition provided by the Correspondence School.

Native Education

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 native children, special attention is directed to the framing of courses of study suited to the vocational needs of the older native pupils. In August, 1964 there were 3,845 aboriginal and part-aboriginal children at government primary schools and high schools and 718 at non-government schools.

Agricultural Education

Agricultural education is provided at certain high schools. Boys aged from 14 to 16 years who have successfully completed the general primary course are eligible for enrolment at the Narrogin Agricultural Senior High School, the Harvey Agricultural High School or the Agricultural Junior High Schools at Camdarian and Denmark. 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 adequate 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.

In addition to the activities of the Education Department in the field of agricultural education, facilities are also provided by the Department of Agriculture at the Muresa Agricultural College in which reference is made on page 149.

Technical Education

The principal institution of the Division of Technical Education is the Perth Technical College which originated in 1909 as the Perth Technical School and is now to become the Western Australian Institute of Technology. Most of the senior work of the Division, including the later stages of Technical Diploma courses and most Apprenticeship courses, is being transferred from the College to the new buildings being constructed for the future Institute on a site of 27 acres at Collier.

The work of the Leederville Technical School relates mainly to the building industry and furnishing trades, but the School also accommodates a matriculation group. The Wembley Technical School provides courses for apprentices in the engineering trades, while the Carleisle Technical School is mainly concerned with training for trades associated with the automotive industry. The Mount Lawley Technical School provides training in baking, bookbinding and the electrical and metal industry trades, as well as commercial vocational training. Technical schools at Claremont, Fremantle, Midland, Kalbarrie and Bunbury aim to meet the needs of the districts in which they are situated and give tuition in those subjects for which there is sufficient local demand. Technical centres, where evening classes are provided, are located at sixteen of the Department's secondary metropolitan schools and six of its country schools. The Technical Extension Service conducts correspondence courses and instructs students by private instruction where it is not practicable to establish a technical school or centre.

TECHNICAL EDUCATION

Particulars	1960	1961	1962	1963	1964
Number of—					
Colleges	1	1	1	1	1
Schools	12	12	17	23	22
Centres					
Total	13	23	18	24	23
Number of Teachers at 1st July 1964					
Perth Technical College	437	592	513	563	459
Senior Centres	274	345	405	471	540
Centres	125	194	251	307	336
Total	836	1,131	1,269	1,341	1,335
Students Enrolled—					
Perth Technical College	18,270	19,303	19,270	20,122	20,113
Schools	8,524	11,398	12,447	14,554	16,430
Centres	8,205	9,594	9,846	11,141	9,124
Correspondence Courses	9,589	10,412	10,712	11,293	11,111
Extension Classes	1,828	2,774	3,719	5,142	5,798
Technical Institute Classes	1,117	1,099	1,111	1,795	1,628
Total	38,433	45,586	46,395	46,922	48,107
Males Enrolled	24,539	28,358	28,374	28,351	28,738
Females	13,894	17,228	18,021	18,571	19,369

Not a teacher may teach technical students at more than one school or centre. The number of institutions is not available.

The Division has a Counselling Service which is available to assist students in selecting a course and to assist them in their studies. It also provides counselling services to industry and commerce on staff selection and training, and special courses of study in some related psychological fields.

The highest qualification provided is that of Associateship, which generally entails three years' full-time study, or the part-time equivalent, from matriculation level to post levels in Applied Science, Architecture, Business Administration, Chemistry, Computing, Engineering, Land Surveying, Metallurgical Metallurgy, Pharmacy and Public Administration. Several Diploma and Certificate courses, with lower entry requirements, are also offered on a full-time or part-time basis.

There are part time day and evening vocational classes, usually leading to the award of a Diploma or Certificate for skilled technical and semi professional workers. Many of these courses are in fields not covered by an apprenticeship award. Part time classes are maintained at all technical schools and colleges, subject to local demand for tuition and availability of teaching staff.

Apprentices who live within reach of a technical school providing the appropriate instruction must attend classes, usually for eight hours per fortnight. In 1964, the number of trade apprentices enrolled was 6,500. For apprentices in country areas correspondence courses, sometimes conducted in supervised study groups, are available as well as intensive courses during which they have access to the full range of specialized instruction and equipment in the metropolitan area.

Home making and hobby classes are held at all technical schools and colleges where there is enough demand and teachers can be provided. Instruction is given in such activities as dressmaking, millinery, cookery, home furnishing, pottery, woodwork and motor vehicle maintenance.

The Associateships of the Perth Technical College and certain of the Diplomas are recognized by various professional institutions. Some Diplomas or groups of subjects are accepted for promotional purposes by the Public Service and other employing organizations, and a pass in some subjects may be accepted by the University as a completed unit of study in courses leading to a University degree.

Teacher Training

Teacher training is conducted at two colleges especially established for the purpose, the first at Claremont in 1902 and the second at Graylands in 1955. The basic course is of two years' duration and the minimum requirement for entrance is the possession of the Leaving Certificate or the equivalent. Selected students may study by extended fees for periods of from three to six years to obtain University degrees and other qualifications. There is also a one-year training course open to University graduates.

TEACHERS' COLLEGES

Particulars	1960	1961	1962	1963	1964
Number of Institutions—					
Males	11	11	14	14	15
Females	11	11	14	14	14
Total	22	22	28	28	29
Number of Dormitory Rooms—					
Males	558	643	480	619	511
Females	752	807	854	719	790
Total	1,310	1,450	1,334	1,338	1,301
Number of Students Graduating—					
Males	277	228	191	180	182
Females	311	311	401	343	311
Total	588	539	592	523	493

OTHER GOVERNMENT EDUCATION

Muresk Agricultural College

The Muresk Agricultural College was established by the Department of Agriculture in 1926 to provide appropriate training in agriculture and farming practice. Students are admitted one year after passing the Junior Certificate examination, provided their headmasters give satisfactory reports of their work in certain subjects of the matriculating exam. At the College the students' general education is continued, and studies during the two years required for a Muresk Diploma of Agriculture include English, farm management and economics, agriculture, animal husbandry, chemistry, book keeping and veterinary medicine.

Practical instruction is also given in cereal farming, stock husbandry, wood classing, pasture management, fodder conservation, farm building construction, farm machinery and engineering, gardening, fruit growing and bee keeping. Breeding of pure bred stock for distribution to farmers is another activity at the College which provides valuable training for the students. To help farmers to keep in touch with new developments in agriculture, the College also holds short courses in selected subjects at appropriate times.

The number of students enrolled at the College in 1964 was 55.

School of Mines

The School of Mines was established at Coolgardie in 1902 and was transferred to Kalgoorlie in the following year. Branch Schools have, from time to time, been opened at various mining centres to meet the needs of the industry, but at present the only Branch School is at Norseman. The School of Mines is part of the Department of Mines.

Associateship Courses in Mining, in Metallurgy, in Engineering, and in Mining Geology, for which the entrance standard is matriculation level, are available. These Courses are arranged for two years of full time study and two years of part-time study. They can, however, be completed by three years of full time study or six to seven years of part-time study. Shorter Certificate Courses in Assaying, in Mine Surveying, and in Engineering Draughting, for which the entrance standard is Junior level subjects, are available. These Courses can be completed in four years of part-time study. Technician Courses are also provided.

Through the Kalgoorlie Metallurgical Laboratory, the School undertakes metallurgical investigations as well as assays for gold and for other metals. Fire assays and mineral determinations are made 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 from elsewhere.

The number of students enrolled in 1964 was 389.

NON-GOVERNMENT SCHOOLS

The non-government schools, which are conducted mainly by religious organizations, 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.

Almost all of the schools shown under the heading *Un denominational* in the following table are kindergartens. The Education Act requires that every person conducting a kindergarten must hold a permit issued for the purpose by the Education Department. The Kindergarten Union of Western Australia, a voluntary organization subsidized from government funds, maintains a training college for kindergarten teachers.

At the 1-4 August, 1964 the number of kindergartens registered with the Education Department was 167, of which 71 were affiliated with the Kindergarten Union.

NON-GOVERNMENT SCHOOLS (a)

Particulars	1960	1961	1962	1963	1964
NUMBER OF SCHOOLS^(b)					
Denominational -					
Church of England	9	9	9	12	13
Methodist	3	3	3	2	5
Presbyterian	5	2	2	2	3
Roman Catholic	179	171	173	177	178
Other	8	8	9	10	11
Un denominational	123	141	160	170	162
Total	318	333	348	365	364
NUMBER OF TEACHERS (a)					
Denominational of School -					
Church of England	168	174	171	182	188
Methodist	61	77	72	74	78
Presbyterian	38	61	65	62	69
Roman Catholic	758	776	785	828	815
Other	26	30	26	34	36
Un denominational	224	310	326	372	368
Total	1,306	1,361	1,339	1,455	1,490
Males	688	805	791	872	858
Females	618	556	548	583	632
Total	1,306	1,361	1,339	1,455	1,490

(a) For 1960 and 1961 numbers are as at the end of the school year; from 1962, as at 1-4 August. (b) Including persons teaching part-time. (c) Not available.

NON-GOVERNMENT SCHOOLS—SCHOLARS AT 1st AUGUST

Particulars	1960	1961	1962	1963	1964
Denomination of School—					
Church of England	3,082	3,310	3,554	3,511	3,554
Methodist	1,320	1,319	1,321	1,383	1,443
Presbyterian	1,133	1,184	1,137	1,127	1,116
Roman Catholic	27,177	28,110	28,649	29,017	30,728
Other	460	529	600	710	729
Undenominational	4,000	4,219	4,970	5,075	5,402
Total	37,201	38,741	40,097	41,023	42,639
Grade of Education—					
Nursery	4,432	4,732	5,381	5,780	6,219
Primary	22,057	22,588	23,068	23,484	24,539
Secondary—Years 1, 2 and 3	8,039	8,278	9,482	9,814	10,682
Years 4 and 5	2,683	2,143	2,386	2,875	3,894
Total	37,201	38,741	40,097	41,023	42,639
Males	18,158	18,913	19,542	20,058	20,504
Females	19,043	19,828	20,555	20,965	22,135
Total	37,201	38,741	40,097	41,023	42,639

UNIVERSITY EDUCATION

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 (1925), Agriculture (1936), Dental Science (1948), Education (1947), Commerce (1954) and Medicine (1956). The Faculty of Economics was reconstituted as the Faculty of Economics and Commerce in 1961.

Degrees

Degrees are granted in the Faculties of Arts, Law, Education, Economics and Commerce, Science, Engineering, Agriculture, Dental Science and Medicine.

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 Laws, Bachelor of Education and Bachelor of Science in Agriculture, over not less than four years; and those for the degrees of Bachelor of Engineering and Bachelor of Dental Science, over not less than five years. Honours degree courses in Arts, Music, Psychology, Economics 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, Doctor of Music, 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, and Master of Surgery and Doctor of Medicine, are conferred by the University. The degree of Doctor of Philosophy is also given for research in the various faculties.

Teachers, Students, Degrees Conferred

The following table gives particulars of teaching staff, the number of students and the numbers of degrees conferred and diplomas granted during each of the years 1960 to 1964.

UNIVERSITY OF WESTERN AUSTRALIA

Particulars	1960	1961	1962	1963	1964
NUMBER OF TEACHERS					
Full-time staff—					
Professors	11	11	11	10	11
Associate Professors	10	10	11	11	10
Senior Lecturers	27	30	37	39	101
Lecturers	61	57	77	90	51
Junior Demonstrators	5	11	13	23	20
Total—Full-time	114	120	142	173	203
Part-time (Honorary)					
Lecturers	51	47	50	50	51
Graduate Assistants, Tutors, Demonstrators	53	100	116	132	290
NUMBER OF STUDENTS					
Internal, Full-time	1,301	1,066	2,111	2,945	2,097
Internal, Part-time	1,714	1,154	1,331	1,880	1,485
External	43	100	175	263	285
Total	3,058	2,320	3,617	5,088	4,867
Males	2,571	2,120	3,147	4,146	3,490
Females	487	200	470	942	1,377
Total	3,058	2,320	3,617	5,088	4,867
DEGREES AND DIPLOMAS					
Degrees conferred—					
Agriculture	13	13	25	13	13
Arts	130	137	166	131	104
Dental Science	11	11	4	3	11
Economics	1	6	11	16	71
Education	27	29	52	26	7
Engineering	71	3	28	68	10
Law	17	13	11	14	20
Medicine	5	13	32	23	17
Sciences	71	66	109	103	138
Total	300	321	418	446	309
Diplomas conferred—					
Arts	149	133	127	146	99
Science	27	41	59	106	119
Total	176	174	186	252	218
Diplomas Granted—					
Education	42	31	41	57	74
Other	4	4	7	5	7
Total	46	35	48	62	81
Males	33	26	40	56	67
Females	13	9	8	6	14
Total	46	35	48	62	81

(a) For 1960, numbers are as at end of year, from 1961 to 1964. (b) For 1960, figures represent number of teachers at end of year. From 1961, they represent total of 100 hours of teaching time per annum. (c) Honorary staff are included.

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 21 members, of whom 11 are appointed by the Governor, 10 are elected by Convocation, two are elected by the full-time teaching staff, three are ex officio members (the Vice-Chancellor of the University, the Under Treasurer of the State, and the Director General of Education), and four are ex officio members. Convocation consists of graduates of the University and such other persons as are eligible for graduation under the provisions of the University of Western Australia Act.

Since an amendment to the Act in 1964 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 recognized 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.

Principal Benefactions

A large bequest to the University was made under the will of its first Chancellor, Sir Winthrop Hackett, who died in 1876. Of the total amount of £125,000, a sum of £230,000 together with accrued interest was allocated to the erection and maintenance of a group of buildings comprising a ceremonial hall (Winthrop Hall), a Senate Chamber, administrative offices, a library, lecture rooms and a students' building (Hackett Hall). A further sum of £200,000 was devoted to the provision of studentships, scholarships, bursaries and other means of help for deserving students of varied means. Under his will Sir Winthrop Hackett also provided an endowment for a Chair of Agriculture, and Saint George's College, the first residential college within the University, was built and endowed by the Church of England from funds bequeathed by him from the residue of his estate.

In 1927 the University received from the late Robert Gladden an estate valued at £60,000 to provide two travelling scholarships in "applied science more particularly related to surveying, engineering or mining, or cognate subjects." The bequest has been used to establish the Robert and Maude Gladden Travelling Fellowships and to provide research studentships and fellowships.

In 1957 Mrs. M. B. Raine made a deed of gift in favour of the University for an amount of £153,900 to be applied to medical research. Mrs. Raine died in 1960 and bequeathed her estate, valued for probate at £658,784, to the University for the same purpose.

The sum of £61,500 was presented to the University in 1958 by the Wellcome Trust to endow the Wellcome Research Chair of Pharmacology.

In 1962 the University received the sum of £55,000, bequeathed for general purposes under the will of Dr. W. S. McGilveray.

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 third years, and those enrolled at the Western Australian College of Dental Sciences, 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 Commonwealth financial aid available under the States Grants (Universities) Act, a new system of annual "enrolment fees" was introduced in 1962. The current tuition fees, which are considerably higher than the faculty service charges previously levied, are assessed on the number and grade of subjects to be taken during the year by students in the Faculties of Arts, Education, Economics and Commerce, and Science. In the Faculties of Law, Engineering, Agriculture, Dental Science and Medicine, they take the form of an annual charge for each year of the course. In all faculties, students whose normal place of residence is outside Australia are required to pay an annual overseas students' fee. 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.

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 to 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 Bursaries for competition among candidates at the Leaving Certificate examination.

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 available to students holding no other award and having an Honours degree of second class (Division A), or higher, standard. Hackett Scholarships, payable at the University of Western Australia or in special circumstances at other recognized institutions in Australia, are open to graduates of the University. Graduates may also apply for Hackett Studentships which, in addition to other financial benefits, 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.

As a contribution towards University fees, the State Government provides financial assistance of £21 per year for a full-time student who is proceeding to a first degree and who is not the holder of a scholarship or bursary of a value equal to, or greater than, half the amount of the tuition fees. This assistance was first made available in respect of the 1955 academic year.

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. By arrangement with the Perth Technical College, evening instruction is given in some science subjects. Certain subjects may be taken at institutions affiliated with the University. These are the Perth Technical College and the School of Mines. Other affiliated institutions are Claremont Teachers' College, Graylands Teachers' College and the Kindergarten 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 four 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 site has been allotted for a fifth college, Saint Columba, which will be conducted jointly by the Presbyterian Church and the Congregational Church for the accommodation of men students.

Clare Hall is an undenominational hall of residence for men students.

Public Examinations Board

The Public Examinations Board is constituted by University statute for the purpose of conducting school certificate examinations. The University, the Education Department and the non-government secondary schools are represented on the Board. The Junior Certificate examination is normally taken by scholars at the end of the third year in government high schools or non government secondary schools. The Leaving Certificate examination is the final examination in Western Australian schools and a pass in certain specified subjects enables a student to matriculate at the University.

Adult Education Board

The Adult Education Board was established by the University in 1928. Its activities are controlled by a full-time Director of Adult Education.

The Board has its headquarters in Perth and operates at a number of centres in the suburbs and in country towns. Its work is generally non vocational in character and, although the emphasis is on cultural entertainment, attention is given to the applied social sciences. Several series of classes, lectures, conferences, discussion groups and leadership training schools are conducted. The Board co-operates with other organizations, such as the Junior Farmers' Movement, the Country Women's Association and the Parents and Citizens' Federation. Music recitals, ballet performances, art exhibitions, screenings of high-quality films, drama presentations and drama schools are arranged by the Board in the metro-

political area and most of these activities extend also to the larger country towns. A Summer School is held at the University each year. The annual Festival of Perth was inaugurated by the Board in 1953.

The Board maintains an Adult Education Library and operates a Box Library Scheme for local discussion groups in both metropolitan and country areas.

Finance

The following table relates to University income in each of the years from 1950 to 1954. Particulars of grants made specifically for capital purposes, and expenditure from such grants, are not included.

UNIVERSITY OF WESTERN AUSTRALIA—FINANCE

Particulars	1950	1951	1952	1953	1954
GENERAL ACTIVITIES					
Receipts—					
Government Grants—					
State	755,212	881,390	895,117	1,105,608	1,148,133
Commonwealth	454,175	548,580	646,541	749,549	811,777
Interest, Rents, Donations and Donations	54,051	75,275	9,172	45,050	89,282
Grants—	66,227	76,541	178,396	221,489	1,000,999
Grants for Services and	5,549	5,757	6,309	8,747	16,411
Other Receipts	15,894	28,008	25,798	74,171	87,713
Total	1,331,008	1,620,093	1,660,943	2,155,775	2,461,402
Payments—					
Administration					
Salaries	75,475	100,550	11,300	110,561	171,113
Other	37,328	44,974	39,119	70,213	77,490
Teaching Department					
Salaries	74,556	89,114	1,134,580	1,751,011	1,137,729
Other	108,854	141,003	261,058	370,048	279,401
Library					
Salaries	28,280	44,582	64,800	11,732	71,104
Other	41,817	44,483	55,857	49,037	78,747
Maintenance of Premises					
Salaries and Wages	41,595	10,145	36,732	59,544	11,556
Other	46,400	37,464	113,525	136,754	170,561
Adult Education—Science Faculty	26,179	26,740	37,385	41,399	44,158
Other Payments	82,158	1,134	17,975	49,099	14,740
Total	1,307,528	1,505,338	1,628,911	2,420,909	2,431,708
SPECIAL ACTIVITIES					
Receipts—					
Government Grants—					
State—Adult Education	4,860	4,860	1,030	1,030	4,860
Commonwealth—Research	70,777	85,203	80,370	75,200	100,038
Non-government Research Grants	25,690	78,714	50,154	141,100	164,123
Interest, Rents, Donations and Donations, etc.	88,048	105,424	52,713	279,734	210,718
Candidates' Fees for Public Examinations	50,811	27,790	36,902	73,401	79,175
Adult Education and Extension Fees	11,591	25,164	11,643	25,777	31,795
Adult Education—General Subsidy	24,374	24,780	17,400	41,200	44,780
Total	266,261	344,364	309,071	650,464	669,397
Payments—					
Expenses of Public Examinations	47,333	54,708	83,073	71,311	79,781
Adult Education and Extension	48,103	58,549	67,771	85,487	77,061
Scholarships, Bursaries, Prizes, etc.	50,051	50,261	54,172	70,343	86,790
Special Research Expenses	44,394	117,394	104,164	182,513	278,084
Other Payments	4,954	23,361	40,524	61,496	60,413
Total	204,835	304,273	345,624	570,797	687,977

* In March commencing and other testing fees.

It will be seen from the table that the University's principal source of revenue is in the form of grants made by the State Government. The University of Western Australia Act provides for the payment of an annual subsidy of £150,000 and "such additional amounts as may be appropriated by Parliament from time to time." In 1954, State Government subsidies amounted for almost one-half of the total receipts of £2,461,402 for general activities. By a series of States Grants (Universities) Acts, the first of which was passed in 1951, the Commonwealth Government has also made regular annual contributions, and the amount of £81,217 paid to the University in 1954 represented about one-third of its total income.

for general activities. A Committee on Australian Universities (the "Murray Committee") was appointed in 1957 to investigate, among other things, the financial position of the universities. In accepting its principal recommendations the Commonwealth agreed to continue grants for recurrent expenditure, to assist the universities in the provision of buildings and equipment, and to make grants for expenditure on residential college buildings and halls of residence.

In 1959 the Commonwealth Government established the Australian Universities Commission under the provisions of the Australian Universities Commission Act 1959. The Commission's principal functions are to advise the Prime Minister on financial assistance to Commonwealth universities and to States in relation to their universities and also on the balanced development of Australian universities. The Commission commenced its work in July, 1959. Since its establishment the Commission has produced two reports. The first, presented in October, 1960, and covering the years 1961 to 1963, recommended Commonwealth grants totalling £110 million for State universities. The Commission's second report was presented in August, 1963, and recommended Commonwealth grants totalling more than £151 million for State universities for the period 1964 to 1966. The Universities (Financial Assistance) Act 1963 gave effect to the major financial recommendations contained in the Commission's second report.

CHAPTER V — continued

PART 2—PUBLIC LIBRARIES, MUSEUM, ART GALLERY, AND SCIENTIFIC INSTITUTIONS

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, 1961-1963, 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 Recreation 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 1962. Its functions are to encourage and assist local authorities to establish public libraries and to co-ordinate these 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 Arts Amendment (Libraries) Act, 1963, the administration of the Public Library of Western Australia was transferred to the Board on the 1st December, 1963 and its name changed to The State Library of Western Australia. The Central Music Library was inaugurated in 1965.

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 a central stock record.

A catalogue in book form of the books, arranged by subjects, in all libraries is published regularly 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. Some 25,000 inter-library loans both between public libraries and between other types of library in the State are organised annually through the Request and Information Service provided by the Bibliographical Centre. This centre, housed in the State Library building, is also open 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 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 book stock of the Board at the 30th June, 1965 was 581,628 volumes, comprising 434,466 in circulation stock, 2,361 books and 7,391 scores in the Central Music Library, and 216,700 volumes in the several libraries within the State Library.

The State Library of Western Australia

The original Library was established in 1857 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 1965 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 on lodges 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 the 30th June, 1963, there were 91 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, 1941-1960. 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 provided 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.

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 1890, and the other, the Geological Museum of Fremantle, was started in 1881. In 1909 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.

The Museum, which became known as the Western Australian Museum in 1907, is controlled by a Board of five members appointed by the Government under the provisions of the Museum Act, 1954-1964. The staff includes a Director, seven curators and other professional and technical staff.

The Museum is devoted mainly to natural history and includes extensive palaeontological and meteorite collections. Emphasis in both display and research is on the fauna of Western Australia and there is an extensive scientific library. Research is related specifically to the marine fauna of Western Australia (fish, mollusks, birds, reptiles, insects and anthropology).

The Museum Act Amendment Act, 1964 has increased the scope of the Board's activities by vesting in it certain historically important sunken ships which were wrecked off the Western Australian coast in the 17th and 18th centuries. The Act also makes provision for the future resumption of historically important wrecks not known to exist at the date of enactment.

The Museum is an active educational institution. The scientific staff lecture at 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. During 1964, the centre was visited by 42,000 children. Holiday classes are held during school terms and 1,179 children from 48 metropolitan schools attended during 1964. In addition, special visits were made by 1,200 children from schools not included in the regular term.

In connection with its work of education, research and conservation, the Museum is often called upon to act in an advisory capacity to the Government. In particular, senior staff serve on committees formed for the purpose of protection of natural fauna and the preservation of aboriginal sites and artifacts.

The Museum serves as a centre for associations with interests in natural history. The Royal Society of Western Australia and the Astronomical Society hold regular meetings at the Museum. The Museum is assisted in certain fields by Honorary Museum Associates, some of whom serve on the two Advisory Committees, the Melbourne Advisory Committee and the Historical Materials Advisory Committee.

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. The Gallery occupies part of a building shared with the Museum. The lower gallery is used mainly for nature, 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. Selections from the art collection are shown on the upper floor and a special display in the entrance to the lower hall is devoted to the work of a different artist each month.

The Art Gallery's collection at the 30th June, 1964 contained, in addition to reproductions, 432 oil paintings, 186 water colours, 1,463 drawings and prints, 35 sculptures, 8 miniatures, and a number of ceramics and other art objects. The collection is constantly being increased by purchases, gifts and bequests.

The Gallery has extended its services throughout the metropolitan area and country districts. Reproductions of paintings are circulated by means of its van service to various public institutions in the metropolitan area. Educational and cultural houses in rural areas participate in a similar scheme, relief groups of reproductions being hired for country distribution together with discussion notes. Touring exhibitions from the permanent collection are sent twice to country districts at regular intervals.

These activities are supplemented by publications of various kinds, which are distributed to schools and other institutions or given 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.

SCIENTIFIC INSTITUTIONS

State Government Observatory

The Perth Observatory was established in 1896 on a site facing the main entrance to King's Park and overlooking the city from the west, where an administrative building for the Western Australian Government is now under construction. In place of this building, the Observatory's telescopes were destroyed in August, 1963, and shortly afterwards work was commenced on the construction of a new Observatory near Bickley in the Darling Range. The Observatory moved to the new site at Bickley in November-December 1965.

The principal astronomical instruments of the Observatory are a photographic refractor of 13 inches aperture and a Kewele-Spencer transit circle. Between 1900 and 1953, observations with these telescopes were used to compile catalogues of star positions in the Perth zone (31° to 41° up to declination) of the International Astronomical Catalogue programme. Following the completion of this project, little systematic research was carried out until the International Geophysical Year (1958-59), when a Markovitz-Moss Camera was attached to the photographic telescope and a series of observations of the position of the moon, total as to the stars, was obtained. Later, photographic observations for studies of stellar spectra were begun and a start was made on the observation of the meridian transit circle. The times of occultations of bright stars by the moon have been recorded as opportunities offered and accurate positions of brighter southern stars determined from time to time. The first of a new series of publications from the Observatory, recording comet positions observed during the period 1959-1963, appeared in 1964.

The Observatory maintains the time service for the State, furnishing signals for the Post Office, the Railway Department, broadcasting stations and for transmission to shipping, and is a registered laboratory for timing chronometers and stop watches. Predictions of tides on the north and north-west coasts are prepared for publication in an annual volume of tide tables.

Seismographs at the Observatory recorded earth tremors almost continuously from 1901 until 1963. In view of the proximity of the new site at Bickley to the geophysical observatory of the Bureau of Mineral Resources, Geology and Geophysics (Department of Natural Development), which was established at Mundaring in 1959 and also conducts seismological investigations, this work has now been discontinued at the Perth Observatory and all its seismological records transferred to the Geological Observatory.

The Observatory will shortly be put to a special range of astrophysical work by the Honorary West Australian Observatory, who will bring with them a meridian transit circle telescope to carry out a concentrated observational programme of positions of fundamental stars in the northern hemisphere. This programme will take from two to three years to complete.

State Government Chemical Laboratories

In 1922 the various chemical sections of the State Government were amalgamated to form the Government Chemical Laboratories, principally for the performance of chemical work required by Government Departments. In addition, the Laboratories serve government instrumentalities and non-government authorities and undertake some chemical work for the general public. The activities of the Laboratories are organized under six Divisions and a Physics Section, the separate functions of which are described briefly in the following summary.

The *Agriculture and Water Supply Division* does analytical work, of course, related principally to the major part of the work of the Department of Agriculture (see also Chapter VIII, Part II) on analyses, for the Metropolitan Water Supply, Sewerage, and Drainage Board and the Department of Public Works and Water Supply, for primary producers seeking an assessment of the suitability of private supplies for domestic irrigation and domestic purposes, and for commercial interests with particular reference to treatment and treatment, in practice, to fodder for livestock and also to make the nutritional requirements of plants with particular reference to the use of fertilizers and the controlling of toxic elements, deficiencies, on soil, water and manures generally, and on animal losses for diagnostic purposes.

The *Explosives Chemistry Division* is concerned with chemical means of utilization of minerals, as known such as production of ammonium, upgrading of dynamite and of low grade coal, and the beneficiation and reduction of lignite. The Division is associated with the Fuel Technology Division in the production of a synthetic gas from lignite coal.

The *Food, Drugs, Toxicology and Industrial Hygiene Division* deals with the analysis of foods, including milk, drugs, poisons, including human and animal, toxicology, examinations for poisons and analysis of food and drugs for chemical contamination. Industrial hygiene, including diseases relating to the amount of potentially harmful substances present in industrial and commercial materials in connection with working conditions, and industrial effluents and public health matters of this and other nature.

The *Fuel Technology Division* has been primarily concerned with Collier coal and its uses and has done important work on the coal used for the making of coked briquettes as a metallurgical fuel and for the production of town gas. The Division's investigations have extended to other fuels, including standard and non-standard, and also to domestic appliances using fuel, and pollution of atmosphere pollution by emissions from smoke stacks.

The *Industrial Chemistry Division* is used extensively as a source of information and advice on technical problems relating to industry in Western Australia, with special reference to plants. Research is done on processes or products in industry, including plants.

The *Mineralogy, Mineral Technology and Metallurgy Division* is primarily concerned with exploration, their occurrence and identification, but it also carries out the testing of slags 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 minerals, such as notably those in copper and iron. This Division is also the reference laboratory for analyses of minerals of gold ores by the State Batteries. An important part of the work is the identification of mineral specimens for use in prospecting and others and the Division deals with many hundreds of such specimens every year.

The *Physics and Pyrometry Section* is mainly concerned with X-ray examination of minerals and differential thermal analysis, and as a reference laboratory for heat and temperature measurements.

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 1928 within the University to provide research facilities and staff essential for the effective training of professional agricultural scientists at both under-graduate 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 government organizations 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 diversion of the war years, it initiated research on plant and animal problems in the pastoral areas, commenced a series of fundamental studies related to the nutrition of animals, investigated factors affecting the feeding 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, dairy-farm, pig and poultry industries. The work of these years is summarised in the report of the Director, published in 1946.

Since 1945 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 stock sheep with particular reference to the factors influencing the utilisation of protein, of urea and of low quality roughages. In recent years the agronomic research has been expanded to include cereal growers' studies, and the animal research to include nutritional studies with beef cattle.

Further and more detailed economic surveys of the wheat sheep-farming industry and of the latter for producing and whole-flock producing industries have been carried out, together with studies of the comparative advantages of forestry and agriculture in parts of the north-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 1962 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 nitrification processes in legumes and the nitrogen fixing process. The plant nutrition group has directed 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 water, and the movement and retention of soil phosphorus and sulphur.

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 sustenance 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 Organisation

Several Divisions of the Commonwealth Scientific and Industrial Research Organisation are actively engaged in research work in Western Australia.

Division of Soils. During the post-war period the Division of Soils has carried out and surveys of large areas, mainly in the Great Southern districts to assist in the planning of War Service Land Settlement schemes. The soils of the areas concerned are predominantly laterite and the study of their basic physical status and clay mineralogy has been completed. In the Swan Coastal Plain, detailed soil surveys of existing and proposed irrigation areas of Pingara, Harvey and Cope and the new growing areas of the Swan Valley have also been completed. Information obtained during this work provides the basis for study of the pedology and distribution of the soils of the whole Coastal Plain.

In recent years more attention has been given to the principles governing the distribution of soils. Field studies on the development of soils in relation to landscape evolution and past climates are in progress in representative areas of York and Merredin. As an extension of the work in the Merredin area, a study of the hydrology of a typical wheat belt valley in relation to soil salinity has recently been completed.

An important part of the work of the Division is a study of the climatic of lateritic soils as it affects the growth of exotic pines. This research is being done in collaboration with the Western Australian Forests Department.

Division of Plant Industry. Most of the activities of the Division of Plant Industry have been directed to the pasture problems of the sheep sector in the south-west of the State. More recently, studies were initiated on the sandy soils of the Swan Coastal Plain.

The influence of environmental factors on the growth and persistence of pasture plants, for the most part clovers and grasses, is still under examination.

In the plant nutrition programme, studies on phosphorus and nitrogen are continuing, and more attention is now being given to potassium and cobalt. A comprehensive investigation is being made of the many factors influencing soil bacteria build up in subterranean clover pastures.

A large number of introductions of pasture plants and crop plants are under test by the Plant Introduction group, the main emphasis being on new pasture plants for the wheat zone.

Studies on pasture utilization with particular reference to the breeding and age periodizing and best work is being done on the closed infertility problem.

The Division's programme is centred at the Western Australian Regional Laboratory at Perth, and includes field work at a number of country centres.

Division of Entomology.—The Division of Entomology has been concerned with developing satisfactory methods of controlling the Red-legged Earth Mite and Lamproloma Flea in pastures. Attention is now being directed to an intensive study of the population dynamics of these two pests. Detailed observations have been made on density fluctuations in pastures in the Mallee and Warrego districts with the object of determining the factors which govern fluctuations in numbers. A special study is being made of the part played by the predator Beelited Mite.

Division of Wildlife Research.—The Division of Wildlife Research is concerned with investigations on the higher vertebrates (more particularly mammals and birds) and those other and only species of economic importance, but the nature 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 laud research project on the control of the Eumops species of kangaroo in the Pilbara district.

Among birds, studies of the ecology of the Emu, of the Wedge-tailed Eagle and of the White-tailed Black Cockatoo are proceeding. Other current projects are experimental and field studies on the factors controlling breeding success of various birds, such as Western Australian warblers and surveys of the distribution of the arid-country larks. The Division organizes the Australian Bird Banding Scheme and conducts a seasonal trapping and marking scheme on the migratory shore birds at the Pelican Point sanctuary on the Swan River.

Division of Fisheries and Oceanography.—The Division of Fisheries and Oceanography has applied the project leader in the Western Fisheries Project set up originally by the Commonwealth Scientific and Industrial Research Organisation, the Department of Primary Industries, the Fisheries Department of Western Australia and South Australia, the Zoology Department of the University of Western Australia, and the Western Australian Museum. At present the research involves work on crayfish, Australian salmon, prawn, tuna and whales. Officers of the Division are stationed at Perth to participate in the research on crayfish and to direct research on sperm whales. Using aerial techniques the Division is continuing work on the physicochemical and biological oceanography of the western Indian Ocean.

Division of Mathematical Statistics.—Officers of the Division of Mathematical Statistics stationed at Perth are currently investigating the application of statistical methods to special problems of local interest in the fields of engineering, microbiology, plant breeding and plant ecology. In addition, they act as an advisory agency to other research workers in the State on matters relating to the design of experiments and the analysis and interpretation of data.

Division of Applied Chemistry.—A new laboratory known as the Geochemistry Industrial Laboratory has recently been set up at Perth and is at present located in the Chemistry Department of the University of Western Australia. The Laboratory is working on a number of problems connected with the mineral industry. The main part of its programme is directed at the elucidation of the chemical nature of some geological processes, a line of work which it is hoped will lead to new methods for the economic treatment of minerals. This approach is at present being applied to the recovery of cerium from titaniferous monazite, of lithium from apatite and of potash from glauconite.

The Laboratory is also acting as a link between manufacturing industry in Western Australia and the physical, chemical and metallurgical divisions of the Commonwealth Scientific and Industrial Research Organisation.

Other Divisions.—Besides the research work being conducted at the Regional Laboratory, Perth and at field stations, various co-operative programmes are under way in University departments and in the State Department of Agriculture. The Commonwealth Scientific and Industrial Research Organisation has several officers stationed at the Kimberley Research Station investigating the crop and pasture problems of the northern zone.

Department of Agriculture

Reference to the scientific work of the Department of Agriculture appears in the section *The Department of Agriculture in a paper VIII, Part I—Primary Production.*

CHAPTER V — continued

PART 3 — HEALTH SERVICES, HOSPITALS AND HOMES
FOR THE AGED

HEALTH SERVICES

Health Administration

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.

The Department of Health (Commonwealth) is administered, and act to the Minister, by a Director-General of Health. In each State the principal Director of Health responsible to the Director-General. Among the principal functions of the Department is the management of the National Health Services provided under the National Health Act. Information relating to these services appears in Part 5 of this Chapter.

The Department controls the Australian Quarantine Service 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 transportation 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.

The Commonwealth Acoustic Laboratories, of which there is a branch in Perth, provide and maintain, without charge, hearing aids for persons under 21 years of age and those entitled to benefits under the Repatriation Act.

The principal Statute relating to the provision and regulation of health services in Western Australia is the Health Act, 1911-1964 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 nursing homes. Other Acts under Public Health administration are the Anatomy Act, the Clean Air Act, the Donations Act, the Poisons Act and the Radioactive Substances Act.

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, 1955-1964 as a statutory body with the functions of co-ordinating, promoting and subsidizing research into the cause, diagnosis, prevention and treatment of cancer.

The Department of Public Health has a central laboratory housed in the Sir Charles Gairdner Hospital at Hollywood. At the 31st December, 1964 there were 18 branch laboratories, 17 of which were located at country centres. The principal activity of the laboratories is the examination of medical and public health specimens, but there is increasing emphasis on research, particularly in the fields of virology, immunology, tuberculosis, unmodified mycobacteria, cytology and coronary disease.

Infectious Diseases

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 the 1st 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, 1911-1964 (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.

Leprosy and trachoma are endemic among the aboriginal natives of the Kimberley Division in the far north of the State, and cases are with few exceptions confined to the native population. The Department of Public Health and the Northern Territory Medical Service co-operate in the control of these diseases.

The incidence of notifiable infectious diseases other than venereal diseases during each year from 1959 to 1964 is shown in the following table. Only those diseases where one or more cases were reported during the five year period are listed in the table.

INFECTIOUS DISEASES NOTIFIABLE IN WESTERN AUSTRALIA CASES REPORTED

Disease	1960	1961	1962	1963	1964
Actinobacillus			25		1
Brucella Abortion	71	16	9	8	1
Brucellosis	7	2	5	7	8
Cholera	2				
Dengue Fever					
Diphtheria	5	15	17	5	2
Epidemic	174	172	187	166	157
Cholera	1	2			
Enterobacter, Acute Infection					
Erythema Nodosum	1			1	
Hepatitis, Infective	106	56	116	144	109
Infected Wound	1		1		5
Infantile Diarrhoea	20	16	10	7	11
Acute Poisoning	7	1	1	1	
Leprosy (a)	18	15	17	10	11
Legionellosis	2	13	7	16	4
Malaria	4	2	3	2	5
Non-suppurative Infection	4	2	2	4	
Cryptosporidiosis	2				1
Paratyphoid Fever	4	8	1	2	
Paratuberculosis	18	17	5	1	
Poliomyelitis, Acute	7	2	2	1	
Paratyphoid Fever	1	1		4	1
Psittacosis, Ophthalmic	82	29	29	85	11
Shigellosis, Acute	4	11	8	16	2
Scarlet	177	264	106	107	100
Staphylococcus, Infectious	22	41	42	36	40
Staph. Fleets	15	15	30	15	5
Tuberculosis	2	2	1	4	2
Tuberculosis (a)	117	199	177	195	147
Typhoid fever	167	157	126	175	176
Other	14	41	25	26	11
Typhoid Fever	1		2		
Typhoid Fever (Bert's Disease)		4		2	

(a) Aborigines included in practically all of these items.

Under the Health Act, 1911-1964, the Commissioner of Public Health may compel any person he 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.

The following table shows the number of cases of venereal disease reported to the Department during each year from 1960 to 1964.

CASES OF VENEREAL DISEASE NOTIFIED

Disease	1960	1961	1962	1963	1964
Gonorrhoea, by genus	81	119	123	103	102
Primary	1	6	8	12	4
Secondary	5	7	2	6	1
Tertiary	2	6	7	6	2
Unspecified			1	4	1
Total	89	138	139	129	110

Special Health Services for Children

In addition to measures provided for immunization against poliomyelitis, diphtheria and other infectious diseases, Child Health Services and School Medical and Dental Services assist in improving the general health of children in Western Australia.

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.

INFANT HEALTH CENTRES AND CORRESPONDENCE NURSING SCHEME

Particulars	1960	1961	1962	1963	1964
Infant Health Centres—					
Number of—					
Centres	63	67	73	71	72
Attendances of Infants	221,619	230,764	237,300	244,956	243,530
Visits to Households	22,068	23,414	23,959	23,381	25,505
Correspondence Nursing Scheme—					
Number of—					
Infants on Roll	1,001	1,288	1,205	1,191	1,316
Letters Received	1,226	1,307	1,223	1,172	1,134
Letters Dispatched	4,730	4,926	5,378	5,637	5,982
	1959-60	1960-61	1961-62	1962-63	1963-64
Receipts and Payments (a)—	£	£	£	£	£
Receipts—					
Government Aid	84,625	103,100	116,600	123,602	134,000
Local Government Aid	1,988	1,916	4,531	1,846	2,851
Lotteries Commission Grants	5,850	5,350	2,675	5,350	6,350
Total	91,963	110,366	123,806	130,798	143,201
Payments—					
Salaries and Wages	71,302	88,462	100,943	107,454	114,018
Travelling Expenses, etc.	20,661	21,408	22,977	23,645	27,287
Total	91,963	109,870	123,920	131,099	141,305

(a) Infant Welfare Centres Trust Account only. Particulars of receipts and expenditure of local committees (e.g. certain expenditure on buildings and motor vehicles) are not available.

Correspondence teaching of parentcraft in schools is conducted by the Child Health Services. During the year ended 30th June, 1964, 26,280 lessons and letters were dispatched to children and 28,219 were received.

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 a condition needs home supervision, are advised of the action required. Dental defects, ear, nose and throat affections and defective vision are most frequently reported.

The School Dental Services operate mainly in the country, where private dental treatment may not be readily available. Because of limited staff, dental examinations of school children can be repeated only at fairly long intervals, at best about once every two years. Accordingly, in the larger schools, attention is concentrated on the younger children, but at smaller schools all children are examined. Parents are notified of dental treatment required and may have the work done by private dentists or may consent to their children being treated without charge by the schools dentists.

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 in respect of disabilities which have been accepted as due to war service, and for ex-servicemen in receipt of a service pension. Widows and children of deceased ex-servicemen and widowed mothers of deceased unmarried ex-servicemen where death has been accepted as due to war service may also receive free medical treatment.

Serving members of the armed forces of Australia are treated at the hospitals, the cost of treatment being met by the appropriate service Department. Treatment is also provided for British, Canadian, New Zealand and certain other ex-servicemen, the costs being met by the country concerned.

State Government and Government-Assisted Hospitals

The Hospitals Act, 1927-1955 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 subordinated by the State Government.

Five large metropolitan hospitals, comprising Royal Perth Hospital, Fremantle Hospital, Princess Margaret Hospital for Children, Sir Charles Gairdner Hospital and King Edward Memorial Hospital for Women, are Board hospitals. Other Board hospitals in the metropolitan area are the Home of Peace, which is the State's main hospital for the incurable, and the Perth Dental Hospital, which incorporates a training school for dentists. In addition, 39 departmental and 47 Board hospitals were initiated throughout the State at the 30th June, 1964.

DEPARTMENTAL AND BOARD HOSPITALS, *as*

Particulars	At 30th June				
	1960	1961	1962	1963	1964
Number of Hospitals—					
Departmental	38	39	39	39	39
Board	54	57	57	54	53
Total	92	96	96	93	92
Medical Staff—					
Visiting	326	355	326	302	465
Related	124	137	143	173	192
Total	450	492	469	475	657
Nursing Staff—					
Matrons	169	182	159	1,170	1,141
Warders	735	973	954		
Treatment	1,277	1,499	1,296	1,088	1,172
Nursing Assistants	618	944	1,017	1,006	1,111
Total	1,509	1,518	1,307	1,314	1,424
Beds and Cots					
in Departmental hospitals	1,596	1,809	1,140	1,502	1,048
in Board Hospitals—					
Metropolitan	1,867	1,655	1,641	1,851	1,972
Country	1,092	1,170	1,143	1,165	1,149
Total	1,596	1,596	1,922	1,518	1,169

1st Excluding Perth Dental Hospital. 2nd Variation due mainly to transfer of Sir Charles Gairdner Hospital from departmental administration to Board control.

The following table gives details of the activities of departmental and Board hospitals during the five years ended 30th June, 1964.

PATIENTS TREATED IN DEPARTMENTAL AND BOARD HOSPITALS

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
In patients—					
Number at beginning of year—					
Males	1,288	1,261	1,315	1,288	1,111
Females	1,311	1,296	1,407	1,301	1,212
Admissions—					
Males	40,770	41,389	44,103	46,667	49,657
Females	47,387	48,686	50,058	51,229	49,413
Discharges—					
Males	39,346	40,216	42,341	41,207	48,111
Females	46,367	47,396	48,070	46,087	58,117
Deaths—					
Males	1,281	1,288	1,386	1,256	1,265
Females	946	1,007	1,062	1,001	1,114
Number at end of year—					
Males	1,441	1,315	1,268	1,402	1,073
Females	1,590	1,667	1,593	1,722	1,871
Total	1,596	1,592	1,581	1,524	1,447
Visiting daily patients	2,613	2,448	2,678	2,339	2,284
Outpatients—Total attendance	371,518	400,077	396,108	456,080	448,261

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 1953-1954, but are financed mainly from State Government funds.

The effect of the marked rise in costs experienced by all hospitals in recent years is reflected in the following table, which shows the receipts and payments of departmental and Board hospitals. Although fees have been greatly increased, these hospitals have become more and more dependent on assistance from the State.

RECEIPTS AND PAYMENTS OF DEPARTMENTAL AND BOARD HOSPITALS

Particulars	Year ended 30th June				
	1950	1951	1952	1953	1954
	£	£	£	£	£
Receipts—					
From Government Funds	4,770,388	7,461,316	7,561,086	8,226,870	8,186,511
Local Government Aid	1,454	222	522	1,080	1,424
Public Subscriptions, Legacies, etc.	75,275	108,310	127,568	50,280	251,270
Fees	733,864	7,298,577	7,740,130	8,893,580	8,188,617
Other	17,211	21,607	24,827	27,111	27,464
Total	5,597,198	15,891,145	15,453,133	17,200,321	16,675,286
Payments—					
Salaries and Wages	3,367,161	3,964,007	4,451,361	4,726,741	4,566,513
Maintenance of Buildings and Grounds	253,433	276,090	325,241	366,590	1,068,594
Other Subsidies	2,251,599	2,895,731	2,963,798	2,511,274	2,190,075
Capital Expenditure	1,571,122	1,865,332	2,266,511	2,397,261	2,351,899
Total	7,443,315	8,991,160	9,906,911	10,001,866	10,177,081
	(Receipts)				

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 tuberculosis is the Sir Charles Gairdner Hospital at Perth (which was opened in 1928 as the Perth Chest Hospital).

There is a tuberculosis sanatorium at Derby and a small hospital at Wanneroo.

Private Hospitals

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, Fremantle, Geraldton, Roebourne and Northam; Saint Anne's, Mt. Lawley; the Mount Hospital, Perth and the Hillmoad 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 1953-1954. At the 30th June, 1954 there were 44 private hospitals in Western Australia approved for payment of hospital benefits under the Act. These hospitals had a total bed capacity of 2,674 at that date.

MENTAL HEALTH SERVICES

A Mental Health Act was passed by the State Parliament in 1952 with the object of consolidating and amending the law relating to the treatment of mental disorders, and replacing the Lunacy Act, the Insane Act, the Mental Treatment Act and the Mental Treatment (Off-Normal Patients) Act. At the 30th June, 1953 the date of operation of the Mental Health Act had not been proclaimed.

The Lunacy Act, 1903-1954 and the Mental Treatment Act, 1927-1955 provide for compulsory admission to mental hospitals. Admission is usually made after application to a magistrate supported by the certification of two medical practitioners. The Acts provide also for voluntary admission. Adults may submit themselves for treatment in a mental hospital and children may be admitted on the application of parents or guardians. There are special provisions for the commitment of persons from courts and prisons to mental hospitals for observation or treatment.

Except in the case of a person committed from a court or a prison, inmates of mental institutions may be released on trial leave or discharged by the medical superintendent or on the recommendation of a Board of Visitors. Voluntary patients may leave an institution after 24 hours' notice.

All mental hospitals in Western Australia are administered by a Director of Mental Health Services responsible to the Minister for Health. Four hospitals provide for patients certified as insane, the principal

institution being the Claremont Mental Hospital. The Heathcote Reception Hospital is for patients who are suffering from serious or mental disorders and admits voluntary patients and others who have not been certified as insane. A Board of Visitors for each institution makes regular inspections and reports to the Minister on the general welfare of patients and the administration of the institution.

Other institutions of the Mental Health Services authority are the Nathaniel Harpur Home for Children, the Graylands Day Hospital, the Haydock Out-patient Clinic, the Fremantle Out-patient Clinic, the Child Guidance Clinic, the Persons Psychiatric Clinic, the Kilsberna Referral Centre, the Industrial Therapy Centre, and a rehabilitation hostel at Belmont.

A new day hospital at Shenton Park has replaced the Graylands Day Hospital, which is to be modified and reopened as an annexe to the Heathcote Hospital. A training centre for mentally defective children is being built at Gageford. It is planned to provide a sheltered workshop for the Fremantle area and to establish a child psychiatric clinic at Collier.

The treatment of inebriates as provided for by the Inebriates Act, 1912-1913 is also a function of the Mental Health Services administration. A magistrate may commit an inebriate to a mental hospital for treatment in accommodation set aside for the purpose. At the 31st December, 1963 there were 27 patients who had been admitted to these institutions under the Act.

The following table shows particulars of the inmates of the four hospitals which admit patients certified as insane. The figures refer mainly to certified patients but include also a small number of voluntary patients. Patients admitted under the Inebriates Act are not included.

PATIENTS OF MENTAL HOSPITALS

Particulars	1960		1961		1962		1963		1964	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Discharges	738	551	682	520	666	79	171	95	222	74
Discharges—										
Recovered	79	31	86	1	1	1	3	4	1	1
Relieved	28	2	12	1	78	75	81	17	118	38
Not Improved	2		1		17	4	10	10	24	4
Deaths	82	70	84	66	83	44	53	46	59	29
Total	980	772	975	723	956	194	349	169	509	177
Number remaining at 31st December										
In hospital	971	694	987	708	979	677	982	680	1,011	674
On leave	117	282	109	170	128	120	142	145	140	123
Total	1,088	976	1,096	878	1,107	833	1,124	825	1,154	797

Details of patients of the Heathcote Reception Hospital during each year from 1960 to 1963 are shown in the next table.

PATIENTS OF HEATHCOTE RECEPTION HOSPITAL (a)

Particulars	1960		1961		1962		1963		1964	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Discharges	520	327	502	333	511	562	735	599	681	620
Discharges—										
Recovered	246	354	252	337	111	214	128	235	15	20
Relieved	11	158	114	140	273	271	324	380	493	610
Not Improved	47	23	71	11	31	25	87	35	59	95
Deaths	4	3	1	1	1	1	1	1	1	1
Transfers to other Mental Hospitals	70	42	18	32	80	37	80	40	18	28
Total	949	755	968	538	921	920	1,225	1,061	1,273	1,024
Number remaining at 31st December—										
In hospital	49	65	38	56	61	63	66	55	46	51
On leave	79	91	83	102	78	107	111	111	118	120
Total	128	156	121	158	139	170	177	166	164	171

(a) Prior to 1960, figures for patients remaining at the end of each year include those on trial leave. From 1960, patients leaving the hospital on trial leave are counted as discharges. Numbers of patients on leave include only those on daily leave.

HOMES FOR THE AGED AND INFIRM

Government homes for the aged and infirm in Western Australia are "Sunset" at Dalkeith and "Mount Henry" near Canning Bridge. There are also a number of homes conducted by religious and charitable organizations.

The following table shows particulars of inmates of the State Government institutions during the five years ended 30th June, 1964.

GOVERNMENT HOMES FOR THE AGED AND INFIRM

Particulars	Year ended 30th June				
	1959	1961	1962	1963	1964
Inmates at beginning of year					
Males	415	431	451	449	448
Females	111	149	159	128	139
Aged persons—					
Males	280	302	318	347	341
Females	103	121	141	112	107
Dependent—					
Males	104	138	171	116	—
Females	55	49	15	29	71
Disabled—					
Males	121	188	163	111	130
Females	36	30	22	71	79
Inmates at end of year—					
Males	454	451	446	446	457
Females	445	524	528	439	491
Total	899	975	974	885	948

The Commonwealth Government extends financial assistance to religious and charitable organizations in providing accommodation for the aged and infirm. The Amending Acts are administered, subject to any directions of the Minister, by the Director General of Social Services.

Under the provisions of the Aged Persons Homes Act 1954-1957 grants are made to organizations "to encourage and assist the provision of suitable homes for aged persons, and in particular homes at which aged persons may reside in conditions approximating as nearly as possible normal domestic life." For the purposes of the Act, the term "aged person" means a male aged 65 years or over and a woman aged 60 years or over and includes the spouse of the aged person. The Act authorizes grants to eligible organizations to be applied towards the cost of stocking or purchase of approved homes to be used primarily for the accommodation of aged persons. To be eligible for assistance an organization must be of the non-profit type and may be either a religious, charitable or benevolent organization, an organization of former members of the defence forces, or an organization specifically approved under the Act. As legislative authority for the Commonwealth Government, State Government or local government must authorize a grant before the expenditure. When the original Act commenced on the 15th December, 1954 the grant was made on the basis of £1 for each £1 raised by the organization, excluding borrowed money and money received from a governmental body. The amending Act, operative from the 22nd October, 1957, increased the Commonwealth contribution to £1 for each £1 raised by the organization. Grants are made from monies appropriated by the Parliament from the Consolidated Revenue Fund.

From the inception of the scheme to the 30th June, 1964, 61 grants aggregating £1,113,911 had been made to organizations in Western Australia to provide accommodation for 1,433 persons.

AGED PERSONS HOMES GRANTS*—WESTERN AUSTRALIA

Particulars	Year ended 30th June				
	1959	1961	1962	1963	1964
Number of grants	4	5	6	10	9
Number of persons accommodated	172	125	161	420	488
Amount of grants approved	£17,874	£38,726	£94,688	£38,778	£383,687
					£1,113,911

(*) Grants have been classified according to year of original approval. The amounts shown incorporate subsequent adjustments.

The Disabled Persons Accommodation Act 1963, which came into operation on the 25th November, 1963, authorizes the payment of grants by the Commonwealth to eligible organizations for the provision of buildings to be used permanently for the residential accommodation of disabled persons employed in workshops or factories declared to be sheltered workshops for the purposes of the Act. A disabled person is defined as one who has attained the age of 16 years and who is permanently incapacitated for work to the degree necessary to qualify on medical grounds for an invalid pension, or is permanently blind. The requirements for eligibility of an organization are the same as those laid down in the Aged Persons Homes Act and grants are made on the same basis and to the same extent as authorized by that Act. Monies are provided similarly by parliamentary appropriation from the Consolidated Revenue Fund.

CHAPTER V—continued

PART 4—HOUSING

HOUSING AND THE CENSUS

NOTE.—Dwellings occupied solely by full blood aborigines are excluded from all counts in this Part which contain information compiled from census schedules (see also introduction relating to this part in the final section of Chapter IV, Part 3—Population).

Details relating to the Census of 30th June, 1961 have been amended, where necessary, in accord with the final Census tabulations.

For the purpose of this census an "occupied dwelling" is any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or any part of a building. The term has therefore a very wide scope and includes, in addition to houses and flats, a great variety of dwellings ranging from a rough covered shed to a well-appointed hotel or boarding-house.

The term "unoccupied dwellings" is not synonymous with vacant houses and flats available for sale or renting. What it does include the figures relate also to dwellings, including those used for work and agricultural purposes, whose usual occupants were temporarily absent on the night of the Census. Newly completed dwellings whose owners or tenants had not entered into occupation on the night of the Census are also included.

Dwellings According to Class

Occupied dwellings are classified into private dwellings and other dwellings. "Private Dwellings" comprise private houses, shares of private houses, flats, apartments, cottages, and the like. "Dwellings other than Private" include such habitations as hotels, boarding houses, nursing homes, hostels, hospitals, educational, religious and charitable institutions, defence and penal establishments, etc.

"Private Houses" include houses, sheds, huts, garages, etc. used for dwelling purposes, and shared private houses for which only one Household's Schedule was received. "Shares of Private House" is that portion of a shared private house which is occupied separately and for which a separate Householder's Schedule was furnished. "Flats" is any part of a house or other building which can be completely closed off and which has its own cooking and bathing facilities. "Other" private dwellings include dwellings such as agricultural stands, etc. which are parts of buildings but are not self-contained units.

The following table shows the incidence of occupied dwellings in Western Australia according to class of dwelling as the Censuses of 1954 and 1961. Private houses constituted 93.1 per cent. of all occupied private dwellings in 1961 compared with 90.5 per cent. in 1954. The proportion of flats to total occupied private dwellings increased from 3.3 per cent. in 1954 to 4.5 per cent. at the 30th June, 1961.

Dwellings According to Class

Class of Dwelling	Census of 30th June—	
	1954	1961
Occupied Private Dwellings—		
Private House		
House	140,201	174,404
Shed, Hut, etc.	4,400	2,061
Total Private Houses	144,601	176,465
Shares of Private House	7,457	2,798
Flats	6,337	9,612
Other	1,889	1,020
Total Private Dwellings	159,284	190,895
Occupied Dwellings other than Private—		
Boarding House, Private Hotel, Hotel, etc.	1,554	1,586
Licensed Hotel	145	621
Educational, Religious or Charitable Institution	210	211
Other	10,173	9,498
Total Other Dwellings	12,082	12,916
GRAND TOTAL OCCUPIED DWELLINGS	171,366	203,811
Unoccupied Dwellings	6,024	18,206

(a) Includes "excessively" quarters" which in 1961 were classified as private dwellings.

Dwellings According to Material of Outer Walls

Brick was found to be the most frequently used material for outer walls at the 30th June, 1961, being used in 43.8 per cent. of all occupied private dwellings where the material of outer walls was stated, compared with 38.2 per cent. in 1954. Wood, second in importance as a material for outer walls in 1954, fell to third place, after fibro-cement, in 1961. Of those private dwellings where the material of outer walls was stated, 30.2 per cent. in 1961 had outer walls of fibro-cement and 16.7 per cent. had outer walls of wood, compared with 23.1 per cent. and 25.5 per cent. respectively in 1954. The proportion of private dwellings with walls of iron dropped from 5.5 per cent. in 1954 to 3.5 per cent. in 1961. The highest percentage increases between the Censuses were recorded by occupied private dwellings with walls of fibro-cement, 57.6 per cent., and of brick, 37.7 per cent. The number of occupied private dwellings with walls of iron, wood or stone decreased by 22.8 per cent., 21.4 per cent. and 15.4 per cent. respectively.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO MATERIAL OF OUTER WALLS

Material of Outer Walls	Census, 30th June, 1954					Census, 30th June, 1961				
	Private House (a)	Share of Private House	Flat	Other	Total	Private House (a)	Share of Private House	Flat	Other	Total
Brick	52,183	3,711	3,637	1,250	60,781	75,006	1,456	6,579	656	83,707
Stone	3,702	360	181	154	4,397	3,319	108	238	53	3,718
Concrete	4,313	143	87	9	4,546	4,858	75	156	5	5,094
Wood	37,998	1,909	564	216	40,687	30,899	494	474	109	31,976
Iron	8,409	175	105	99	8,788	6,546	40	153	43	6,782
Fibro-cement	34,778	1,128	663	158	36,727	56,097	536	1,043	148	57,874
Other	3,286	48	17	9	3,360	2,141	10	19	3	2,170
Not Stated	194	13	3	...	210	270	3	10	3	286
Total	144,863	7,487	5,257	1,889	159,496	179,136	2,788	8,672	1,020	191,616

(a) Includes Sheds, Huts, etc.

Dwellings According to Number of Inmates

The greatest proportional increase (39.1 per cent.) since 1954 occurred in occupied private dwellings with one inmate, due to an increase of 39.8 per cent. in the number of private houses with one inmate and an increase of 144.8 per cent. in the number of flats with one inmate. At the 30th June, 1961, dwellings with less than six inmates represented 85.6 per cent. of total occupied private dwellings compared with 85.9 per cent. in 1954. Dwellings with six or more inmates increased by 22.1 per cent. between the Censuses while those with less than six increased by 19.8 per cent. Dwellings with two inmates were the most numerous in 1961 and 1954, accounting for 22.9 per cent. and 21.5 per cent. respectively of total occupied private dwellings.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO NUMBER OF INMATES

Number of Inmates per Dwelling	Census, 30th June, 1954					Census, 30th June, 1961				
	Private House (a)	Share of Private House	Flat	Other	Total	Private House (a)	Share of Private House	Flat	Other	Total
1	11,310	1,307	1,074	601	14,292	15,815	874	2,629	559	19,877
2	29,094	2,510	2,064	674	34,342	39,207	861	3,630	271	43,969
3	28,825	1,883	1,025	340	31,873	32,520	452	1,302	98	34,372
4	31,425	1,038	598	153	33,214	37,066	277	633	45	38,021
5	22,341	527	298	72	23,238	27,327	188	809	27	27,851
6	12,031	247	122	20	12,420	15,299	78	105	11	15,493
7	5,519	104	47	13	5,683	6,811	33	44	7	6,895
8	2,535	42	17	12	2,606	3,075	16	15	...	3,106
9	995	15	7	1	1,018	1,085	8	4	...	1,097
10	424	10	2	1	437	509	1	...	...	510
11 and over	864	4	3	2	373	422	1	1	2	425
Total—Dwellings	144,863	7,487	5,257	1,889	159,496	179,136	2,788	8,672	1,020	191,616
Average Number of Inmates per Dwelling	3.74	2.80	2.56	2.27	3.64	3.69	2.48	2.19	1.82	3.59

(a) Includes Sheds, Huts, etc.

Dwellings According to Number of Rooms

At the 30th June, 1961, occupied private dwellings of four, five and six rooms accounted for 80.5 per cent. of all occupied private dwellings where the number of rooms was stated. In 1954 the proportion was 75.7 per cent. In both 1961 and 1954 private dwellings with five rooms were the most numerous and represented 37.4 per cent. and 30.6 per cent. respectively of private dwellings where the number of rooms was stated. The greatest proportional increases in the number of occupied private dwellings since the 1954 Census occurred in five and seven roomed private dwellings which increased by 45.3 per cent. and 35.6 per cent. respectively. There were notable increases since 1954 in the number of flats with two and three rooms, the increases being 199.7 per cent. and 77.1 per cent. respectively.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO
NUMBER OF ROOMS (a)

Number of Rooms in the Dwelling	Census, 30th June, 1954					Census, 30th June, 1961				
	Private House (b)	Share of Private House	Flat	Other	Total	Private House (b)	Share of Private House	Flat	Other	Total
1	3,794	602	31	673	4,340	7,757	322	83	251	8,083
2	4,506	1,098	384	620	7,398	5,454	593	1,147	768	6,491
3	8,776	1,640	1,541	834	12,371	6,241	947	2,764	281	10,233
4	38,176	1,532	1,945	119	41,314	37,180	655	2,891	117	40,998
5	46,751	898	696	48	48,632	70,340	383	1,143	81	72,105
6	29,145	570	296	19	30,047	30,157	69	301	3	30,661
7	9,282	191	37	16	9,566	12,124	14	197	1	13,246
8	3,720	66	14	12	3,822	4,314	3	50	1	4,371
9	1,077	12	7	3	1,113	1,486	1	28	1	1,516
10	450	4	2	4	460	609	5	3	1	617
11 and over	425	5	5	3	438	473	1	2	1	477
Not Stated	390	220	15	23	638	649	81	41	51	822
Total Dwellings	144,864	7,437	3,537	1,889	139,490	179,136	2,788	5,672	1,020	191,616
Average Number of Rooms per Dwelling (a)	4.31	3.16	3.40	2.21	4.37	5.13	3.27	3.89	2.43	5.05

(a) Includes kitchen and permanently enclosed sleep-out, but does not include bathroom, pantry, laundry, or storehouse.
(b) Includes sheds, barns, etc.

Dwellings According to Nature of Occupancy

The most significant feature of the following table is the increase in the number of occupied private dwellings being purchased by instalments. Of those occupied private houses where the nature of occupancy was stated, the proportion being purchased by instalments rose from 15.7 per cent. in 1954 to 24.8 per cent. in 1961. The proportion of owner-occupied dwellings declined from 50.7 per cent. in 1954 to 46.6 per cent. in 1961. The proportion of tenanted dwellings also declined, from 32.2 per cent. to 27.7 per cent.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO
NATURE OF OCCUPANCY

Nature of Occupancy	Census, 30th June, 1954					Census, 30th June, 1961				
	Private House (a)	Share of Private House	Flat	Other	Total	Private House (a)	Share of Private House	Flat	Other	Total
Owner	77,548	1,065	666	123	80,420	66,028	880	362	77	68,471
Purchaser by instalments	22,573	421	60	22	23,076	44,225	266	118	19	44,508
Tenant (b)	46,012	4,712	4,430	1,702	51,874	43,077	1,612	1,315	391	52,405
Council	1,893	65	47	27	2,039	1,994	22	143	14	2,191
Other: Nature of Occu- pancy	1,051	61	10	5	1,066	1,969	10	72	6	2,006
Not Stated	309	94	15	9	337	655	43	22	13	701
Total	144,868	7,467	3,537	1,889	139,490	179,136	2,788	5,672	1,020	191,616

(a) Includes Sheds, Barns, etc. (b) Includes dwellings occupied by "Tenants (Governmental Housing)" in 1954 and by "Tenants (State Housing Commission)" in 1961.

Occupied Tenanted Private Dwellings According to Weekly Rent (Unfurnished)

The following table shows particulars of rents paid for unfurnished private dwellings. Many dwellings were occupied on a furnished basis, and this accounts largely for the high proportion of tenanted private dwellings for which an unfurnished rental could not be stated.

OCCUPIED TENANTED PRIVATE DWELLINGS (1) CLASSIFIED ACCORDING TO WEEKLY RENT (UNFURNISHED)

Weekly Rent (Unfurnished)	Census, 30th June, 1954					Census, 30th June, 1961				
	Private houses (2)	Share of Private Houses	Flats	Other	Total	Private houses (2)	Share of Private Houses	Flats	Other	Total
Under 20s.	4,391	710	36	79	4,617	2,477	27	118	26	2,658
20s. and under 30s.	2,841	415	146	41	3,443	2,324	41	188	21	2,574
30s. " " 40s.	2,174	417	147	11	2,750	2,148	54	161	31	2,494
40s. " " 50s.	2,109	482	212	"	2,803	2,260	140	181	45	2,626
50s. " " 60s.	2,384	595	170	10	3,159	2,401	191	205	22	2,820
60s. " " 70s.	1,205	544	259	52	2,060	2,000	121	268	20	2,410
70s. " " 80s.	212	107	188	20	527	2,464	63	261	23	2,812
80s. " " 90s.	266	68	251	12	597	1,000	48	252	18	1,318
90s. " " 100s.	140	25	179	4	348	1,200	83	274	4	1,661
100s. and over	11	24	544	1	680	1,164	29	1,864	12	3,069
Not stated (3)	2,311	2,874	2,343	1,252	8,800	2,000	884	2,749	615	5,248
Total	22,020	6,519	4,154	7,081	33,774	22,812	1,453	6,817	874	31,956

(1) Excludes particulars of dwellings occupied by "Tenants (Commercial Housing)" in 1954 and by "Tenants (State Housing Commission)" in 1961. (2) Includes flats, flats, etc. (3) Excludes tenanted dwellings which were rent free, those rented on a furnished basis, and those for which the tests were not applicable (e.g., for shop and dwelling combined).

Of those tenanted private dwellings for which rent (unfurnished) was stated, 28.9 per cent. had rentals below 30s. in 1961 compared with 49.1 per cent. in 1954. In the range 30s. and under 60s. the proportion rose from 26.2 per cent. in 1954 to 43.7 per cent. in 1961. The proportion in the category 100s. and over rose from 4.0 per cent. in 1954 to 15.4 per cent. in 1961. The greatest number of tenanted private houses at the 30th June, 1961 were in the rental range 40s. and under 50s. while the greatest number of tenanted flats were in the range 100s. and over.

Unoccupied Dwellings

Of the total of 13,705 dwellings unoccupied at the 30th June, 1961 (excluding dwellings other than private) 4,911 were in the category of holiday or week-end home or seasonal workers' quarters, 3,541 were dwellings whose usual occupants were temporarily absent, 2,538 were for sale or for letting, and 310 had been condemned or were due to be demolished.

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 houses 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 two must be officers of the State Public Service, one a representative of the banking 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. Government housing is primarily the responsibility of the Commission, whose functions include the construction and the letting and sale of dwellings

under the authority of the State Housing Act, and the administration of the Housing Loan Guarantee Act (State); and of the Commonwealth and State Housing Agreements and the War Service Homes Act (Commonwealth) as they apply to Western Australia.

Operations under the State Housing Act—Under the authority of the State Housing Act, 1946-1964, the State Housing Commission used 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 not more than 26% above the Minister may allow assistance to a family having a higher income. Loans of up to £4,000 for gross, in some cases may be made on a minimum deposit of 10 per cent. for loan, at the discretion of the Commission, the maximum period of repayment being 45 years. The rate of interest (30th June, 1965) is 5½ per cent. per annum.

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.

Operations under the 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 1946, 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 standardization of design and erection in large groups. The Agreement provided a broad basis of co-operation between the Commonwealth and the State, with the Commonwealth providing advances of money, general direction as 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.

Homes built under the Commonwealth and State Housing Agreement Act of 1945 were let at an "economic rent" calculated according to a formula laid down in the Agreement. The rents so determined were to be sufficient to meet repayments by the State to the Commonwealth of the capital cost of each dwelling with interest and also current outgoings such as the cost of maintenance, administration, rates, taxes and insurance. Provision was made for a system of rental rebates so designed that families with income over the basic wage (then about £400) paid not more than about one fifth of the family income in rent, irrespective of the "economic rent" of the dwelling, but in no case was the rent paid by a tenant to be less than 5s. per week. The Commonwealth Government was to bear three fifths and the State two fifths of all costs incurred in operations under the Agreement.

Although the principal aim of the arrangement was to make homes available on a rental basis, provision existed for the sale by the State of homes erected under the scheme, on condition that the full capital cost was immediately repaid to the Commonwealth. To satisfy this requirement, the State Housing Commission made use of funds provided by the State Government by means of the State Housing Act when, in 1950, it first offered tenants the option of purchasing their homes by instalments on payment of a moderate deposit. The Commonwealth and State Housing Supplementary Agreement Act, 1956, modified the original Agreement by allowing finance provided by the Commonwealth to be applied for the purchase, by tenants, of houses built under the scheme. The Agreement prescribed a minimum deposit of 5 per cent. of the first £2,000 of the purchase price and 10 per cent. of the balance. The rate of interest specified was 4½ per cent. per annum, subject to alteration by agreement between the Commonwealth and the State, the maximum loan being £7,750 and the maximum period of repayment 45 years.

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 the 30th June, 1961. The supplementary State legislation authorizing 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, 50 per cent. of the money allocated to the State was to be utilized in building new homes and of the remainder in lending to private persons for the building or purchase of homes, the proportion to be increased to 30 per cent. during the remainder of the period. On the introduction of the Agreement, the State Housing Commission adopted the policy of offering for sale before necessary 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 1963 the period of operation of the Commonwealth and State Housing Agreement has been extended for a further five years to the 30th June, 1968. The 1961 Agreement incorporates all the main provisions of the earlier arrangement, with only minor modifications. The requirement that building societies and other approved institutions shall receive 30 per cent. of moneys allocated to a State is continued.

Although Agreements subsequent to that of 1945 make no provision for rebates to tenants unable to pay the full rental, the State Government has continued the system and the cost of rental rebates in 1962-63 was £112,396 and £141,400 in 1963-64.

The McNess Housing Trust.—The State Housing Commissioner carries out free of charge the administrative, technical and other work associated with the operations of the McNess Housing Trust, which was established by a bequest made in 1930 by the late Sir Charles McNess. The Trust has been assisted by allocations from State Government funds and by donations from the Lotteries Commission. The income of the Trust is used to provide homes for aged and infirm persons not able to purchase or require a home from their own resources.

Other Operations.—The State Housing Commission conducts certain other housing schemes and has completed, or is currently engaged in, other specific projects on behalf of the State Government. Under a "Departmental Homes" scheme, 541 houses were built in the period 1952-53 to 1963-64 for State Government Departments and semi-government authorities. A Government employees' Housing Scheme was introduced in 1958-59 and, up to the 30th June, 1964, had provided 107 rental houses in country areas. (See also the following section *Government Employees' Housing Authority*). 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 organizations which are developing pensioner housing schemes financed jointly by these organizations and the Commonwealth Government under the Aged Persons Homes Act 1954-1957 (Commonwealth). The erection of 100 houses at Bunbury under the provisions of the Laporte Industrial Factory Agreement Act, 1961 has been made the responsibility of the Commission. Up to the 30th June, 1964 the Commission had completed 60 of these houses. In terms of the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act, 1960, the State Government is required to provide houses up to a maximum number of 30 in any one year for the accommodation of the Company's employees at the site of iron-ore deposits in the Koolyanobling area. The provision of these houses has also been made the responsibility of the State Housing Commission which, in 1964, erected 31 houses at the site. In the same year the Commission built 39 houses at Esperance for occupation by employees of a company engaged in the manufacture of superphosphate fertilizer.

Housing Units Completed.—Statistics of housing units built by the State Housing Commission during the period 1959-60 to 1963-64 are given later in this Part in the section *Building Operations*.

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 consists of four members comprising the Public Service Commissioner, the Under Treasurer of the State, the Director General of Education and the General Manager of the State Housing Commission. It is provided that any of these officials may nominate an officer as a member of the Authority in his stead, and that the Public Service Commissioner or his nominee shall be Chairman of the Authority. The Act enables the Authority to purchase, contract for, the use of, or otherwise acquire land or houses; to erect houses on land which it has acquired; and to let or dispose of houses or land which it owns or has under its control.

The permanent head of a State Government Department may, where he is of the opinion that houses are required for government employees, apply to the Authority for the allocation of houses.

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

Financial assistance by means of loans is provided by the Commonwealth Government, under the War Service Homes Act 1918-1962, to Australian ex-service personnel of the first and second World Wars, the Korean War and the operations in Malaya. Subject to their having resided in Australia prior

to enlistment, other British ex-service personnel are eligible for assistance, which may be extended also to the widow or the dependant widowed mother of a member of the Forces. Loans are made within statutory limits for the building of new houses and arrangements may be made in some circumstances for the discharge of mortgages on existing properties.

The State Housing Commissioner acts as representative in Western Australia of the War Service Homes Division of the Department of Housing (Commonwealth).

Romes Savings Grants

The Homes Savings Grant Act 1964 (Commonwealth), which came into operation on the 28th May, 1964, is designed to "assist young married persons 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 house and a flat. The maximum benefit is 12% payable on savings of £750 each must be "acceptable" savings within the meaning of the Act.

To qualify for the grant a person must be married; must have lived and saved in Australia for at least three years; must, on or after the 2nd December, 1963, have entered into a contract to buy a house or to have a house built, or have begun to build a house; must be under 36 years of age at the date of marriage and at the date of entering into a contract to buy or build the house or at the date on which building began; must not have already received a grant and must not at any previously have been married to a person who has received a grant during the lifetime. 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 house where the cost, including the value of land, exceeds £7,000.

Grants are financed from the National Welfare Fund and the first payments were made during the year ended 30th June, 1965. Expenditure on grants in Western Australia in that year amounted to £349,349.

CONTROL OF BUILDING

Each of the local government authorities as constituted under the provisions of the Local Government Act, 1960-1964 has power to exercise general control over the erection of buildings in its own district. At the 31st December, 1964 there were 5 Cities, 15 Towns and 126 Shires in Western Australia. 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, 1928-1962 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 institutional 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, 1960-1964 contains provisions for the control of building which are compatible with those exercised under the Town Planning and Development Act but are at a more detailed level. Many local government authorities have adopted comprehensive by laws relating to building construction, 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 townsite areas. Where any local authority refuses to approve plans 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. 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 30th September, 1945.

This 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.

An owner-builder is one who is actually building his own house, or is having his house built under his own direction without the services of a contractor responsible for the whole job. Details of owner-builder activity cover in the main only those areas subject to building control by a local government authority. Outside these areas the activities of owner-builders are generally not recorded and some other building operations may also be excluded. It is considered, however, that these omissions do not materially affect the figures.

Alterations, renovations, repairs and minor additions are excluded.

The following tables relate only to dwellings, as distinct from offices, factories, shops (without dwellings) and other non-residential buildings. The term "houses built," as used in the first of these tables, refers to the operations of all building contractors and government instrumentalities undertaking the erection of new buildings. The values shown exclude the value of land and represent the estimated value of dwellings on completion. The figures for houses exclude temporary dwellings as well as dwellings attached to other buildings, such as dwellings attached to shops.

NEW HOUSES COMPLETED (1)—CLASSIFIED ACCORDING TO MATERIAL OF OUTER WALLS

Year		Brick, Stone, Concret		Wood or predominantly Wood		Fibero cement or predominantly Fibero cement		Other		Total	
		Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
			£000		£000		£000		£000		£000
1959-60	Contract-built Owner-built	3,615 501	11,466 1,661	4 17	20 36	1,144 650	1,364 1,786	4	4	4,765 1,232	14,442 2,285
	Total	4,116	13,127	21	56	1,794	3,150	4	4	5,997	17,297
1960-61	Contract-built Owner-built	4,823 452	13,565 1,600	6 7	20 10	651 311	2,797 3,019	17 6	10 9	4,987 976	16,191 2,936
	Total	5,275	15,175	13	30	1,002	5,838	23	19	5,973	19,127
1961-62	Contract-built Owner-built	3,272 514	12,609 1,664	71 8	246 16	652 345	2,679 3,141	64 8	71 9	3,009 1,673	16,685 3,296
	Total	3,786	14,273	79	262	1,007	5,820	72	80	4,682	19,731
1962-63	Contract-built Owner-built	4,116 184	17,191 1,501	17 11	116 51	677 310	2,732 363	4 3	31 7	2,847 730	20,038 2,234
	Total	4,300	18,692	28	167	1,007	3,093	7	38	3,584	22,272
1963-64	Contract-built Owner-built	3,254 513	19,338 2,696	12 17	51 20	1,051 417	3,100 364	46 34	29 114	3,117 7,265	22,455 7,969
	Total	3,767	22,034	29	71	1,468	3,464	72	143	3,234	25,424

(1) Includes operations of State Housing Commission; see separate table on next page.

The following table shows completions of dwellings other than houses. The figures relating to State refer to individual holdings only provided. In the case of dwellings attached to shops, the value of the dwelling is not available separately and the figures shown under this heading are, in fact, the total value of the combined buildings.

OTHER NEW DWELLINGS COMPLETED (a)

Year	State (b)		Hotels, Restaurants, etc.		Dwellings attached to shops		Total	
	Number	Value	Number	Value	Number	Value	Number	Value
		£000		£000		£000		£000
1960-60	161	481	10	151	11	64	280	1,006
1960-61	140	790	20	352	9	21	474	1,363
1961-62	206	673	16	800	9	62	510	1,323
1962-63	562	1,402	17	1,540	9	66	687	3,608
1963-64	1,015	2,768	15	975	11	62	1,051	3,705

(a) Includes operations of The State Housing Commission; see next table. (b) Individual Holdings only.

Operations of The State Housing Commission

The following table shows the number of housing units completed by the State Housing Commission in various categories during each year from 1959-60 to 1962-63. It also shows the numbers of housing units in connexion with which the Commission provided design and supervisory services free of charge to private (charitable) organisations.

STATE HOUSING COMMISSION—SUMMARY OF OPERATIONS

Category	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Housing Units (1) Completed—					
State Housing Act	352	319	186	910	830
Commonwealth and State Housing Agreements	656	742	373	1,104	1,292
McNees Housing Trust	11	41	"	20	73
Departmental Homes	36	68	147	94	163
Government Employees' Housing Scheme	20	29	6	19	14
War Service Homes	454	276	196	111	176
(Other to)				29	31
Total	1,419	1,680	1,636	2,000	2,311
Other Activities (2)			22	130	130

(1) Comprises houses and individual flat units. (2) Comprises houses built by the Commission in terms of the Laporte Industry Facility Agreement Act, 1961. (3) The figures shown represent housing units built by charitable organisations in connexion with which the Commission provided design and supervisory services.

DWELLINGS COMPLETED AND POPULATION INCREASE

Examination of the statistics of houses and flats completed in relation to population increase in the several States provides some interesting comparisons. The following table relates to the period between the Censuses of the 30th June, 1951 and the 30th June, 1961. Actual completions and the rate per thousand of population increase are shown for each State and Territory and for Australia as a whole. Percentage figures of population growth during the period are also given.

The ratio which Western Australia's population bore to that of Australia was 7.12 per cent. at the 30th June, 1951 and 7.91 per cent. at the 30th June, 1961. Completions of houses and flats in Western Australia during the period numbered 47,945 representing 8.35 per cent. of the Australian total. The rate of completions, 495 per thousand of population increase, was greater than that of any other State and considerably higher than the rate of 370 for Australia as a whole. Western Australia's population increased during the period by 96,808 or 15.14 per cent., compared with a rise of 16.93 per cent. in the Australian population.

DWELLINGS COMPLETED AND POPULATION—STATES AND TERRITORIES
30th JUNE, 1951 TO 30th JUNE, 1961

State or Territory	Population (a)				New Houses and Flats (1) Completed 1st July, 1951 to 30th June, 1961		
	Census, 30th June—		Increase—		Number	Proportion of Australian Total	Per Thousand of Population Increase
	1951	1961	Number	Per cent.			
	persons	persons	persons	%		%	
New South Wales	3,433,529	3,913,023	479,494	14.41	186,116	26.92	478
Victoria	2,437,241	2,893,173	455,932	19.49	177,367	26.77	367
Queensland	1,315,250	1,513,339	198,089	15.21	67,292	10.53	301
South Australia	597,094	669,340	72,246	12.01	31,261	10.35	314
Western Australia	809,711	1,366,829	557,118	68.84	47,945	8.48	495
Tasmania	208,732	250,410	41,678	20.17	14,311	3.20	142
Northern Territory	16,460	27,096	10,636	64.32	2,214	0.39	208
Australian Capital Territory	30,313	58,825	28,512	94.06	7,285	1.27	225
Australia	8,066,580	10,508,186	2,441,606	30.28	572,979	100.00	370

(a) Excludes of full-blooded aborigines.

(1) Individual living units.

CHAPTER V — continued

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

NOTE The rules and the conditions applying to payment of the several benefits dealt with in this Part are described as they existed on the 31st December, 1964. Where variations have occurred since that date, the effect of the changes is summarized in the Appendix.

The information given 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*.

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 1947-1954 provides for the payment of age and invalid pensions, widows' pensions, unemployment, sickness, and special benefits, maternity allowances and child endowment; the Repatriation Act 1920-1964, for war 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 1953-1964.

War pensions, child endowment, maternity allowances and health services 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, 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.

Aboriginal natives of Australia, other than the nomadic or primitive, are eligible for social services benefits on the same conditions as other members of the community.

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 a student child is a dependent child aged between 16 and 18 years who is receiving full time education at a school, college or university, and the allowance continues until the end of the calendar year in which the child attains the age of 18 years. The Acts provide for payment in respect of student children of permanently incapacitated age pensioners, invalid pensioners, widow pensioners and service pensioners. The benefit extends also to 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.

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 the 1st July, 1909 and invalid pensions on the 15th December, 1916. Pensions are payable subject to a means test which does not, however, apply to invalid pensions paid to blind persons.

The age pension is payable to men aged 65 years and over and to women aged 60 years and over who have resided in Australia continuously for at least 10 years, which need not be immediately prior to the date of claim for a pension. If a person has not completed 10 years continuous residence but has

been so resident for a period of not less than five years, the period of 10 years' continuous residence otherwise required is reduced by the total of his periods of residence in excess of 10 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 16 years and over who have resided in Australia for a continuous period of five years (including certain absences at any time), and who 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 10 years' continuous residence is necessary. If a person has not completed 10 years' continuous residence but has been so resident for a period of not less than five years, the period of 10 years' continuous residence otherwise required is reduced by the total of his periods of residence in excess of 10 years. Residence in New Zealand or the United Kingdom may be treated as residence in Australia. Certain absences do not affect eligibility.

The maximum rate of pension payable to an unmarried person (single, widowed or divorced) is £6 per week. This rate applies also to a married pensioner where the spouse is not receiving an age or invalid pension, a wife's allowance, an unemployment, sickness or special benefit, a tuberculosis allowance or a service pension. In the case of a married couple, both of whom are pensioners, the maximum weekly rate is £5 10s. for each pensioner. The wife of an invalid pensioner or of an age pensioner who is permanently incapacitated for work or permanently blind may be granted a wife's allowance of not more than £3 per week. Where a pensioner who is an invalid is maintaining children under 16 years of age, a child's allowance of 15s. per week is paid in respect of each child. This allowance applies also to each student child of a pensioner.

If the pensioner pays rent and is deemed to be entirely dependent on the pension, supplementary assistance is payable at the rate of 10s. per week to a single pensioner or to a married pensioner whose spouse does not receive a pension or 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 and personal effects and some other specified assets.

AGE AND INVALID PENSIONS—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1960	1961	1962	1963	1964
Number of Pensioners at 30th June—					
Age					
Males	11,952	11,931	12,061	12,190	12,467
Females	24,623	25,725	27,043	28,471	29,352
Persons	36,575	37,656	39,104	40,661	41,819
Invalid—					
Males	3,458	3,898	4,399	4,628	4,719
Females	2,694	3,047	3,427	3,542	3,587
Persons	6,152	6,945	7,826	8,170	8,306
Average Fortnightly Pension at 30th June—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Age	8 19 5	9 14 6	10 3 9	10 2 11	10 13 6
Invalid	9 8 8	10 0 9	10 10 8	10 11 1	11 4 8
Amount Paid during Year ended 30th June (a)	£'000 9,916	£'000 10,793	£'000 12,172	£'000 12,791	£'000 13,686

(a) Includes amounts paid to benevolent homes for maintenance of pensioners and to pensioner inmates of these homes. Includes also allowances to wives of invalid pensioners.

Rehabilitation Service—Since the 10th 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. Commonwealth expenditure in respect of the Rehabilitation Service in Western Australia was £85,370 in 1959–60; £79,243 in 1960–61; £78,676 in 1961–62; £74,614 in 1962–63 and £80,983 in 1963–64.

Funeral Benefit.—From the 1st July, 1943, a funeral benefit of up to £10 has been payable to persons who are required to meet the funeral expenses of an age or invalid pensioner or of a claimant who, but for death, would have been granted an age or invalid pension. Commonwealth payments of funeral benefit in Western Australia amounted to £24,153 in 1939-40, £25,944 in 1940-41, £23,989 in 1941-42, £25,696 in 1942-43 and £27,475 in 1943-44.

Widows' Pensions

Widows' pensions have been paid since the 30th June, 1942 and are granted subject to a means test and 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 16 years of age or student children as defined in the Act. The maximum rate of pension is £8 per week (including a mother's allowance of £2 per week), together with an additional 15s. per week in respect of each child. A Class "B" pensioner is one who has not the custody, care and control of any child under 16 years of age (or any student child) and who is at least 50 years of age, or is not less than 45 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 £5 7s. 6d. per week. A Class "C" pensioner is a widow who, at the time of her husband's death or within 26 weeks thereafter, is less than 50 years of age, has not the custody, care and control of any child under 16 years of age (or any student child), and is in desolous circumstances. Pension at the rate of £5 7s. 6d. per week may be paid for a period of 26 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 dependent on her pension may receive supplementary assistance of 10s. per week.

The rate of pension is reducible by the application of a means test in respect of income and property which, for the purpose of assessment, excludes the pensioner's home, furniture and personal effects and some other specified assets.

WIDOWS' PENSIONS—WESTERN AUSTRALIA

Type	Year ended 30th June				
	1940	1941	1942	1943	1944
Number of Pensioners (approx. at 30th June):—					
Class "A" Pensioners (a)	1,438	1,749	1,905	1,950	2,190
Class "B" Pensioners (b)	1,447	2,527	2,517	2,544	2,607
Class "C" Pensioners (c)	15	—	—	—	—
Class "D" Pensioners (d)	26	64	107	187	169
Total	2,926	4,340	4,529	4,681	5,366
Average Fortnightly Pension at 30th June	£ 1 1s. 6d.	£ 1 8s. 6d.	£ 1 4s. 6d.	£ 1 4s. 6d.	£ 1 4s. 6d.
Amount Paid during Year ended 30th June	£100,904	£185,052	£190,196	£190,196	£200,157

(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 desolous circumstances following death of husband. (d) Woman whose husband has been imprisoned for at least six months and who has custody, care and control of one or more children or is aged not less than 50 years. Such women becoming eligible for Class "A" or "B" pension from 11th October 1940, when Class "D" was abolished as a separate class. (e) Not applicable, see notes (d).

Unemployment, Sickness and Special Benefits

Payments to persons unemployed or temporarily incapacitated for work by sickness or accident were introduced on the 1st July, 1945 and are subject to residential qualifications and a means test in respect of income but not of property. Unemployment and sickness benefits are paid to men over 16 and under 65 years of age and to women over 16 and under 60 years of age.

The maximum weekly rate of benefit for an unmarried claimant over 21 years of age is £4 2s. 6d. per week. For unmarried juveniles, the rate is £1 17s. for those aged under 15 years and £2 7s. 6d. for those aged 15 and under 21 years. A married claimant with dependant spouse may receive £7 2s. 6d. per week,

with an additional 15s. per week for each dependent child under 16 years of age. In the case of a claimant aged over 21 years or a married claimant aged less than 21 years, income of £2 per week is allowed in addition to the benefit but any income in excess of £2 is deducted from the benefit. Where the claimant is less than 21 years of age, the permissible weekly income is £1 and the rate of benefit is reducible by the amount of any income in excess of £1 per week. 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. 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. There is a waiting period of seven days, during which time neither unemployment nor sickness benefit is payable.

UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS—WESTERN AUSTRALIA

Item	1950-51	1951-52	1952-53	1953-54	
Unemployment Benefit—					
Number Admitted to Benefit during Year	12,469	12,570	13,923	15,315	14,971
Average Number on Benefit at end of each Week	2,214	2,154	2,303	2,671	2,677
Number on Benefit at end of Year					
Males	1,781	2,719	1,824	2,002	1,894
Females	432	435	468	1,117	1,007
Persons	2,213	3,154	2,303	3,119	2,901
Sickness Benefit—					
Number Admitted to Benefit during Year	3,204	3,512	3,412	3,004	3,127
Average Number on Benefit at end of each Week	510	645	632	740	698
Number on Benefit at end of Year					
Males	334	412	429	658	493
Females	175	340	330	540	528
Persons	509	752	759	1,198	1,021
Special Benefits—					
Ordinary					
Number Admitted to Benefit during Year	118	122	137	113	101
Average Number on Benefit at end of each Week	115	143	131	129	122
Number on Benefit at end of Year					
Males	93	12	37	53	26
Females	25	100	100	67	66
Persons	118	112	137	120	112
Multiple					
Number Admitted to Benefit during Year				617	49
Average Number on Benefit at end of each Week				11	
Number on Benefit at end of Year				24	
Benefits Paid during Year					
Unemployment	£4,492	£79,109	£26,082	£13,583	£61,475
Sickness	£65,328	£112,518	£99,798	£122,507	£81,025
Special (a)	£5,387	£2,100	£5,703	£1,692	£3,763
Total (a)	£11,167	£193,727	£131,583	£107,782	£146,263

(a) Includes benefits paid to migrants in reception centres.

Special benefits have been provided since the 1st 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 reception centres and are awaiting their first placement in employment. The maximum rate for special benefit is the same as for unemployment or sickness benefit.

Maternity Allowances

Maternity allowance payments were introduced on the 18th 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. Part of the allowance may be paid four weeks before the expected date of birth, and the balance immediately after the birth.

The allowance is £15 where there are no other children, £10 where the mother has one or two other children under 16 years of age, or £17 10s. where she has three or more other such children. The amount payable is increased by £5 for each additional child of a multiple birth.

MATERNITY ALLOWANCES—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1960	1961	1962	1963	1964
Number of Claims Paid during Year ended 30th June—					
Single Births: Amount of Allowance—					
£15	4,768	5,012	5,060	5,097	5,275
£16	8,168	8,378	8,040	8,012	7,852
£17 10s.	3,868	4,071	4,112	3,879	3,880
Multiple Births: Amount of Allowance—					
Twins—					
£20	44	43	34	27	48
£21	91	83	85	79	87
£22 10s.	72	59	34	58	45
Triplets—					
£25	1	2	1	...	1
£26 .....	...	...	...	...	...
£27 10s. ....	...	...	...	...	...
Total Number of Claims Paid	17,012	17,648	17,366	17,152	16,988
Amount Paid during Year ended 30th June	£ 274,816	£ 283,906	£ 279,444	£ 275,981	£ 272,756

Child Endowment

Child endowment was introduced on the 1st 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 16 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 the 20th June, 1950 child endowment has applied in respect of the first or only child of a family at the rate of 5s. per week. Endowment for the second child is at the rate of 10s. per week and for the third and each subsequent child, 15s. per week. Endowment is payable to a person having the custody, care and control of a student child aged 16 years but under 21 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 15s. per week for each such child.

An approved institution is qualified to receive 15s. per week in respect of each child (including student children) in its care.

CHILD ENDOWMENT—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1960	1961	1962	1963	(a) 1964
Endowed Families at 30th June—					
Number of Claims in Force in respect of—					
Children under 16 years of age	107,918	109,499	112,006	113,464	115,645
Student Children (a) .....	...	...	...	...	7,386
Number of Endowed Children—					
Children under 16 years of age	246,788	253,258	262,616	267,268	272,356
Student Children (a) .....	...	...	...	...	7,809
Average Number of Endowed Children per Claim—					
Children under 16 years of age	2.29	2.31	2.34	2.36	2.36
Student Children (a) .....	...	...	...	...	1.06
Institutions at 30th June—					
Number of Institutions	67	68	69	69	69
Number of Endowed Child Inmates—					
Children under 16 years of age	3,661	3,779	3,421	3,468	3,554
Student Children (a) .....	...	...	...	...	56
Total Number of Endowed Children at 30th June—					
In Families	246,788	253,258	262,616	267,268	(b) 280,165
In Institutions	3,661	3,779	3,421	3,468	(b) 3,610
Total	250,449	257,037	266,037	270,736	(b) 283,775
Amount Paid during Year ended 30th June (c) (d)	£'000 4,860	£'000 5,701	£'000 5,102	£'000 5,243	£'000 6,497

(a) Payment of endowment for student children aged 16 years but under 21 years has operated from 14th January, 1964.
 (b) Includes student children; see note (a). (c) Includes payments to institutions. (d) A number of endowments are paid every twelve weeks. During two years in every three, there are four such payments each year, and five in the third year.
 (e) Expenditure in this year includes five twelve-weekly payments; see note (d).

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 the 1st July, 1949 and between Australia and the United Kingdom since the 7th January, 1954.

WAR AND SERVICE PENSIONS

War Pensions

The Repatriation Act 1920-1964 provides for the payment of pensions to ex-servicemen (and ex-servicewomen and their dependants) in respect of disability or death.

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 is 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 in service.

WAR PENSIONS(1)—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1960	1961	1962	1963	1964
Number of Pensions granted at 30th June					
Incapacitated Ex-servicemen	15,321	18,106	18,214	18,059	18,273
Dependants of Incapacitated Ex-servicemen	94,476	14,679	94,977	94,840	95,540
Dependants of Deceased Ex-servicemen	5,215	5,955	4,113	4,114	4,197
Assistances (a)	41	43	43	37	37
Total	56,053	37,893	67,347	17,580	67,047
Amount Paid during Year ended 30th June (b)	£7000	£7000	£7000	£7000	£7000
	4,565	5,039	5,040	5,203	5,702

(1) Including pensions in respect of ex-servicemen. (a) Pensions payable under Season's War Pensions and Allowances Act, Interim Forces Benefits Act, Native Members of the Forces Benefits Act, Repatriation (Special Diseases Service) Act and various Cabinet decisions. (b) Includes widows' allowances.

The main classes of war pensions are the special (T.P.L.) rate, the general rate and the war widows' pension. The special rate of war pension 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 weekly rate is £14 5s., plus £2 0s. 6d. wife's allowance and 13s. 9d. for each child under 16 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 £6 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 £2 0s. 6d. per week for a wife and 13s. 9d. per week for each child under 16 years of age. The war widows' pension is paid to widows of ex-servicemen who died as a result of war service, and to their children under the age of 16 years. The weekly rate for a widow is £8, for the first child £1 10s., and for the second and each subsequent child £1 7s. 6d.

Provision is also made for the payment of certain allowances, among which are the domestic allowance, the attendant's allowance, the sustenance allowance, and allowances for clothing and recreation transport. A domestic allowance at the rate of £3 10s. per week is paid, in addition to pension, to the widow of an ex-serviceman whose death is due to war service, if she is over 50 years of age; or is permanently unemployed, or has a dependent child under the age of 16 years, or a dependent child aged 16 years or more who is being educated and is not in receipt of an adequate living wage. An attendant's allowance at a maximum rate of £5 5s. per week is paid, in addition to pension, to certain classes of seriously disabled ex-servicemen including the war blinded, those who are paralysed, and certain double amputees. A sustenance allowance is paid when an ex-serviceman is prevented from following his

normal occupation through treatment of a war-caused disability or while undergoing medical investigation. The rate payable is the same as the general (100 per cent.) rate pension. Where an ex-serviceman is receiving in-patient treatment for a war-caused disability or is undergoing periods of essential convalescence immediately following discharge from hospital, a higher rate to bring the maintenance allowance up to the equivalent of the special (T.P.F.) rate is paid. A wife and any children aged under 18 years also receive pensions at the current general or special rate. A clothing allowance at rates ranging from 3s. 9d. to 1s. 6d. per week is payable, to compensate for exceptional wear and tear or damage to clothing, to an ex-serviceman who has suffered the loss of a limb due to war service. A recreation transport allowance not exceeding £10 per calendar month may be paid in certain circumstances.

Service Pensions

The payment of service pensions is provided for in the Repatriation Act 1920-1964 and has operated since the 1st January, 1935. 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 60 years (or, in the case of an ex-servicewoman, 55 years) or is permanently unemployed.

Where a service pension is granted to an ex-serviceman on the ground that he is permanently unemployable or suffering from pulmonary tuberculosis, a warter pension may also be paid to his wife and eligible children, but a service pension cannot be paid to dependants when the ex-serviceman is receiving a service pension on the ground of age.

The maximum weekly rate of pension for a single ex-serviceman is 2s. For a married ex-serviceman the rate is 2s. 10s., and for his wife 1s. The rate for eligible children is 1s. for the first child, and 2s. 6d. for each additional child, up to and including the fourth child of the family. An eligible child is a child under 16 years of age, or a child aged up to 18 years who is not receiving an invalid pension, and is undergoing full-time education, in which case the service pension may continue until the end of the calendar year in which the child attains the age of 18 years.

If an ex-serviceman is receiving a service pension on the ground of being permanently unemployable, his pension may be increased by 15s. per week in respect of each child other than the first, whether or not such children are eligible for pension in their own right.

An allowance of 10s. per week may be paid as supplementary assistance under certain conditions, if an unmarried pensioner pays board or rent.

An ex-serviceman or ex-servicewoman in receipt of a service pension is entitled, with certain exceptions, to free medical benefits for disabilities not caused by war. These benefits include general practitioner service, specialist service where necessary, full pharmaceutical benefits, surgical aids and appliances (including spectacles), dental treatment and treatment in Repatriation General Hospitals.

SERVICE PENSIONS—WESTERN AUSTRALIA

Year	Year ended 30th June				
	1965	1966	1967	1968	1969
Number of pensions current as 30th June					
ex-servicemen	2,590	2,578	2,450	2,270	2,195
dependants of					
Ex-servicemen	1,451	1,273	1,385	1,281	1,292
Dependents of Service Pensioners	285	285	253	154	149
Total	1,736	1,558	1,638	1,435	1,441
Amount Paid during Year ended 30th June	£ 900,474	£ 900,000	£ 820,000	£ 690,000	£ 690,000

(*) Including pensions in respect of ex-servicewomen

NATIONAL HEALTH SERVICES

The National Health Act 1953-1964 provides for expenditure from the National Welfare Fund in respect of a free general practitioner service to eligible pensioners and their dependants, and hospital, medical and pharmaceutical benefits to the community generally. Other services financed from the

A "special account" system was introduced on the 1st January, 1958 to provide an assured rate of hospital fund benefits to contributors who would otherwise have been excluded from fund benefits on account of a long period of absence creating pre-existing ailments, chronic illnesses and maximum fund benefit. The hospital fund benefit generally payable in such cases is 19s. a day and is paid either from special accounts maintained by the Commonwealth or from the ordinary accounts of the organizations. One condition of payment is that the treatment in respect of which the fund benefit was given is an approved service, although fund benefits are paid 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 recognized hospitals in overseas countries, while temporarily absent from Australia, are eligible to receive the Commonwealth and fund benefits in which they are entitled.

Medical Benefits

A National Benefits Scheme commenced to operate from the 1st July, 1953, being authorized 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 organizations registered for the purpose. The Commonwealth benefits supplement the benefits paid by the registered organizations in respect of a proportion of the medical expenses, such as fees for medical and surgical treatment, incurred by members of these organizations and their dependants.

The Act was amended in 1958 to enable registered organizations to extend their payment of medical benefits by means of the special account system referred to in the preceding section. Medical fund benefits previously disallowed in cases of pre-existing disabilities and protracted illnesses have been paid from the 1st January, 1959 under the provisions of this amendment.

Australian residents who, while temporarily absent from Australia, receive medical attention by registered medical practitioners are entitled, if entitled, to the Commonwealth benefit and the medical fund benefit in 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 organizations and their dependants during each financial year from 1955-56 to 1963-64. The number of organizations and their membership at the 30th 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

Item	Year ended 30th June				
	1955	1957	1959	1961	1964
Registered Organizations— Number at 30th June	207,671 ^a	174,391 ^a	225,328 ^a	237,029 ^a	247,192 ^a
Number of Medical Services rendered General Practitioner Services D.O.s	1,387,404 475,627	1,315,750 490,907	1,314,437 ^a 511,529	1,384,700 507,141	1,476,043 553,409
Total	1,764,096	1,790,790	1,825,965	1,891,170	1,999,554
Amount of Benefits From— Commonwealth Benefit— General Special Account Deficit (a)	£ 545,250 1,394	£ 551,831 21,000	£ 553,371 20,138	£ 592,203 20,643	£ 656,282 22,054
Total	546,644	572,831	573,509	612,846	678,336
Total Benefit	1,961,371	1,990,619	1,999,474	1,996,016	1,999,999

(a) Reimbursements paid to benefit organizations.

A Pensioner Medical Service, which commenced on the 21st February, 1951, was introduced under the authority of the National Health (Medical Services for Pensioners) Regulations made under the provisions of the National Health Service Act 1946-1949. The service has been continued under the provisions of the National Health Act 1978-1981.

Under this scheme, eligible pensioners and their dependants, as defined in the following section describing pharmaceutical benefits, 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.

Pharmaceutical Benefits

The Pharmaceutical Benefits Scheme was inaugurated on the 1st 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 the 1st March, 1960 a charge of 5s. has been levied, except in the case of pensioners or their dependants, for each prescription dispensed and for each repeat supply. This amount represents one fifth of the total cost, the remainder being met by the Commonwealth. 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, including the majority of those covered by the British Pharmacopoeia. 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.

A service providing pharmaceutical benefits free of charge to pensioners has been in operation since the 2nd 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 satisfy a means test and are receiving an age, invalid or widow's pension, a service pension or a tuberculosis allowance. The benefits of the scheme apply also to the dependants of persons so qualified.

Free Milk for School Children

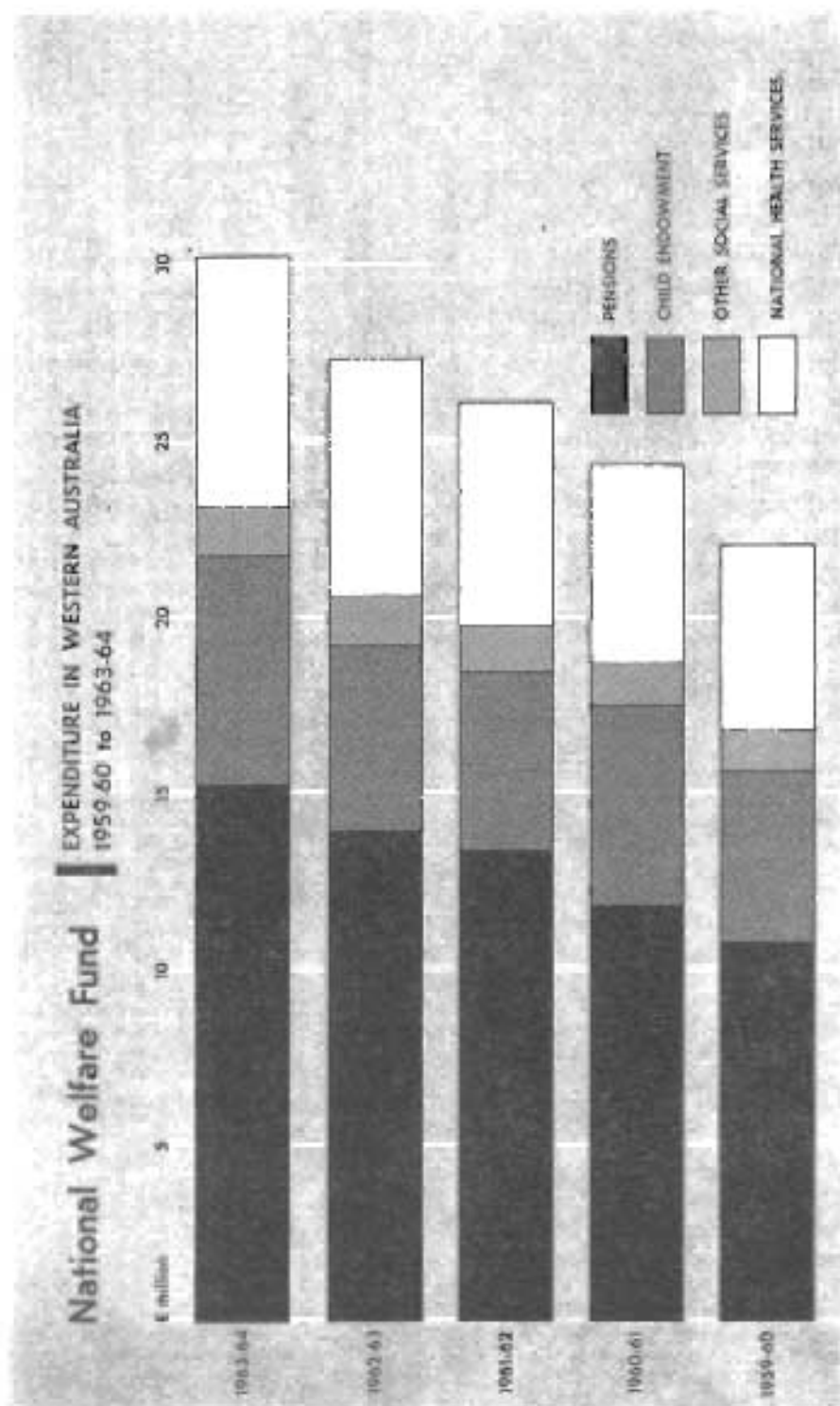
The States Grants (Milk for School Children) Act 1950 provides for the distribution of free milk to school children throughout the Commonwealth, with the object of improving their diet. All children under the age of 13 years attending school are eligible to receive this issue. The cost of the milk plus 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.

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 the 13th July, 1950. The maximum rate of allowance to a married sufferer with dependent wife is £12 12s. 6d. per week. An amount of 15s. per week is payable for each dependent child under 16 years of age and for each student child. A sufferer without dependants is eligible to receive a maximum of £7 12s. 6d. per week or, if receiving hospital treatment free of charge, £5 per week. There is a means test, which applies only to income and not to property. The allowance is reduced by the amount by which income from other sources exceeds £7 per week in the case of a married sufferer and £3 10s. per week in the case of a person without a dependent wife.

The amounts of expenditure shown in the next table exclude Commonwealth payments to the State Government in the form of reimbursement of capital expenditure in connection with the campaign. These payments were £39,198 in 1959-60; £21,513 in 1960-61; £11,890 in 1961-62; £33,434 in 1962-63 and £21,860 in 1963-64.



Miscellaneous Health Services

Other expenditure from the National Welfare Fund in relation to health services includes the cost of Commonwealth Health Laboratories services, subsidies to home nursing services, the cost of radio-active isotopes provided under the National Health Act, and running expenses of the blood fractionation plant of the Commonwealth Serum Laboratories.

Summary of Expenditure

Expenditure on health services in Western Australia from the National Welfare Fund in each financial year from 1959-60 to 1963-64 is summarised in the following table.

**NATIONAL WELFARE FUND
EXPENDITURE ON HEALTH SERVICES, WESTERN AUSTRALIA**

NAME OF SERVICE	Year ended July 31st				
	1960	1961	1962	1963	1964
	£	£	£	£	£
Hospital Benefits (a)	1,175,094	1,265,717	1,054,138	1,084,461	9,551,518
Hospital Benefits (b)	446,740	464,446	441,737	4,067,545	1,667,316
Hospital Benefits (c) - salaries	271,501	266,600	266,000	1,111,507	1,213,901
Home nursing services	1,575,511	1,316,612	1,544,668	1,421,668	1,967,565
Pharmaceuticals (a) - medical and dental	15,362	14,484	46,747	61,514	691,429
Pharmaceuticals (b) - medical	15,362	22,412	28,092	28,479	191,722
Diabetes Medical Subsidies					
J.B. Insulin	76,730	71,412	39,990	42,511	44,290
Maintenance	511,105	598,369	709,637	1,093,854	523,156
Miscellaneous services	17,057	19,143	17,146	12,514	11,010
Total:	4,215,000	4,665,730	4,547,113	4,710,668	21,115,067

(a) Expenditure on the National Welfare Fund - Hospital Benefits - Salaries and wages on page 187 and Medical Services - Hospital Benefits on page 188.

Mental Health Institutions

The Commonwealth provides financial assistance to the States for or in connection with the building or equipment of mental health institutions. Payments are made from the Commonwealth Revenue Fund.

Under the provisions of the States Grants (Mental Institutions) Act 1955 the Commonwealth was authorised to make payments up to a total of £10 million, of which Western Australia's share was fixed at £10,000. The assistance available to a State took the form of a grant equal to one third of the State's capital expenditure on or in connection with mental institutions. The first payments were made in respect of the financial year 1957-58 and assistance extended to Western Australia amounted to £4,651,000 during the period from 1957-58 to 1962-63.

The States Grants (Mental Health Institutions) Act 1964 repeals the earlier legislation and authorises payments commencing with the financial year 1964-65. The provision of grants equal to one third of a State's capital expenditure on mental health institutions is continued.

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, 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 rail passes 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 Married Persons' 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, but in receipt of a Commonwealth widow's pension, is at the rate of £5 2s. 6d. per week, plus £2 per week for the first dependent child and 10s. per week for each other dependent child. To a widow receiving a Commonwealth pension the State pays £1 10s. per week if she has three or more dependent children. In this context, the term "widow" includes deserted wives, divorcees and women deprived of support by the insanity or imprisonment of husbands. If an age or invalid pensioner has dependent children, the State allows £1 per week where there is one child, £1 10s. per week where there are two children and £1 15s. per week where there are more than two children. Where the wife of an age pensioner is not eligible to receive a wife's allowance from the Commonwealth and there are dependent children, she may be paid an amount of £3 15s. per week by the State.

Where Commonwealth unemployment or sickness benefits are payable to married men, the State allows £1 10s. per week where there are one or two dependent children, £1 15s. where there are three or four children and £1 where there are five or more children. In addition, Commonwealth child endowment is payable in respect of all dependent children. Details of Commonwealth Social Services benefits are given earlier in this Chapter in the section *Social Services 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 RECEIVING FINANCIAL ASSISTANCE FROM CHILD WELFARE DEPARTMENT

Description	Number at 30th June—				
	1960	1961	1962	1963	1964
Widows	180	175	183	196	94
Unmarried Mothers	15	30	40	35	64
Deserted Wives	218	224	322	314	300
Husband Pensioner	144	171	142	158	176
Husband Sick or Unemployed	702	1,111	472	645	325
Husband Imprisoned	58	82	12	63	48
Deceased Wives	0	10	4	14	3
Foster mothers	98	91	59	74	102
Special Cases	11	10	9	2	5
Total	1,510	2,006	1,214	1,698	1,104

CHILD WELFARE

Under the provisions of the Child Welfare Act, 1947-1962 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 18 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 is excluded from Court hearings and names of juvenile offenders are withheld from publication. 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 minimize 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, bonded 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, sent to an approved institution, or released on probation. Children found guilty of offences punishable by imprisonment may



Saint George's Anglican Cathedral, Saint George's Terrace, Perth
The present Cathedral, built on the site of an earlier church, was consecrated in 1888

Saint Mary's Roman Catholic Cathedral, Victoria Square, Perth
The western end of the building (at right) is the original Cathedral which was opened in 1865. The eastern portion was opened in 1930

be committed to the care of the Department, released or security given by parents or released to 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. Neglect and protection cases, which total 504 in the sample, represented 50% of the 30th June, 1964.

Expenditure.—The following table gives details of the annual expenditure of the Child Welfare Department during the five year period ended 30th June, 1964.

EXPENDITURE OF CHILD WELFARE DEPARTMENT

Nature of Expenditure	Year ended 30th June				
	1960	1961	1962	1963	1964
Administration	115,000	147,244	149,264	171,110	147,414
Departmental Personnel	65,171	109,771	117,544	87,492	104,191
Maintenance of Wards	117,400	126,000	132,400	135,000	105,000
Maintenance of Maternity Homes	27,400	27,122	22,407	14,467	11,800
Offices Held in	112,757	149,670	147,000	146,581	100,700
Departmental Held	122,000	125,000	119,000	107,540	45,400
Public Places	2,500	1,704	1,700	1,534	1,100
House of Indigents	7,457	1,166	1,700	1,507	4,200
Total Expenditure	633,728	741,586	764,315	752,244	792,905
Total Income	26,111	61,659	64,500	72,000	74,000
Net Expenditure	607,617	679,927	700,000	680,244	718,905

(a) Assistance of women with dependent children and to the mother.

Wards of the Child Welfare Department.—A child committed to the care of the Child Welfare Department or to an institution becomes a ward of the Department. A ward may be placed in an institution boarded out with a relative or other approved person, parent or placed in suitable employment. The Director of Child Welfare has authority to place wards of suitable age in employment or apprenticeship. Where a ward is required to live at the place of employment, a written agreement covering wages and working conditions is made between the employer and the Department, which continues to watch the interests of the ward. At the 30th June, 1964 there were 1,249 wards, of whom 659 were in institutions (including 366 at native missions, 31 at hospital and 7 in prison, 487 were boarded out on salary and 1,248 were in parent or guardian care).

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. At the 30th June, 1964 there were 150 such children in institutions and 31 in the care of foster mothers.

Institutions. The State Government subsidizes hospitals for children in Western Australia. Most of these institutions are conducted by religious organizations and accept of them provided for children brought from Great Britain, Ireland and Malta under child migration schemes. All institutions having the care of wards, migrant children or private children under six years of age are subject to the supervision of the Department.

"Hillcrest" Anglican Farm School at Stoneville and "Riverbank" at Caversham are reformatories for delinquent boys. "Riverbank" is a maximum security institution for the treatment of the more difficult offenders and is controlled by the Child Welfare Department. The Home of the Good Shepherd at Leederville and the Baptist Community at Wattle Grove care for delinquent and undelinquent girls.

The Child Welfare Department maintains a Reception Home at Mount Lawley which serves as a temporary shelter for deprived or neglected children awaiting placement, and as a haven for children whose parents are temporarily unable to care for them. Langmore Reformatory Home at Collier, which was officially opened on the 27th January, 1965, is a maximum security institution which provides personal supervision for boys and girls aged 7 to 18 years. Children accommodated are those who are on remand from a Children's Court or have been newly committed to the care of the Department. While at the Home they undergo medical, mental or social investigation to determine appropriate subsequent action. The Home is designed to accommodate 60 children.

The following table shows details of children in institutions under the supervision of the Child Welfare Department at the 30th June, 1964.

CHILDREN IN INSTITUTIONS AT 30th JUNE, 1964 (a)

Institution	State wards		Migrant children, etc.		Private children		Totals		
	Boys	Girls	Boys	Girls	Boys	Girls	No. in	Qtrly	Child- rent
CHILD WELFARE DEPARTMENT— Reception Home, Mt Lawley Riverbank, Carverham	22 22	25			14 21		58 43	18 17	
Total	44	47			35		86	35	35
ANGELICAN— Hilbert Farm School, Mandurah Parkerville Children's Home, Parkerville Swanleigh, Middle Swan	41 43 1				27 11 46		41 54 47	14 14 14	11 11 11
Total	85	43	4	7	84	57	166	44	32
METHODIST— Nallya, Victoria Park		4			21	24	25	27	14
PRESBYTERIAN— Rider Lake Children's Home, Queens Park	15	9			15	40	54	20	15
ROMAN CATHOLIC— Catholic Boys' Home, Cammeray Constant Barr, Town, Victoria Park Home of the Good Shepherd, Leederville Nambour House, Geraldton Saint Joseph's Boys' Town, Bunbury Saint Joseph's Orphanage, Wembley Saint Mary's Agricultural School, Tarralea Saint Vincent's Foundling Home, Wembley	14 34 — — 4 — 7 11	— — — — 11 11 — —	1 1 — — 4 11 — —	— — — — 7 7 — —	41 124 — — 22 20 41 49	100 171 — — 42 38 47 54	— — — — 42 76 94 108	— — — — 11 11 11 11	— — — — 11 11 11 11
Total	77	41	17	18	304	119	449	100	100
SALVATION ARMY— Boys' Home, Ashurst Girls' Home, Ashurst	42	—	—	—	12	23	54	10	10
Total	42	—	—	—	12	23	77	10	10
UNDESIGNATED— Kingsey Park Farm School, Mandurah Ngala, South Perth	1 24	1 7	14 —	10 —	11 10	20 12	38 34	40 14	147 34
Total	26	8	14	10	21	32	101	78	201
GRAND TOTAL	229	134	40	36	477	371	800	302	1,440

(a) Excludes 10 State wards in mental hospitals and 10 State wards in prison. Excludes also children of native descent (b) Children brought to Western Australia under child migration schemes.

Maintenance of Children.—Payments by the Child Welfare Department to foster parents having the care of State wards are at the weekly rate of £2 10s. for the first child, £2 15s. for the second child and £2 10s. for each additional child. Institutions are paid subsidies at the rate of £2 11s. per week for each ward in their care. The British Government pays £1 5s. per week for each British migrant child in institutions or boarded out and the State Government pays an additional amount of 8s. per week. A further grant of 10s. per week for each child maintained is paid to the institutions by the State Lotteries Commission. Where an institution claims allowances 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.

Parents or next relatives are required to contribute towards the maintenance of wards in institutions or boarded out.

Employment of Children.—The Child Welfare Act, 1947-1962 provides that children may not engage in street trading except under licence granted by the Department. The issue of licences is restricted to those aged 11 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 16 years may not take part in any form of public entertainment for profit or reward unless under license, except in the case of an occasional entertainment for the benefit of a school or charitable or patriotic object. Most of these licenses are issued for concerts arranged by dancing teachers and other tutors.

Adoption of Children.—Any person who takes charge of a child with the object of adoption must notify 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. During the year ended 30th June, 1964, adoption orders numbering 448 were granted.

CHAPTER V—*continued*

PART 6—LAW COURTS, POLICE AND PRISONS

LAW COURTS

The principal courts operating in Western Australia are the High Court of Australia, the Supreme Court of Western Australia, the Session Courts, the Magistrates' and Coroners' Courts, the Married Persons' Relief Court and the Licensing Court. In Chapter X, Part 2—*Wages*, 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 1903–1960. 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.

Supreme Court of Western Australia

The Supreme Court of Western Australia, as constituted under the Supreme Court Act, 1935–1964, 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. Civil sittings and Full Court sittings are held at times fixed by the Court from year to year.

The Circuit Court sits at Kalgoorlie, Geraldton and Albany four times a year, and a Judge of the Supreme Court usually presides.

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. The Full Court sits at least five times in every year with additional sittings when necessary. Appeals are heard against judgments of the Supreme Court and of the Circuit and Session Courts 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 1903–1960 (Commonwealth), and may also be made direct to the Privy Council. Under the Bankruptcy Act 1924–1960 (Commonwealth) the Supreme Court is invested with federal jurisdiction in bankruptcy.

Session Courts of the State

The Session Courts are held four times a year at the principal court houses of each of the fourteen session divisions. The Stipendiary Magistrate stationed at the centre at which a Court is held usually presides. Only criminal cases are dealt with and a jury is therefore required at all sittings. A case may be reserved for hearing before a Judge of the Supreme Court. Magistrates presiding at Session Courts may sit in association with one or more Justices of the Peace.

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 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—Special Children's Courts are established in Perth, and at other centres as required, to deal with offenders under the age of eighteen years and to hear cases of offences against children. A Children's Court has power to deal summarily with most offences concerning children. The public is excluded from Children's Court hearings and names of juvenile offenders are withheld from publication. Further reference to Children's Courts appears in the section *Child Welfare* in Part 5 of this Chapter.

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.

Married Persons' Relief Court. The Married Persons' Relief Court is established under the provisions of the Married Persons (Summary Relief) Act, 1960-1964 and is empowered to make orders providing for separation, payment of maintenance, legal custody of a child and access to a child.

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 £100.

Civil Proceedings

Particulars of civil cases (including divorce cases) dealt with by the courts in the ten years ended 31st December, 1964 are shown in the following table. Decrees of dissolution of marriage, nullity of marriage and judicial separation may be granted by the Supreme Court or the Circuit Court.

COURT PROCEEDINGS (a)

Year	Civil (and other than Divorce)						Divorce		
	Higher Courts			Lower Courts			Decrees Granted		
	Writs Issued	Judgments signed and entered		Plaints Entered	Verdicts for Plaintiffs		Petitions Filed	Licences of Marriage	Nullity of Marriage
		Number	Amount Awarded		Number	Amount Awarded			
1955	847	361	307,787	31,079	1,160	448,274	673	179	6
1956	715	270	250,641	30,513	15,439	415,698	663	144	4
1957	718	262	187,049	29,259	13,108	525,068	663	141	5
1958	706	273	303,626	28,077	14,816	582,188	663	136	6
1959	802	334	356,803	25,784	14,352	527,800	663	154	1
1960	896	345	410,501	25,310	15,221	559,977	670	146	5
1961	1,020	311	477,840	25,657	21,495	848,041	622	466	1
1962	1,054	358	581,857	26,812	21,293	990,550	634	382	1
1963	1,221	350	668,745	24,310	24,563	1,091,112	629	625	1
1964	1,255	408	618,605	23,023	20,594	1,207,112	609	342	1

(a) Excludes proceedings in bankruptcy (see page 228).

Licensing Court

The Licensing Court consists of three members appointed by the Governor to administer the Licensing Act and to issue licences for the sale of alcoholic liquor.

CRIME STATISTICS

Statistics appearing in this section exclude particulars of aboriginals unless otherwise stated.

Magistrates' Courts

The following table gives particulars of convictions in Magistrates' Courts, including Children's Courts, during the ten years ended 31st December, 1964.

CONVICTIONS IN MAGISTRATES' COURTS

Year	Offences against the Person		Offences against Property		Vandalism and Offences against Economy		Offences against Good Order		Other Offences (a)		Total Convictions (a)		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1955	363	28	3,067	814			6,892	593	56,634	1,779	61,505	3,611	65,115
1956	320	13	4,430	895	1		7,195	481	44,677	2,361	56,082	3,204	59,285
1957	377	15	4,439	174			6,377	678	41,542	1,191	53,229	3,068	56,297
1958	444	22	5,119	407			6,025	631	34,797	1,720	46,217	4,790	47,007
1959	381	13	4,671	354	4		6,673	710	26,708	2,003	34,089	3,020	37,109
1960	350	28	4,556	463	3		6,402	810	32,431	2,349	43,008	3,474	47,482
1961	329	18	4,493	331	1		6,721	461	39,826	1,969	45,434	3,258	48,692
1962	490	18	5,838	467			7,863	477	32,545	1,880	43,906	5,793	49,699
1963	516	17	6,208	175	4	1	6,409	444	32,751	1,185	37,460	4,259	37,719
1964	541	15	5,074	592	10	4	6,144	477	33,893	1,296	45,663	4,311	50,974

(a) Including traffic offences; for separate particulars see next table. A amended regulations, operative from 1st January, 1960, under the Traffic Act allow fines to be imposed without court action for minor traffic offences. Minor provisions under the City of Perth Parking Facilities Act, 1956-1963 became operative on 28th July, 1968. These minor offences are not included in the figures shown. These numbers are 12,130 in 1956; 21,805 in 1957; 16,909 in 1958; 44,473 in 1959; 50,829 in 1960; 64,382 in 1961; 42,582 in 1962; 43,975 in 1963; and 49,196 in 1964.

CONVICTIONS IN MAGISTRATES' COURTS FOR CERTAIN OFFENCES

Year	Assault, Wounding, etc.		Breaking Entering and Stealing		Stealing Receiving, etc.		Drunkenness		Disorderly		Traffic Offences (1)	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1955	327	19	908	2	2,517	302	5,397	415	771	11	15,229	2,430
1956	373	15	172	3	2,923	330	5,382	389	819	22	27,475	1,912
1957	354	15	150	28	2,830	337	4,968	465	924	21	25,022	1,937
1958	363	20	672	5	3,263	393	4,493	417	680	25	25,191	1,933
1959	363	12	659	2	3,025	329	5,946	541	950	27	25,219	1,938
1960	249	26	574	17	3,190	451	4,673	485	905	29	26,173	1,542
1961	303	17	791	50	3,953	355	4,397	336	820	19	25,891	1,516
1962	333	15	877	7	3,985	451	5,024	308	1,244	21	25,728	1,843
1963	390	16	921	22	4,434	504	4,542	335	1,041	29	27,113	1,819
1964	385	13	777	13	3,693	471	4,175	355	1,212	20	27,133	1,811

(1) See note to previous table.

Particulars of distinct persons convicted in Magistrates' Courts are not available, but it is known that many are charged with multiple offences. This applies particularly to offenders under 18 years of age. Statistics of convictions of juvenile offenders during 1964 for certain offences are shown in the following table.

CONVICTIONS OF JUVENILES, 1964

Age (Years)	Breaking Entering and Stealing		Stealing Receiving, etc.		Wild Damage		Assault, Wounding, etc.		Unlawful Use of Motor Vehicles		Disorderly	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
7												
8	6		1									
9	6		20		2				1			
10	24		50		3				1			
11	66	2	42	1	13				1			
12	39		121	1	15				10			
13	114	1	139	1	12		2		14		2	
14	130		215	22	29		12		17		10	
15	130	1	244	23	28		12		130	5	32	2
16	56		141	48	31	2	11	1	140	6	61	6
17	120	2	240	58	25	2	33	2	125	4	109	0
Not Stated	25	1	131	1	6		5		8		8	
Total	765	14	1,539	152	158	5	70	3	493	24	219	14

An upward trend is evident in the figures for offences by juveniles, as shown in the following table. The increase is due largely to minor offences, although convictions for offences against property increased substantially during the period.

CONVICTIONS OF JUVENILES

Year	Breaking, Entering and Stealing		Stealing, Receiving, etc.		Wild Damage		Traffic Offences		Other Offences		Total Convictions		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1955	509	1	946	118	73		1,359	71	555	11	3,438	205	3,643
1956	489	5	1,079	133	80	2	1,753	68	826	29	3,215	264	3,479
1957	546	25	1,111	92	87		2,597	63	915	29	4,760	296	4,956
1958	604	5	1,359	137	182	2	2,977	77	1,221	19	5,351	323	5,674
1959	666	1	1,065	91	120	3	2,868	151	941	32	5,481	478	5,959
1960	649	17	1,282	177	143	3	1,395	86	924	47	3,229	418	3,647
1961	673	25	1,929	169	147		1,368	46	825	34	4,942	503	5,445
1962	643	7	1,360	156	130	3	1,707	68	1,255	43	5,175	475	5,650
1963	641	22	1,827	134	173	4	1,773	72	1,345	95	5,948	592	6,540
1964	740	14	1,319	150	154	5	2,148	85	1,544	117	5,970	198	6,168

the Licensing Act Amendment Act (No. 4), 1963 came into operation, the former restrictions on the consumption of alcoholic liquor by aboriginal natives have been limited to areas of the State declared for the purpose. From that date, the restricted area has been the portion of Western Australia outside the South-West Land Division.

OFFENCES BY ABORIGINALS, 1964

(Excludes of uncurrent offences)

Offence	Magistrates Courts						Higher Courts		
	Charges			Summary Convictions			Convictions		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
I—Offences against the Person									
Murder	1		1						
Manslaughter	2		2				2		2
Unlawful carnal knowledge	8		8	7		7			
Indecent assault	1		1	1		1			
Indecent dealing	5		5	3		3			
Assault, wounding, etc.	162	24	186	147	24	171	1		1
Total, Class I	177	24	201	158	24	182	2		2
II—Offences against Property									
Breaking entering and stealing	62	1	63	39	1	40	20		20
Falsely on pretences	17	1	18	16	1	17			
Stealing, receiving, etc.	129	22	151	108	22	130			
Falsely using vehicle, etc.	127	12	139	121	11	132			
Wreck damage	20	24	44	27	21	48			
Other offences	1		1	1		1			
Total, Class II	326	70	396	277	66	343	20		20
III—Forgery and Offences against Currency									
IV—Offences against Good Order									
Drunkenness	2,026	75	2,101	2,020	73	2,093			
Disorderliness	117	218	335	102	215	317			
Carrying	112	17	129	109	17	126			
Indecent behaviour	1	1	2	1		1			
Escaping, holding out and imitating police	159	24	183	159	24	183			
Other offences	1		1	1		1			
Total, Class IV	2,416	335	2,751	2,402	332	2,734			
V—Other Offences									
Native Welfare Act:									
Excessive liquor	126	42	168	126	42	168			
Supplying liquor to natives	109	22	131	106	22	128			
Other offences	21	2	23	22	2	24			
Traffic offences	571	92	663	591	92	683			
Revenue of liquor laws:									
Licensing	10	17	27	10	17	27			
Licensing	10	8	18	10	8	18			
Maintenance offences	12	1	13	12	1	13			
Health offences	2	2	4	2	2	4			
Other offences	104	29	133	96	29	125	1		1
Total, Class V	1,190	223	1,413	1,117	222	1,339	1		1
GRAND TOTAL	5,100	1,246	6,346	5,300	1,223	6,523	24		24

POLICE

The Western Australian Police Force comprises five 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 three specialised branches, the Criminal Investigation Branch, the Traffic Branch and the Plain Clothes Branch, each of which is headed by an Inspector-in-Charge. The Women Police form the fifth branch. The functions of the former Weights and Measures Branch were transferred to the Department of Licensing with effect from the 1st July, 1965.

At the 30th June, 1964, the Police Force had a chief inspector, 33 inspectors, 207 sergeants and 1,017 constables. Of these, six were detective inspectors, 37 detective sergeants and 34 detective constables. In addition, there were fifteen women police, comprising two sergeants and thirteen constables.

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 at Albany, Bunbury, Geraldton, Inigoorlie, Narrogin and Northam. The Branch is equipped with radio patrol cars and the usual facilities for work on fingerprints, photography and ballistics.

Special staff attached to the Criminal Investigation Branch are responsible for security and for police work in connexion with gold stealing, pilfering and thefts from retail shops.

The *Traffic Branch* has its principal office in Perth and has four suburban sub-branches. It is responsible for the regulation of traffic and the licensing of motor vehicles in the Metropolitan Traffic Area. 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 of Western Australia 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.

The *Policlubs Branch* is mainly concerned with the enforcement of the liquor laws and laws for the suppression of vice and gaming. Licensing of firearms is also a responsibility of the Branch.

The *Women's Police*—Policewomen are stationed at Perth, Fremantle and Inigoorlie. They are mainly employed in police duties concerning women and children.

Police and Citizens' Youth Clubs are established by the Department to provide recreational facilities for young people and to give them an appreciation of civic responsibilities. In 1964, there were seven clubs in the metropolitan area and 20 in country districts, with a total membership of approximately 5,500.

PRISONS

There are three common gaols, at Fremantle, Broome and Geraldton, and sixteen police gaols in Western Australia. There are out-stations of the Fremantle Prison at Barton's Mill, Pardelup Prison Farm, and Karri Rehabilitation and Training Centre at Keysbrook.

Fremantle gaol is divided into separate sections for females, prisoners on remand or awaiting trial, reformatory prisoners and others. There are workshops where prisoners are usefully employed in boot making, carpentry, printing, tailoring and smithing. A school is conducted by a teacher supplied by the Education Department, while tuition in technical subjects is available by correspondence.

At Barton's Mill, where prisoners are employed in cutting firewood, and at the Pardelup Prison Farm, supervision is fully open. Karri Rehabilitation and Training Centre is a minimum security institution with accommodation for 60 men in each of two blocks. One block is for the reception of young offenders convicted of criminal offences and the other for convicted motorists. inmates in both sections are employed in developing land at the Centre for vegetable growing and orchards and the establishment of pasture for a dairy herd.

Broome gaol is situated in the northern part of the State and is mainly used for the imprisonment of aboriginal natives.

Police gaols are established in Perth and at other centres and are used for short-term prisoners and for prisoners awaiting trial. In addition, provision is made for holding prisoners for short periods at police stations throughout the State.

In the following table, which shows the number of prisoners received for penal imprisonment in gaols in Western Australia during the five years ended 30th June, 1964, a prisoner is counted once for each time he is received.

PRISONERS RECEIVED FOR PENAL IMPRISONMENT

Year	Prisoners other than Aboriginals			Aboriginals			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1959-60	2,822	151	2,973	795	289	1,084	3,667	470	4,137
1960-61	2,987	146	3,133	797	281	1,078	3,764	443	4,207
1961-62	3,206	140	3,346	865	320	1,185	4,136	464	4,600
1962-63	3,309	129	3,438	800	276	1,076	4,280	448	4,728
1963-64	3,391	151	3,542	1,061	384	1,445	4,244	505	4,749

In the next table a prisoner is counted only once in a particular year, irrespective of the number of times he is imprisoned during that year.

DISTINCT PRISONERS IMPRISONED

Year	Prisoners other than Aboriginals			Aboriginals			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1961-62	1,612	88	1,700	479	152	631	2,091	214	2,305
1960-61	1,697	80	1,777	511	144	655	2,208	239	2,447
1961-62	1,608	81	1,689	603	178	781	2,466	259	2,725
1963-64	1,960	100	2,060	688	134	822	2,548	324	2,872
1963-64	2,089	87	2,176	639	214	853	2,728	370	3,098

The following table shows the number of prisoners, excluding trial and remand prisoners and debtors, in gaols in Western Australia at the 30th June in each of the years 1960 to 1964.

PRISONERS IN GAOL

At 30th June—	Prisoners other than Aboriginals			Aboriginals			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1960	510	13	523	32	17	49	595	30	625
1961	506	17	523	154	15	169	611	32	643
1962	558	15	573	110	23	133	666	38	704
1963	620	29	649	121	13	134	741	32	773
1964	651	12	663	143	30	173	791	31	822

Part III of the Offenders Probation and Parole Act, 1963-1964 came into operation on the 1st October, 1964. It establishes a Parole Board of five members, comprising a Judge of the Supreme Court as chairman, the Comptroller General of Prisons, and three members appointed by the Governor, to succeed the former Indeterminate Sentences Board. 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 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 sentenced 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 twenty-five per cent. of the sentence may be allowed for diligence and good conduct.

CHAPTER VI—FINANCE

PART I—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 as the 30th 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 55 years from the 1st July, 1927 an amount of £7,684,912 towards the interest payable on the State debts, Western Australia's share of this amount being £473,432. A Sinking Fund, under the control of the National Debt Commission, was created to finance all State debts. In respect of the net public debts of the States at the 30th June, 1927, a contribution of 75-60 per cent. per annum was prescribed, the Commonwealth paying one third and the States the remaining two thirds, each according to the amount of its net indebtedness at the date of transfer. All moneys and securities standing to the credit of sinking, redemption and similar funds of the States at the 30th June, 1929 were assigned to the National Debt Commission, except in cases where the conditions relating to a fund precluded a transfer.

In the case of loans raised by a State after the 30th June, 1927 it is provided that, for a period of 55 years from the date of the raising, the sinking fund contribution shall be at the rate of 10s. per cent. per annum shared equally between the Commonwealth and the State. This provision does not, however, apply to loans raised by a State to meet a revenue deficit. In respect of debt incurred in financing deficits accruing after the 30th June, 1927 and before the 1st July, 1935 it was agreed that until the 30th June, 1944 the rate of 10s. per cent. per annum shared equally between the Commonwealth and the State should operate, but that for a period of 39 years from the 1st July, 1944 the annual contribution should be 5s. per cent. from the Commonwealth and 15s. per cent. from the State. For the funding of all other revenue deficits contributions are at a rate of not less than 4 per cent. per annum to be paid wholly by the State.

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 deficits 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 this 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.

The Commonwealth Grants Commission

Section 96 of the Commonwealth Constitution provides that the States may be granted financial assistance and Western Australia, as one of the States experiencing peculiar financial difficulties under Federation, has regularly received assistance under this provision. 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. During the initial

period of its work the Commonwealth Grants Commission considered compensation for disabilities arising from Federation as a possible basis upon which its recommendations should be made. It considered also the basis of financial need. In its Third Report, submitted in 1936, the Commission finally rejected the principle of compensation for disabilities arising from Federation, and chose instead the principle of financial need, having come to the conclusion that "special grants are justified when a State through financial stress from any cause is unable liberally to discharge its functions as a member of the Federation and should be determined by the amount of help found necessary to make it possible for that State by reasonable effort to function at a standard not appreciably below that of other States." Another essential feature of special grants, noted in the Commission's Second Report, is that they are "continuous in principle with other transfers of Commonwealth revenue to the States. They should be the amount required to complete the work begun by other transfers, and to reduce the financial inequality of the States sufficiently for the harmonious and effective working of Federal Government."

In each year from 1934-35, in respect of which the Commission made its first recommendation, Western Australia's application has resulted in a special grant. The amounts received in each year from 1959-60 to 1963-64 after an annual authorisation by the Commonwealth Parliament under a States Grants (Special Assistance) Act is shown against the item "Special Grants" in the table on page 205.

Tax Reimbursements

With the passage of enabling legislation in 1942, the Commonwealth Government became the sole taxing authority in the field of income tax. At the time of introduction of this "uniform tax scheme," Western Australia was levying three separate taxes on incomes. These were income tax on individuals and on companies, a hospital fund contribution and a tax on the profits of gold mining companies. The States Grants (Income Tax Reimbursement) Act of 1942 provided for the payment to each State of a fixed annual amount by way of financial assistance to compensate for loss of revenue from income tax. The Act was repealed in 1946 by the States Grants (Tax Reimbursement) Act which prescribed a fixed grant for each of the financial years 1946-47 and 1947-48 and, for subsequent years, an amount to be varied in accordance with changes in population and in average wages per person employed.

Special and Additional Financial Assistance

With the increasing financial needs of the States it became necessary for the Commonwealth Government to make grants in excess of those prescribed by the States Grants (Tax Reimbursement) Act 1946-1948. Financial aid was extended by a States Grants (Special Financial Assistance) Act passed in each year from 1951 to 1958 and by the States Grants (Additional Assistance) Acts of 1958, 1962, 1963 and (No. 2) 1963.

Financial Assistance Grants

The States Grants Act 1959 repealed the States Grants (Tax Reimbursement) Act and provided for a new system of annual payments which are described as "Financial Assistance Grants." The Act incorporates an arrangement, unanimously agreed to by the States at a Premiers' Conference in June, 1959, which is designed to eliminate the need for supplementary grants in the form of Special Financial Assistance and to reduce to a minimal level the special grants provided for under the Commonwealth Grants Commission Act 1933-1957.

The amount of the Financial Assistance Grant to Western Australia for 1959-60, the first year of operation of the scheme, was prescribed by the Act as £15,492,000. The grant is essentially a per capita payment, which varies as between States. For each year subsequent to 1959-60, this per capita payment is increased, if average wages paid in Australia as a whole increased in the preceding year, by a percentage equal to 1.1 times the percentage rise in average wages. By this means, not only are the effects on State finances of population changes and wage increases taken into account but a "betterment factor" is also introduced to enable a State Government to extend the range or improve the standard of its services.

The Act provides that the system may be reviewed in relation to grants for any year subsequent to 1964-65. At a Premiers' Conference held at Canberra in June, 1965 agreement was reached on a revised arrangement which is to operate for a period of five years from the 1st July, 1965. Under this arrangement the amount of the annual grant continues to be related to changes in a State's population and in the level of wages paid in Australia as a whole. The grant payable in respect of any year is to be determined by adjusting the amount of the previous year's grant for these two factors and increasing the result by 1.2 per cent. The grant to be paid to Western Australia for the year 1965-66 is expected to be £38.9 million.

STATE GOVERNMENT FINANCE

Monies 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.

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 authorized 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, 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, departmental revenues from reimbursements, fees and services, taxation, and territorial revenues.

The payments made to Western Australia by the Commonwealth Government from Consolidated Revenue during each of the years from 1959-60 to 1963-64 appear in the table on page 205. Not all of these monies 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

Nature of Revenue	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Collected by the State—					
Taxation (a)	£ 6,911,225	£ 6,605,255	£ 6,463,169	£ 7,381,101	£ 8,222,132
Territorial Revenues (a)	1,336,943	1,165,309	1,841,393	1,786,632	1,875,271
Public Utilities—					
Railways, Tramsways and Omnibuses (a)	15,865,491	14,275,415	16,823,385	16,908,065	17,161,337
Water Supplies, Sewerage and Drainage	3,343,915	3,874,915	4,152,838	4,617,066	4,913,163
Other Public Utilities	252,307	261,669	750,307	285,940	1,197,777
Departmental Revenue—Reimbursements, Fees, etc.	7,845,174	3,184,039	8,254,405	9,004,274	75,474,119
Other	405,741	154,696	604,792	683,868	616,735
Total	24,707,886	26,171,630	28,210,349	40,807,032	54,150,478
Received from the Commonwealth (b)—					
Interest on State Debt	473,438	473,438	473,438	473,438	473,438
Special Grants	3,500,000	3,500,000	4,754,000	6,215,000	4,665,000
Financial Assistance Grants	25,402,000	27,375,975	10,063,423	11,240,304	10,796,514
Additional Payments, Assistance					150,000
Total	39,375,438	31,349,413	15,290,861	17,928,742	15,985,952
GRAND TOTAL	64,083,324	57,521,043	43,501,210	58,735,774	70,136,430

(a) Excludes stamp duties collected, see Table No. 1 Collection of Stamp Duties on page 208. (b) Comprises revenue from sales, loans and deposits relating to loans, finance and mining. (c) From 1962-63, figures consist of Railways revenue only. (d) See table on page 205.

More than one-half of the revenue collected by the State comes from public utilities, predominant among which are transport undertakings owned and operated by the Government. Next in importance in earnings from public utilities is the income from water supplies, and sewerage, drainage and irrigation services.

Departmental proceeds amount to more than one-fifth of all receipts, the main contributing Departments in 1953-64 being Treasury (£5,522,164, including £4,909,532 on account of interest and sinking funds), Harbour and Light (£141,230), Forestry (£147,751), Printing (£390,139), Public Works (£353,839), Education (£344,608), Agriculture (£236,776) and Police (£331,316).

The figures appearing against the item "Taxation" comprise Consolidated Revenue Fund receipts from probate and succession duties, stamp duties, land tax, entertainment tax, liquor licences, totalisator duty and interest, bookmakers' turnover tax, poolmakers' licences, Totalisator Agency Board betting tax, betting investment tax, and certain other licences. Some account of the rules and conditions applying to these and other levies is given in the *Public Year Book of Western Australia*.

Territorial revenues are those derived from sales of Crown land and the issue of leases, licences and permits in connexion 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*.

The following table gives details of net collections of State taxation. Payments to trusts or special accounts as well as to Consolidated Revenue are shown. The collections 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 aggregate of the amounts shown as payments to the Consolidated Revenue Fund generally exceeds those appearing as taxation returns (gross) in the preceding table. This is accounted for by the fact that some types of licences are not included under the heading of taxation in the Public Accounts, earnings from them being credited to departmental revenues. 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 formula; factories and shops; fishing, peacking and game; explosives; and marine collectors.

The amounts shown in the table as "Third Party Insurance Surcharge" represent collections under the provisions of the Motor Vehicle (Third Party Insurance Surcharge) Act, 1962. The Act imposes a surcharge, subject to certain statutory exemptions, at the rate of £1 per year with effect from the 1st January, 1963, on each premium paid in respect of policies of insurance with The Motor Vehicle Insurance Trust (see letterpress *Motor Vehicle Third Party Insurance* in Chapter VI, Part 2).

NET COLLECTIONS OF STATE TAXATION

Nature of Tax	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Paid to Consolidated Revenue Fund	£	£	£	£	£
Probate and Succession Duties	1,265,472	1,497,237	1,559,669	1,399,940	1,544,305
Stamp Duties not elsewhere included	1,795,910	1,999,321	2,130,911	2,611,031	2,690,632
Land	1,263,186	1,071,346	1,229,023	1,249,398	1,272,517
Entertainments (a)	298,614	129,365	51,799		
Liquor Licences	496,162	501,028	525,656	605,116	564,451
Betting	791,805	845,932	894,385	1,075,194	1,154,713
Motor Vehicle—					
Registration Fees (b)				11,718	14,598
Drivers' and Riders' Licences and Fees (c)	15,158	11,046	14,113	14,737	45,710
Third Party Insurance Surcharge				111,281	267,211
Other				5,000	2,139
Licences not elsewhere included	67,393	71,567	98,395	229,127	290,640
Total	5,925,391	5,015,667	6,168,476	5,384,675	6,073,651
Paid to Trusts or Special Accounts—					
Motor Vehicle (d)					
Registration Fees (e)	1,431,009	1,490,455	1,672,396	1,146,429	1,495,064
Drivers' and Riders' Licences (f)	166,563	265,377	273,324	299,181	124,651
Poolmakers' and Bookmakers' Licences	20,330	30,620	21,267	20,221	20,608
Transport Improvement Licences	50,135	71,754	81,029	62,989	79,254
Other Vehicle Registration Fees	1,640	2,792	2,625	4,081	3,282
Metropolitan Region Improvement	210,543	221,217	235,531	185,697	141,824
Various—					
Fruit Fly Eradication	16,996	17,191	17,004	17,337	17,779
Other	112,435	106,737	121,842	130,517	153,466
Total	2,019,132	2,407,194	2,612,990	2,277,417	2,222,107
GRAND TOTAL	7,944,523	7,422,861	8,781,466	7,662,092	8,295,758

(a) Entertainment Tax discontinued from 1st January, 1962. (b) Part collections only. In amounts paid to Trusts or Special Accounts, see below. (c) Includes Bookmakers' Licences. (d) See letterpress *Motor Vehicle Third Party Insurance* in Chapter VI, Part 2. (e) For purposes of comparison with other States, fees collected by local governments in relation to the Metropolitan Region have been treated as State Taxation and included here. See also table *Summary of Local Government Revenue* on page 219. (f) Part collections only; for amounts paid to Consolidated Revenue Fund, see above.



STATE ELECTRICITY COMMISSION POWER STATION AT BUNBURY

Expenditure from the Consolidated Revenue Fund in each of the financial years 1960-61 to 1963-64 is shown in the following table:

**CONSOLIDATED REVENUE FUND
EXPENDITURE ACCORDING TO NATURE OF SERVICE**

Nature of Expenditure	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
	£	£	£	£	£
Expenditure on Public Utilities—					
Railways, Tramways and Motorbuses etc.	17,876,818	16,965,923	17,123,682	17,034,079	17,595,899
Water Supplies, Sewerage and Drainage	2,600,221	2,240,957	3,381,144	3,660,387	4,017,759
Other	410,027	489,787	413,920	433,751	491,547
Total	21,887,066	19,705,997	21,548,759	21,128,217	22,105,205
Departmental Expenditure					
Agriculture	673,951	1,059,859	1,147,951	1,299,745	1,423,032
Child Welfare and Outdoor Relief	655,541	734,705	744,401	723,380	792,450
Crown Jewels	895,615	959,857	124,088	799,185	865,945
Education	8,640,803	9,770,492	10,798,690	11,474,881	12,519,457
Forests etc.	464,700	409,723	445,897	450,115	545,987
Harbours and Light and Tides etc.	377,054	392,666	459,653	440,608	552,410
Lands and Surveys	820,814	879,577	930,167	1,091,402	1,176,173
Mental Health Services	1,059,744	1,173,523	1,348,398	1,355,881	1,417,852
Metropolitan (Perth) Passenger Transport					
Track—Loss	48,317	559,896	600,000	554,000	420,000
Mines	461,406	528,104	650,829	630,615	726,461
Native Welfare	829,149	1,100,789	1,268,808	1,644,592	1,753,364
Police	1,381,408	1,979,877	2,073,053	2,181,894	2,316,435
Printing	489,892	514,695	554,930	673,642	692,145
Public Health	5,723,001	5,723,491	6,213,255	6,771,195	7,014,397
Public Works and Buildings	1,850,149	1,794,366	1,888,822	2,126,099	2,495,171
State Shipping Service—Loss	911,698	1,024,707	1,076,865	1,161,345	1,226,798
Treasury	167,819	165,723	142,473	144,379	150,630
Universities of Western Australia Additional					
Furniture etc.	471,101	507,454	708,881	629,048	663,772
Other	4,447,308	5,264,051	6,680,286	5,972,044	6,483,231
Total	19,551,756	14,551,730	18,245,911	19,085,062	21,007,103
Expenditure under Special Acts—					
Forests Act etc.	761,662	784,625	904,352	911,716	978,311
Loan Acts (Public Debt)—					
Interest	9,428,426	10,890,344	11,128,425	12,273,577	12,992,287
Sinking Fund Contributions	2,097,874	2,253,696	2,490,487	2,714,581	2,823,592
Publican's Licences	140,425	188,355	194,805	195,397	218,195
Superannuation Acts (Government Employees)	875,372	1,043,637	1,044,161	1,221,499	1,294,959
University of Western Australia Act etc.	250,000	250,000	250,000	250,000	250,000
Other	413,838	414,662	604,108	415,362	515,269
Total	14,136,181	13,664,212	16,161,376	17,063,817	18,012,152
Other Expenditure	204,740	100,307	114,742	123,517	131,072
(GRAND TOTAL)	36,248,796	33,467,286	35,921,798	36,275,046	39,148,413

(a) From 1961-62, figures include of Railways expenditure only. (b) For expenditure under Special Acts, see below. (c) From 1st July, 1962 Native Welfare expenditure by Education, Health, Police and Prisons is included in the expenditure of the Department concerned. (d) For additional payments, see Departmental Expenditure above.

Approximately one-half of the total represents expenditure under the heading "Departmental," and of this more than two-fifths is attributable to Education and Public Health. Further large sums are accounted for by Public Works and Buildings, Police, Agriculture, Mental Health Services, and Lands and Surveys. Other significant items are the losses incurred by the State Shipping Service and the Metropolitan (Perth) Passenger Transport Trust. By a provision of the State Trading Corporations Act of 1917, any loss sustained by a Concern is to be treated as such unless the Treasurer shall direct and it has been the practice to make good from Consolidated Revenue the losses of the State Shipping Service. Losses of the Metropolitan (Perth) Passenger Transport Trust, which began transport operations on the 1st September, 1958, have similarly been recouped from the Consolidated Revenue Fund. The Trust's losses to the 30th June, 1964 aggregated £2,061,418, and of this amount £2,061,917 had been recouped from the Fund.

Expenditure on public utility concerns to pass that transporter of the total, the predominant item being transport undertakings.

Commitments under Special Acts amount for about one-fifth of all expenditure. The principal amounts relate to Loan Acts and are applied to interest charges on the public debt and contributions to the Public Debt Sinking Fund. Another large item is expenditure incurred under the Superannuation and Family Benefits Act, 1938-1964 and other legislation providing pensions for government employees.

The amount paid under the Forests Act, 1938-1964 represents some 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, 1911-1964 provides for the payment of an annual subsidy of £250,000 and "such additional amounts as may be appropriated by Parliament from time to time." In 1963-64 additional payments amounting to £283,774 were made from Departmental Expenditure. Further details of University income are given in Chapter V, Part I.

The particulars shown in the preceding table and in the table on page 237 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 division according to function as in the following table. The classification used is one which was devised by the Committee of Australian Statisticians and has been summarized for the purposes of this table from a more detailed statement appearing in the *Statistical Register of Western Australia, Part II, Public Accounts*.

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 twinning revenue and expenditure attributable to the care of young male, the education of inmates is included in "Education," and hospitals for inmates in "Public Health," as the balance being assigned to the item "Welfare."

CONSOLIDATED REVENUE FUND REVENUE AND EXPENDITURE CLASSIFIED ACCORDING TO FUNCTION

Function	Financial Year					
	1962-63			1963-64		
	Revenue	Expenditure		Revenue	Expenditure	
		Gross	Net		Gross	Net
Legislative		£	£	£	£	£
General Administration and Services, not elsewhere included	48,105,715	1,027,288	48,205,003	48,202,055	1,050,545	49,252,600
Law, Order and Public Safety	201,841	1,040,345	1,841,501	463,380	1,207,565	1,746,187
Education	54,455	13,747,500	13,400,500	595,149	11,795,540	11,195,892
Cultural and Recreational Facilities		450,356	450,356		450,356	450,356
Public Health	11,406	1,779,151	1,461,555	491,809	1,137,455	1,099,841
Welfare	174,250	1,197,056	1,742,770	391,358	1,197,056	1,200,867
Wages and Pensions		1,150	1,150		1,150	1,150
Immigration		123,125	123,125		62,208	62,208
Regulation of Trade and Industry and Industrial Safety						
Transportation and Communication	11,120	285,405	174,285	181,008	235,557	154,549
Supplies and Services, not elsewhere included						
Electricity	4,001,581	15,420,307	1,118,327	1,014,540	11,014,175	1,000,538
Transport and Communication	15,002,478	15,480,393	1,088,716	18,398,388	16,420,545	1,977,843
Insurance	1,150	15,507	1,357	1,150	15,507	1,357
Banking and Insurance	10,440	25,005	14,565	17,540	25,005	7,465
Public Debt Charge	4,001,581	15,420,307	1,118,327	1,014,540	11,014,175	1,000,538
Miscellaneous		1,350,175	1,350,175		1,350,175	1,350,175
TOTAL	78,690,765	78,640,840	(51,745,275)	80,604,288	81,104,411	(51,499,123)

(a) Excludes the amounts shown under "Loan Acts (Public Debt)" in the preceding table and excludes in related payments and other charges amounting to £675,000 in 1962-63 and £690,000 in 1963-64. (b) Budget deficit.

The amount shown as revenue under the heading "General Administration and Services, not elsewhere included" is nearly three-fifths of the total. The item includes receipts from the Commonwealth in the form of Special Grants and Financial Assistance Grants as well as Taxation collected by the State (see Table on page 207), amounting in all to £14,831,406 in 1962-63 and £14,672,477 in 1963-64. The

figure shown in the table for 1963-64 includes, in addition, the amount of £150,000, representing that portion of Additional Financial Assistance from the Commonwealth which was paid to the Consolidated Revenue Fund.

By a provision of the State Government Insurance Office Act, 1938-1958 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 include sums of £116,977 for 1962-63 and £106,510 for 1963-64 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 receipts amounted to £21,700 in 1962-63 and £24,377 in 1963-64.

General Loan Fund and Public Debt

General Loan Fund—The first Loan Act in Western Australia was enacted in 1872 and gave authority for the raising of a loan for public works, mainly in connexion 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 carrying in the Fund of all loan balances unexpended at the 30th June, 1896, and more that time the proceeds of each new loan have been paid to the credit of the General Loan Fund.

The principal net expenditures from the General Loan Fund during the five years ended 30th June, 1964, were those relating to Public Buildings (£30,141,445), Water Supplies, Sewerage and Drainage (£36,009,699), Railways, Tramways and Omnibuses (£14,153,333), Housing (£6,488,025), Harbours and Rivers (£5,506,305), Electricity Supply (£1,376,508) and Development of Agriculture (£1,310,076).

NET LOAN EXPENDITURE

Nature of Expenditure	Financial Year						From 1872 to 30th June, 1964
	From 1872 to 30th June, 1959	1959-60	1960-61	1961-62	1962-63	1963-64	
	£	£	£	£	£	£	£
Public Works, Services, etc.—							
Railways, Tramways and Omnibuses	69,075,650	2,476,843	2,110,758	2,718,368	3,101,901	3,748,014	89,239,511
Electricity Supply	14,948,479	776,308	830,080	1,565,089	259,000	—	21,318,463
Harbours and Rivers	10,424,986	686,717	893,681	1,201,528	1,319,890	1,514,107	22,120,504
Public Buildings—							
Schools	13,386,350	1,170,392	2,717,778	2,802,006	2,636,280	2,476,713	39,612,449
Hospitals	4,503,320	1,366,247	1,747,272	2,217,642	2,420,081	2,168,250	18,743,789
Other	4,381,410	596,791	774,387	929,124	1,033,418	2,750,074	10,335,344
Housing	11,416,992	1,245,503	1,345,428	1,306,596	1,047,334	1,399,847	17,405,617
Water Supplies, Sewerage and Drainage	48,378,300	4,770,872	6,159,998	6,475,065	8,384,799	6,308,453	74,434,998
Development of Goldfields and Mineral Resources	7,808,170	998,476	1,148,976	77,947	88,003	50,570	7,015,365
Development of Agriculture	27,564,300	107,624	284,647	264,940	119,542	144,561	28,364,184
Development of Forestry	57,571,313	1,304,714	2,447,279	1,511,569	1,437,566	1,512,054	64,269,015
Total	254,112,557	18,337,653	17,709,809	18,872,593	19,346,808	21,119,949	342,959,382
Other Expenditure—							
Education and Education Expenses	4,945,574	11,415,453	11,020,174	17,131,408	12,112,440	17,553	5,424,280
Private Debt	11,475,461	1,437,230	643,723	556,414	1,045,577	72,011	1,969,126
Total	16,421,035	12,852,683	11,663,897	17,687,822	13,157,917	176,564	28,776,723
GRAND TOTAL	270,533,592	31,190,336	29,373,706	36,560,415	32,504,725	21,296,513	371,736,105

(a) Excludes expenditure from Commonwealth Grant under Commonwealth-State Funding Agreement (see footnote, Chapter V, Table 4).

Of the total expenditure of £30,141,445 on Public Buildings, £13,226,099 was spent on the construction of new schools, additions and improvements to existing schools, and technical education institutions, including an Institute of Technology. Work on regional hospitals at Albany, Bunbury and Geraldton, a new mental hospital at Guildford, and the provision of new or improved hospitals in 1-45 metropolitan and country areas accounted for £9,911,352. Other expenditure included the cost of work on the completion of a new Government Printing Office and a technical institute for boys at Carnarvon, extensions

in Parliament House and the Supreme Court building, the construction of the first section of a new administration centre to house Government Departments, and the erection of new court houses and police stations at a number of centres.

Expenditure on Water Supply, Sewerage and Drainage included the cost of work on the Goldfields and Agricultural Water Supply and the Great Southern Towns Water Supply, completion of Serpentine Reservoir, the Ord River diversion dam and the raising of the wall of Wellington Dam, a weir on the Freney River for the Laveringa project, developmental and improvement work in northern and south-west irrigated districts including the building of Logue Rock Dam and Waroona Dam, sewerage works construction and extension of services in the metropolitan area and in country towns, and waste supplies for towns and stock routes in northern and north-western areas. An account of progress in the field of water supply and sewerage is given in Chapter VII, Part 2.

Expenditure under the heading of Railways, Trunkways and Quarries included the cost of new rolling stock, maintenance and renewal of permanent way, the construction of a new railway bridge over the Swan River at North Fremantle, land resumptions for proposed marshalling yards at Welshpool, construction of a railway between concrete deposits at Jarroldale and alumina works at Kwinana, and contribution to costs of railway standardisation. Advances were made to the Metropolitan Perth Passenger Transport Trust for the purchase of new coaches and the construction of workshops and an administrative headquarters. Reference is made to the operations of the Trust in Chapter IX, Part 2.

The amounts shown under the heading of Housing consist mainly of additional capital provided by 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 have their headquarters at the Port of Fremantle, including the building of a passenger terminal and new headquarters for the Fremantle Port Authority, the reconstruction of quays, dredging, and the installation of new machinery of equipment. Among other works were the construction of breakwaters and land-locked berths at Bunbury and Port Lincoln, harbour improvements at Albany and Geraldton and at ports on the north and north-west coasts, and the construction of fishing boat harbours at Fremantle and Geraldton.

Expenditure attributed to Electricity Supply includes amounts spent by the State Electricity Commission on the Bunbury power station and a new station at Mingenore, the Collierfield, and the development of the South-West Power Scheme. 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 borrowings. The activities of the State Electricity Commission are described in Chapter VIII, Part 2.

Expenditure under the heading of Development of Agriculture includes the cost of a new administration building and laboratories for the Department of Agriculture at South Perth, appropriate to research stations erected by the Department and to the Agricultural College at Mandurah, land reclamation at the Ord River, advances made to Northern Development Ord River Pty. Ltd. to run the Company in developing a pilot farm in the vicinity of the Ord River dam, and the provision of a town on grazing at Kwinana.

Expenditure on the Development of Goldfields and Mineral Resources relates to moneys spent on assistance in prospecting, lease to mine permits, drilling in connection with mineral exploration, hydrological drilling and maintenance works at various State Batteries. It also includes expenditure on behalf of the Western Australian Iron and Steel Industry for improvements and extensions to plant.

The aggregate expenditure described as "Miscellaneous" amounted to £1,083,000, of which £1,895,400 was used to provide additional capital for the Rural and Industries Bank of Western Australia and to finance advances by the Bank to primary and secondary industries. A further sum of £1,000,000 was spent on account of the State Shipping Service to meet instalment payments on ships and to provide for structural alterations to some of its fleet. The remaining expenditure relates to such items as industrial development and assistance to industry, the purchase and resumption of land for industrial purposes, pipe planting, advances to the University of Western Australia for construction of buildings and purchase of equipment, to the Western Australian Tourist Development Authority for improvement of tourist facilities, and loans and grants to a number of welfare organisations.

Public Debt.—Reference is made to page 203 to the National Debt Commission and its functions in relation to the public debts of the States.

Western Australia's gross public debt at the 30th June, 1964, was £313,032,344, compared with £232,118,679 at the 30th June, 1960, representing an increase of £80,903,665 during the five years. Total receipts in the financial years 1960-61 to 1963-64 amounted to £302,909,897 and the total of principal repayments and redemptions in Australia, London, New York and Canada by the National Debt Commission was £15,050,121. The State's balance on Sinking Fund available to the National Debt Commission at the 30th June, 1964 was £221,003 and Western Australia's net public debt at that date was therefore £312,861,341.

The following table presents a summary of public debt transactions in each year of the period between the 30th June, 1960 and the 30th June, 1964 and presents a reconciliation between public debt and the aggregate net loan expenditure for each of those dates as shown in the preceding table.

NET LOAN EXPENDITURE AND PUBLIC DEBT

Particulars	As at 30th June					
	1960	1960	1961	1962	1963	1964
	£	£	£	£	£	£
Debits—						
Aggregate Net Loan Expenditure	100,733,445.867	101,113,334	106,346,239	51,740,116	106,908,200	101,073,720,100
Interest thereon under Australian Bank Act	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Good Will Indefinite Bank Indefinite Stock (b)						1,000,000
Unrepaided Balance of Economic Loan Fund		4,000	500	500		1,100
Total Debits	101,733,445.867	102,117,334	107,346,739	52,741,116	107,909,200	102,074,821
Credits—						
Aggregate Receipts from Government Loan Fund	45,100,000	45,000,000	46,070,771	51,000,000	51,000,000	50,000,000
	100				1,000	
Total Credits	45,100,000	45,000,000	46,070,771	51,000,000	51,000,000	50,000,000
Balance—Gross Public Debt	101,733,445.867	106,347,334	107,346,739	51,741,116	106,908,200	102,074,821
Amount of Public Debt Maturing in—						
Australia	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000
London	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000
New York	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Canada						
Netherlands						
Norway						
Total Gross Public Debt	101,733,445.867	106,347,334	107,346,739	51,741,116	106,908,200	102,074,821
Balance Fund available for further Loan Repayments	100,000	100,000	100,000	100,000	100,000	100,000
Net Public Debt	101,633,445.867	106,247,334	107,246,739	51,641,116	106,808,200	101,974,821

THE FIGURES REFERRED TO IN THIS TABLE ARE IN ACCORDANCE WITH THE INFORMATION BY THE GOVERNMENT OF THE MEDIAN BANKING COMMISSION OF WESTERN AUSTRALIA, LONDON AND CANADA (L.C. 100).

Trust Funds

Trust Funds are divided into three groups, Governmental, Private, and those which deal only indirectly with the Government and Government for specific purposes. Governmental Trust Funds relate generally to the financial activities of some government or authorities although they include some accounts, such as the Parents Improvement and Rehabilitation Fund and accounts concerning certain aspects of agriculture, which are connected with the work of Government Departments. Among the government institutions to which some specific or designated activity or income from Trust Funds are the State Housing Commission, the Home and Industries Bank, the Main Roads Department and the State Government Insurance Office. Finance for public hospitals is also provided from Trust Funds. Private Trust Fund balances comprise monies available for disbursement to or on behalf of private persons, for example the Coal Mine Workers' Pension Fund. Funds relating to advances from the Commonwealth include those made under the Commonwealth Aid Roads Act and the Commonwealth State Housing Agreement as well as finance for war service land settlement, the encouragement of meat production and other assistance to primary industry.

The detailed list of Trust Fund transactions, as published quarterly in the *Statement of Receipts and Disbursements of Western Australia*, is at present one, and in the following summary only selected items are shown separately. They have been shown as being among the items which the largest totals of receipts and expenditure, though not necessarily the largest balances, are recorded, and as giving some indication of the true nature of the government Trust Funds.

SUMMARY OF TRIMED PLINGS—RECEIPTS AND EXPENDITURE

[illegible]

LOCAL GOVERNMENT FINANCE

Prior to the operation of the Local Government Act of 1960, effective from the 1st July, 1961, the financial and other powers of local government authorities in Western Australia were derived mainly from the Municipal Corporations Act and the Road Districts Act. This legislation was repealed by the Local Government Act, the main provisions of which are outlined in Chapter III—Consolidation and Government. Among other statutes affecting local government finance are the Traffic Act, the Health Act, the Water Boards Act, the Valuation Act and the Fire Brigades Act.

The figures and the letterpress in this section relate to the operations of Municipal Councils (now City Councils or Town Councils) and Road Boards (now Shire Councils). The activities of the Fremantle Municipal Transport Board (operative to the 31st August, 1960) and the Eastern Goldfields Transport Board (see Chapter IX, Part 2) are not included.

For 1960-61 and earlier years, the financial year for Road Boards ended on the 30th June and for Municipal Councils on the 31st October. The Local Government Act prescribes a financial year ending on the 30th June for all local government authorities. In the tables in this section which relate to general revenue and expenditure and loan transactions the figures shown for 1961-62 refer to the eight months from the 1st November, 1961 to the 30th June, 1962 in the case of City Councils and Town Councils, and to the year ended 30th June, 1962 in the case of Shire Councils.

General Revenue

Taxation.—As may be seen from the following table, revenue from taxation other than motor vehicle registration fees accounts for about two fifths of the total receipts of local authorities and is derived almost entirely from rates. The most important of these is the general rate, provided for in the local government legislation. With the commencement of the Local Government Act on the 1st July, 1961 local rates and those formerly levied separately for specific purposes, such as the health rate and the vermin rate, were merged in a general rate imposed on a single levy. Other forms of taxation are permits required under building by laws, dog licences, and licences and permits issued under the Health Act.

Public Works and Services.—Revenue from Public Works and Services amounts to about one fifth of the total. Income from property and plant is the largest item and includes rents and hire charges for buildings, plant and recreational facilities as well as sales of land, vehicles and plant. Next in importance are the receipts from construction of private roads, which include driveways to premises, and from sanitary services.

Government Reimbursements and Grants.—Grants for road works and receipts of road construction costs constitute the main item in this category. The local governing bodies are reimbursed 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. Amounts paid as bonuses for the destruction of wild dogs, foxes and other vermin are recovered by the Department of Agriculture. From 1960-61, grants made by the Tourist Development Authority established under the Tourist Act of 1959 are included.

Business Undertakings.—The only type of business undertaking from which any substantial revenue is derived is the supply of electricity. Some details of local government operations in the generation of electricity during 1963-64 appear in the table "Summary of Factories according to Industry" in Chapter VIII, Part 2.

The amounts described as "Profits from Other Business Undertakings" comprise allocations of profits to certain local government authorities made by the Fremantle Municipal Transport Board up to the 31st August, 1960 after which the Board's service was taken over by the Metropolitan (Parish) Passenger Transport Trust. As the figures include only moneys appropriated to general revenue they do not necessarily represent the working profits for the year stated.

Motor Vehicle Registration Fees.—Revenue from motor vehicle registration fees is an important item in local government finance. 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, which comprises the whole of the Metropolitan Statistical Division and some adjacent local government districts or parts of districts (see the section *Vehicle Registration, Licences and Traffic Control* in Chapter IX, Part 2). Outside this Area each local government authority licenses vehicles in its own

district. Until the 1st January, 1960 these authorities retained the whole of the fees collected, but from that date could elect to pay a specified part of the revenue into a Central Road Trust Fund account established at the Treasury. Each contributing authority received from the Fund a grant equal to the amount of its contribution increased by a specified proportion. From the 1st January, 1963 every local government authority outside the Metropolitan Traffic Area is required to contribute to the Fund and is reimbursed by a sum equal to the amount of its payment, together with an addition of 75 per cent. Metropolitan local authorities receive proportionate allocations of revenue from vehicle licences issued by the Police Department in the Metropolitan Traffic Area. These disbursements are made from the Metropolitan Traffic Trust Account, to which the licence fees for vehicles registered in the Metropolitan Traffic Area are paid in the first instance, and from the Central Road Trust Fund. Further details of the operations of the Central Road Trust Fund and the provision of other moneys for road works are given in the section *Finance for Roads* in Chapter 15, Part 2.

SUMMARY OF LOCAL GOVERNMENT REVENUE (Exclusion of Loan Receipts)

Source of Revenue	Financial Year				
	1955-56	1956-57	1957-58	1958-59	1959-60
THOUSAND POUNDS	£	£	£	£	£
Taxation					
Rates					
General	2,271,738	2,290,329			
Local	1,153,652	1,248,340			
Health and Sanitary	846,954	418,787	4,717,360	5,194,466	5,594,013
Vehicle	65,113	61,374	141	141	141
Other	259,800	47,344			
Total	3,998,357	4,067,358	4,717,360	5,194,608	5,594,313
Licences and Fees, etc.	78,880	75,693	67,230	87,367	105,456
Total—Taxation, etc.	4,078,017	4,143,076	4,784,590	5,281,975	5,700,041
Public Works and Services					
Sanitary Services, including Garbage Collection	494,966	511,370	499,751	525,662	631,487
Water Supply	15,970	13,702	15,895	15,168	17,511
Income from Property and Plant					
Parks, Gardens and Recreational Facilities	128,361	143,270	166,482	314,000	349,818
Halls and other Buildings	176,840	164,616	149,585	215,614	319,554
Vehicles and Plant	164,913	352,468	243,803	188,161	420,843
Other Property, etc.			450,440	744,573	916,899
Other Properties and Services, etc.	786,576	663,402			
Sundry Works and Services, etc.	95,871	96,027	179,391	280,961	328,006
Contributions for road construction, etc.	365,930	369,571	411,412	623,657	714,593
Total—Public Works and Services	2,732,013	2,583,770	2,119,391	2,963,319	3,469,873
Government Reimbursements and Grants					
Roads	1,345,641	1,341,141	1,614,512	1,730,866	2,035,454
Vehicle Registration Bureau	14,194	4,667	3,217	4,082	7,861
Recreational Facilities and					
Electricity supply	42,151	46,611	311,130	121,970	74,769
Infant Health		86,075	40,368	37,416	6,470
Other		6,669	4,332	1,120	2,720
		3,716	47,682	13,779	32,063
Total—Reimbursements and Grants	1,404,986	1,441,964	2,013,601	2,017,363	2,162,387
Motor Vehicle Registration Fees					
Direct Collections, etc.	1,179,430	1,250,303	1,244,122	1,416,300	1,515,754
Allocations from Metropolitan Traffic Trust Fund	564,032	622,007	680,193	727,427	825,719
Total—Vehicle Registration Fees	1,743,462	1,872,310	1,924,315	2,143,727	2,341,473
Other Revenue					
Electricity Undertakings	724,324	764,871	722,021	641,741	593,344
Profits from other Business Undertakings	21,600				
Fines and Penalties	56,297	45,391	48,803	79,118	84,787
Other	213,526	321,611	338,802	368,261	464,510
Total—Other Revenue	1,015,747	1,131,773	1,109,626	1,089,120	1,142,641
GRAND TOTAL, (a)	10,864,241	10,810,840	11,864,844	13,690,375	15,779,311

(a) The Local Government Act of 1959 prescribes a single General Rate in place of the several rates formerly levied separately for specific purposes. (b) Excludes revenue from vehicle licences (see "Motor Vehicle Registration Fees" below), as this item is included in the table on collections of rates. (c) Based on page 208 for purposes of comparison with other States. Excludes also sanitary and infant health (see "Public Works and Services" below). (d) From 1941-64, part of the "public-works" allocated to the item "Other Properties and Services" has been allocated to a new item "Other Properties", and is continuing to "Sundry Works and Services". (e) From 1959-61 includes grants from Commonwealth Development authorities. (f) Includes grants to Perth City Council of £150,000 from the State Government and £100,000 from the Commonwealth Government as contributions towards the cost of an aquatic centre built in co-operation with the British Empire and Commonwealth Games. (g) Fees collected by local government authorities outside the Metropolitan Traffic Area. (h) Figures exclude amounts appropriated to general revenue as profits from electricity undertakings.

General Expenditure

General Administration—The amounts shown under this item in the following table comprise the administrative costs of local government authorities. Expenditure on the administration of such services as water supply, vermin destruction and health and sanitary services is not debited to this item but is included in the figures shown under the heading of Public Works and Services.

Debt Services—Expenditure on debt services includes debt redemption charges, interest payable under hire purchase agreements and interest charges on loans and overdrafts.

Public Works and Services—The principal expenditure under the heading of Public Works and Services relates to roads, paths and bridges and includes construction and maintenance costs as well as moneys spent on other road work such as the cleaning and watering of thoroughfares, the construction of private roadways, the provision of street nameplates and seats, street tree planting and street lighting. Other costs 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 general heading of Public Works and Services are financed only partly from revenue, the remaining expenditure being from loan funds (see table on page 218).

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 organizations and to the Western Australian State Symphony Orchestra.

Electricity Undertakings—The figures shown for expenditure of electricity undertakings exclude amounts appropriated from profits to the general account of the local authority concerned.

SUMMARY OF LOCAL GOVERNMENT EXPENDITURE

(Exclusive of Loan Expenditure)

Nature of Expenditure	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
General Administration	£ 1,106,214	£ 1,225,831	£ 977,975	£ 1,159,437	£ 1,268,821
Debt Services (a)—					
Interest and other Charges	507,505	599,332	631,224	888,461	947,127
Redemptions	934,560	1,046,038	1,019,071	1,273,160	1,417,007
Total—Debt Services (a)	1,442,065	1,645,370	1,650,295	2,111,621	2,364,194
Public Works and Services—					
Roads, Paths and Bridges—					
Construction and Maintenance	2,285,675	2,548,711	3,028,303	3,514,516	4,043,160
Other Road Work	276,197	305,441	286,003	316,283	291,059
Street Lighting	139,464	159,954	143,790	205,056	220,315
Property and Plant—					
Parks, Gardens and Recreational Facilities	721,037	888,478	1,128,066	1,119,030	1,292,835
Halls and other Buildings	480,503	574,966	529,845	879,336	799,827
Vehicles and Plant	936,916	1,065,258	826,025	765,490	938,020
Other Property (b)	—	—	285,581	468,899	795,573
Other Public Works and Services (b)—					
Sanitary and Garbage Services	555,874	584,900	494,708	640,139	665,585
Other Health Services	353,716	365,034	210,519	265,977	271,171
Water Supply	39,018	50,512	62,845	58,734	62,277
Sundry Works and Services	803,235	823,449	540,389	665,402	885,319
Total—Public Works and Services	6,600,635	7,366,703	7,335,074	8,898,912	10,264,941
Grants and Donations—					
Fire Brigades	114,257	125,241	116,280	133,147	148,122
Hospitals and Ambulances	8,369	7,316	7,202	10,503	10,455
Other	18,585	31,739	43,714	57,584	61,131
Total—Grants and Donations	141,211	164,296	167,196	201,534	219,758
Electricity Undertakings (including debt services) (c)	698,319	735,049	661,158	835,374	873,005
Other Expenditure	290,485	263,432	300,720	222,774	318,367
GRAND TOTAL (c)	10,278,929	11,400,681	11,092,418	13,420,652	15,309,080

(a) Excludes debt services of Electricity Undertakings. (b) From 1961-62, a revised classification of expenditure on Public Works and Services has been adopted. (c) Figures exclude amounts appropriated to general revenue as profits from electricity undertakings.

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 (No. 4) in relation to loan raising, the levying of loan rates, the expenditure of loan moneys and the repayment of loans are summarised in the section *The Local Government System* in Chapter III.

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 in the Treasury.

LOCAL GOVERNMENT LOAN RECEIPTS AND EXPENDITURE

Item	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
RECEIPTS					
Ordinary Services	£ 1,451,115	£ 1,791,000	£ 1,771,334	£ 2,211,200	£ 2,091,079
Health Services	26,401	127,106	161,161	111,872	14,797
Water Supply	17,000	33,000	11,000	17,000	60,000
Electricity Undertakings	65,700	142,000	149,100	200,000	200,000
TOTAL	1,559,216	1,993,106	1,992,595	2,540,072	2,465,876
EXPENDITURE					
Roads, Parks and Bridges	£ 991,717	£ 1,112,000	£ 743,000	£ 1,102,000	£ 888,000
Property and Plant	407,000	499,000	1,000,000	1,400,000	1,300,000
Parks, Gardens and Recreational Facilities	51,000	200,000	200,000	171,100	225,000
Water Supply	15,000	33,000	30,711	62,000	54,000
Electricity Undertakings	21,000	100,000	165,000	200,000	200,000
Other Works and Services	111,000	70,000	100,711	87,441	84,000
Refuse and Sewage	1,000	7,000	7,000	1,000	1,000
Other Loan Charges, Transfer, etc.	1,000	184,400	201,000	200,700	201,000
TOTAL	1,603,717	1,955,400	2,217,422	2,964,100	2,654,000

The following table shows the aggregate local government loan debt outstanding at the end of each financial year during the period from 1959-60 to 1963-64.

LOCAL GOVERNMENT LOAN DEBT

Nature of Debt	At End of Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Loan Debt Outstanding	£ 11,203,014	£ 12,800,517	£ 12,717,051	£ 13,504,000	£ 12,180,000
Sinking Fund Balance	11,700	82,217	81,311	87,704	60,000
Net Loan Debt	11,214,714	12,912,734	12,635,740	13,416,296	12,240,000
Net Loan Held up Account of—					
Ordinary Services	10,804,800	12,687,000	14,112,400	16,021,187	17,066,000
Health Services	261,381	985,140	1,013,000	600,701	714,100
Water Supply	175,400	194,001	184,811	200,000	240,000
Electricity Undertakings	650,200	402,120	808,000	600,700	1,200,000
TOTAL NET LOAN DEBT	11,251,695	13,908,261	15,642,211	17,438,588	18,720,100

CHAPTER VI—1963-1964

PART 2 - PRIVATE FINANCE

CURRENCY

The power to legislate with respect to currency, exchange 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. The legislation now in force comprises the Coinage Act 1909-1947, the Reserve Bank Act 1959, the Currency Act 1965 (Part I and section 21), and the Decimal Currency Board Act 1963-1965.

The Australian monetary system is based on that used in the United Kingdom and therefore has as its unit the pound (£) divided into 20 shillings (s.) each of 12 pence (d.). When the Australian currency was first introduced, the Australian pound was identical in value with the pound sterling. Following a gradual depreciation of the Australian pound in terms of sterling during 1930 and 1931, it was stabilized from the 3rd December, 1931 at the rate of £125 Australian = £100 sterling, which has continued to be the prevailing rate. Notes are issued by the Reserve Bank of Australia which is authorized to make issues in the denominations of 5s., 10s., £1, £5, £10 or any multiple of £10. Only notes in the denominations of 10s., £1, £5 and £10 are now in general circulation, no 5s. notes having been issued and public issue of those of denominations higher than £10 having ceased in 1945. The coinage consists of silver and bronze coins, which are minted by branches of the Royal Mint in Melbourne and Perth. Silver coins are issued in denominations of two shillings, one shilling, sixpence and threepence. The bronze coins are the penny and the halfpenny.

Australian notes are legal tender in Australia in any amount, silver coins for amounts not exceeding forty shillings and bronze coins for amounts up to and including one shilling.

A decimal currency system will be introduced in Australia on the 14th February, 1966. During a transitional period of about two years after that date, the new and the old currency systems will operate simultaneously. The Currency Act 1965, which will replace the Coinage Act 1909-1947, provides for the adoption of a monetary unit to be known as the "dollar," equivalent in value to the present ten shillings. The dollar is to be divided into 100 minor units, or "cents." Coins will be in the denominations of 50 cents (silver), 20, 10 and 5 cents (cupro-nickel); and 2 cents and 1 cent (brass). The Reserve Bank Act 1959, which will come into operation on the 14th February, 1966, authorizes 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.

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 last 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 constitutes the Commonwealth Banking Corporation, which came into being on the 14th 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

The nine trading banks conducting business in Western Australia comprise the Commonwealth Trading Bank of Australia, The Rural and Industries Bank of Western Australia (Rural Department) and seven private trading banks.

The private banks, each of which has its head office either in London or in another State, are the Australia and New Zealand Bank Limited, The Bank of Adelaide, the Bank of New South Wales, The Commercial Bank of Australia Limited, The Commercial Banking Company of Sydney Limited, The English, Scottish and Australian Bank, Limited and The National Bank of Australasia Limited. The operations of trading banks are governed by the Banking Act 1959 (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 1959-60 to 1963-64. 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 by all trading banks except the Rural and Industries Bank of Western Australia, which supplies information by special arrangement.

TRADING BANKS—AVERAGES OF AMOUNTS ON DEPOSIT AND OF ADVANCES
£'000;

Particular	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Amounts on Deposit—					
Not trading interest—					
Australian Government	304	542	575	546	619
Other	69,881	87,604	69,802	71,624	77,436
Trading interest—					
Australian Government	23	22	15	10	31
Other—Interest	4,160	4,002	3,975	4,689	5,469
Other—Interest	31,440	22,864	30,140	33,227	37,404
Total	105,808	115,032	104,592	109,876	121,542
Loans, Advances and Bills Outstanding (a)	71,802	73,131	69,602	70,765	82,438
Ratio of Advances to Deposits (per cent.) ..	74.0	76.2	66.2	64.5	68.1

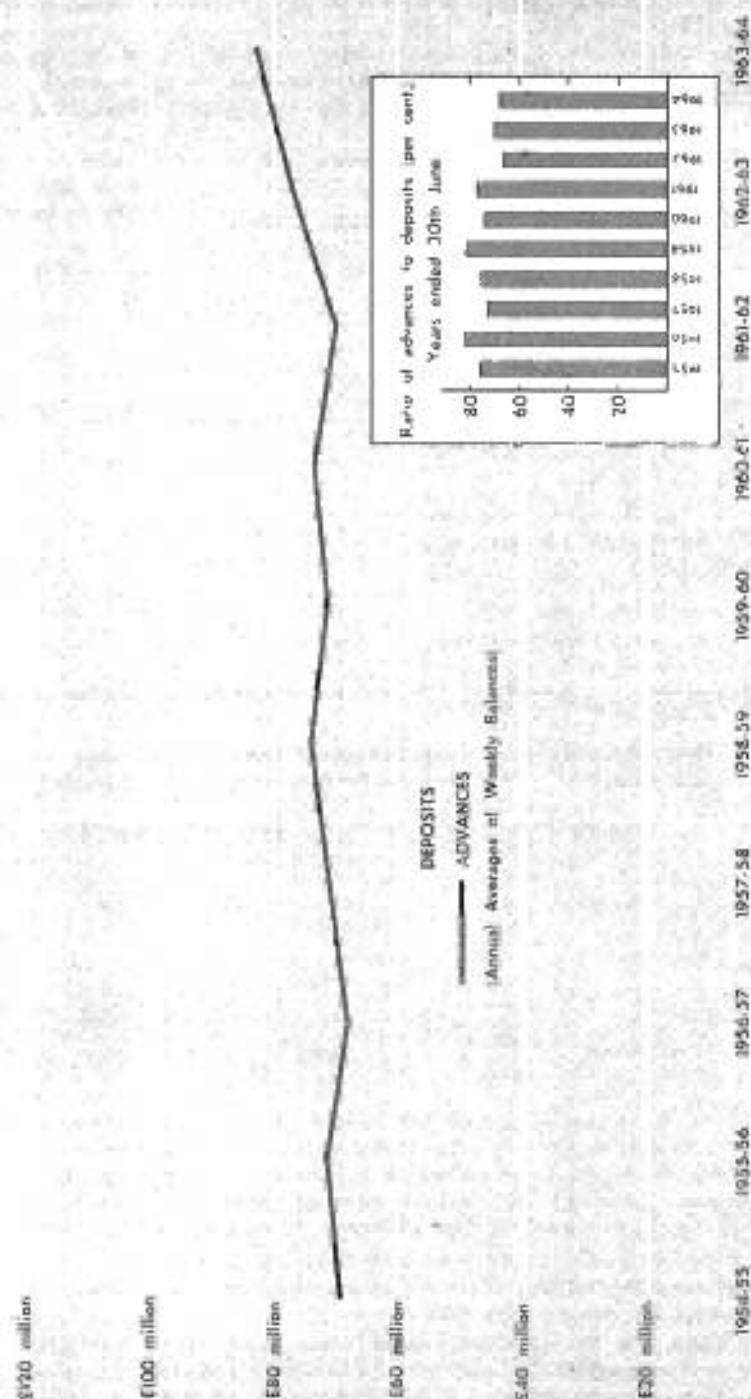
(a) Excludes loans to authorized dealers in the short-term money market.

Of outstanding advances amounting in total to £88.2 million in July, 1964, business advances represented £67.3 million, personal advances £17.8 million, advances to non profit organisations £1.92 million, and to public authorities other than the Commonwealth and State Governments £10.16 million. Business advances were mainly for retail industry (£31.5 million), for retail and wholesale trade (£14.9 million) and for manufacturing (£5.45 million). Of the personal advances, loans for the building or purchasing of homes accounted for £8.58 million.

At the 31st December, 1964 the Commonwealth Trading Bank's discount rate on bills was 6 per cent. Under the Banking Act 1959 the Reserve Bank of Australia has the power to fix the rates of interest which may be charged by trading banks on overdrafts. At the 31st December, 1964, by agreement between the Reserve Bank and the trading banks, the maximum rate applying to any overdraft was 7 per cent. At the same date the rate of interest on fixed deposits was $1\frac{1}{2}$ per cent. per annum on deposits for 3 months but less than 12 months, 4 per cent. on those for 12 months to 18 months, and $4\frac{1}{2}$ per cent. on deposits for periods longer than 18 months and up to 24 months. (From the 29th Sep-

Bank Deposits and Advances

ALL TRADING BANKS 1954-55 to 1963-64
DEPOSITS; LOANS, ADVANCES AND
BILLS DISCOUNTED



tember, 1964 the maximum period for which trading banks were permitted to accept fixed deposits was extended from 15 months to 24 months). From the 8th April, 1964 interest at a maximum rate of 3½ per cent, per annum became payable on deposits of £50,000 and over for periods of 30 days but less than 3 months.

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, 1964 are shown, together with the number of branches and agencies of each bank at the 30th June, 1964.

TRADING BANKS—BRANCHES, AGENCIES, DEPOSITS AND ADVANCES—JUNE, 1964

Bank	Number of Branches (A)	Number of Agencies (A)	Assets—on Deposits (£)			Loans, Advances and Bills Outstanding (£) (C)
			Not Bearing Interest	Bearing Interest	Total	
Commonwealth Trading Bank of Australia	57	23	£700 11,305	£700 9,447	£700 20,752	£700 12,052
The Rural and Industries Bank of Western Australia (Rural Department)	47	24	8,551	1,644	10,195	16,609
Private Trading Banks—						
Australia and New Zealand Bank Limited	35	31	9,503	4,013	13,516	9,435
The Bank of Adelaide	2	2	348	112	460	749
Bank of New South Wales	26	42	22,210	13,490	35,700	31,447
The Commercial Bank of Australia Limited	32	13	5,434	2,309	7,743	5,709
The Commercial Banking Company of Sydney Limited	3	—	442	375	815	1,356
The English, Scottish and Australian Bank, Limited	17	2	4,966	1,320	6,286	3,195
The National Bank of Australasia Limited	75	36	12,191	13,987	26,178	18,277
Total—Private Trading Banks	269	141	54,710	33,181	87,891	58,984
TOTAL—ALL TRADING BANKS	363	194	74,608	45,312	119,920	86,637

(A) At 30th June. (B) Average as at the close of business on Wednesdays in June. (C) Excludes loans to authorized dealers in the short-term money market.

The following table shows the weekly averages of bank clearings through the Perth clearing house for each of the years from 1960 to 1964 and for each quarter in those years.

BANK CLEARINGS—WEEKLY AVERAGES FOR PERTH (£'000)

Particulars	1960	1961	1962	1963	1964
Average for Quarter ended—					
March	21,647	23,791	26,556	29,920	34,011
June	21,336	23,124	25,025	28,449	33,293
September	21,087	22,654	25,147	28,008	33,294
December	24,418	29,346	28,025	31,559	37,013
Average for Year	22,402	25,639	25,906	29,377	34,274

Prior to the 1st October, 1962 charges levied by trading banks included exchange on inter-bank transfers between Perth and other capital cities in Australia, and interstate exchange payable on the basis of rates into which Western Australia was divided for the purpose. No charge was made for transfers within a city or town. Details of exchange rates payable before the 1st October, 1962 are given on page 260 of the *Official Year Book of Western Australia, No. 3—1962*.

From the 1st October, 1962 inland exchange was abolished and a new system of bank service charges on current accounts introduced. The charges, comprising three separate elements, are calculated quarterly and debited as one composite item.

In addition to a basic maintenance fee of 5s. per quarter, there is a ledger activity fee related to the number of transactions each quarter. And a collection fee on cheques deposited in excess of 25 per quarter. Rebates are allowable on ledger activity fees where credit balances are maintained at the level of £100 or more throughout the quarterly period.

Savings Banks

Savings bank facilities in Western Australia are provided by the Commonwealth Savings Bank of Australia, which commenced business in Western Australia in 1913; the Australia and New Zealand Savings Bank Limited, the Bank of New South Wales Savings Bank Limited, the C.B.C. Savings Bank Limited and The Rural and Industries Bank of Western Australia (Savings Bank Division), all of which were established in 1959; the E.S. & S. Savings Bank Limited, established in 1961; and The Bank of Adelaide Savings Bank Limited, The National Bank Savings Bank Limited, and The Commercial Savings Bank of Australia Limited, all of which commenced business in 1962.

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 the amount standing to the credit of school accounts at midnight was £792,039 at the end of June, 1964. The operations of the school savings bank service are included in the figures shown in the following table except those which relate to the number of accounts open at the end of each year.

SAVINGS BANK TRANSACTIONS

Particulars		Financial Year				
		1960-61	1961-62	1962-63	1963-64	1964-65
Deposits in:	£000	41,478	40,147	111,381	176,046	168,272
By Withdrawals in:	£000	40,546	40,130	104,080	158,214	140,161
Balance at						
Commence of Financial Year	£000	5,079	7,117	10,351	12,411	12,411
Withdrawals prior to Deposits	£000		106			
Interest added to Accounts	£000	2,044	2,236	2,679	5,027	5,268
Accounts Closed at end of Year	£000	331,958	377,459	403,070	583,417	736,009
Adjusted Due to Depositors at end of Year	£000	78,002	40,710	90,527	104,100	110,583
Total	£000	78,002	40,710	90,527	104,100	110,583
Average per account		143.7	153.7	144.8	152.6	161.9
Average per head of Population		103.9	103.8	123.0	135.2	151.5

(a) Including inter-bank transfers but excluding transfers from and to other States.

The rates of interest paid by savings banks at the 30th June in each of the years from 1960 to 1964 are shown in the following table.

SAVINGS BANKS' INTEREST RATES ON DEPOSITS (a)

(per cent, per annum)

Type of account	Interest Rates at 30th June				
	1960	1961	1962	1963	1964 (b)
Ordinary accounts:					
Up to £5,000	3	3½	3½	3	3½
£5,001 to £10,000	4½	5½	5½	5	5½
£10,001 to £15,000	6½	6½	5½	5	5½
£15,001 and over	7	7½	6½	5	5½
Special and other Society Accounts:					
Up to £1,000	4	5½	5½	5	5½
£1,001 to £5,000	5	6½	6½	5	5½
£5,001 to £10,000	6	7	6½	5	5½
£10,001 and over	7	7	6	5	5½

(a) The rates shown for dates earlier than the 1st January, 1961, apply to all savings banks operating in Western Australia. From the 1st January, 1961, the rates paid by The Rural and Industries Bank of Western Australia (Savings Bank Division) have been identical; for bank figures then corresponding to the table. (b) Operative from 1st June, 1964.

INSURANCE

Life Insurance

Life insurance business throughout Australia is regulated by the Life Insurance Act 1945-1961 (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 superseded 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 1932-1937, 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.

During 1963, there were 33 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 life insurance and superannuation, although an appreciable volume of industrial business is also undertaken.

LIFE INSURANCE

Particulars	Year				
	1959	1960	1961	1962	1963
ORDINARY AND SUPERANNUATION BUSINESS					
Number of Companies	19	22	27	31	33
New Policies Issued—					
Sum Insured	£900	51,026	44,810	45,306	51,212
Single and Annual Premiums	£900	1,006	1,221	1,317	1,425
Policies Existing at End of Year—					
Sum Insured	£900	150,161	221,970	261,348	295,116
Annual Premiums	£900	1,657	1,787	1,913	2,070
Bonus Additions	£900	11,722	11,136	11,905	12,218
INDUSTRIAL BUSINESS					
Number of Companies	7	7	7	8	9
New Policies Issued—					
Sum Insured	£900	1,313	1,615	2,402	3,086
Annual Premiums	£900	160	111	111	134
Policies Existing at End of Year—					
Sum Insured	£900	21,419	21,162	22,178	25,177
Annual Premiums	£900	225	170	194	165
Bonus Additions	£900	750	564	1,126	1,510
TOTAL, BOTH KINDS					
Number of Companies	19	22	27	31	33
New Policies Issued—					
Sum Insured	£900	52,339	46,425	47,708	54,308
Single and Annual Premiums	£900	1,166	1,332	1,428	1,559
Policies Existing at End of Year—					
Sum Insured	£900	171,580	243,132	283,526	320,293
Annual Premiums	£900	1,882	1,957	2,107	2,235
Bonus Additions	£900	12,472	11,700	13,031	13,728

General Insurance

General insurance is available in the police 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 1964, there were 143 companies operating in Western Australia. Of this number, 100 were "loyalty" offices, being members of the Fire and Accident Underwriters' Association and issuing the standard policies of the Association at uniform premium rates. The remaining 43 were "non-loyalty" companies effecting insurance 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 departments and non-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 1939-40 to 1963-64. 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 premiums because" 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 first table on page 226. 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	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
REVENUE					
Premiums—					
Motor Vehicles	2,638	3,161	3,204	3,559	4,091
Fire	2,181	2,272	2,354	2,468	2,594
Workers' Compensation	2,300	2,517	2,844	2,963	3,054
Personal Accident	1,889	2,047	2,044	2,086	2,119
Maritime	631	603	620	555	445
Other Classes	448	489	512	574	691
	1,960	1,728	1,671	1,571	1,738
Total Premiums	9,977	10,004	11,457	12,881	14,142
Other (Interest, Dividends, Rents, etc.)	771	342	438	427	437
Total—Revenue	10,747	11,346	11,895	13,308	14,579
EXPENDITURE					
Claims—					
Motor Vehicles	1,097	2,266	2,217	2,460	2,704
Fire	530	584	742	855	910
Workers' Compensation	1,848	2,060	2,109	2,229	2,316
Personal Accident	587	591	527	509	511
Maritime	302	192	44	180	184
Other Classes	126	285	230	304	280
	546	553	409	471	552
Total Claims	5,315	6,184	6,127	7,161	7,911
Other—					
Management Expenses	2,044	2,201	2,462	2,640	2,793
Commission and Agents' Charges	941	956	1,034	1,114	1,160
Taxation	306	214	309	268	219
Contributions to Fire Brigades	224	289	309	323	340
Total Expenditure	9,888	10,164	10,285	11,415	12,516

(a) Excludes transactions of The Motor Vehicle Insurance Trust (see table on page 226). Grants-in-aid of the State Government Insurance Office are included.

Motor Vehicle Third Party Insurance

Third party liability in connection with motor vehicle accidents became compulsory on the 1st July, 1951 under the provisions of the Motor Vehicle (Third Party Insurance) Act of 1942. 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 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.

MOTOR VEHICLE INSURANCE TRUST

Revenue and Expenditure	Pool (£) for the Year—				
	1959-60	1960-61	1961-62	1962-63	1963-64
Revenue—					
Net Premiums	£ 896,224	£ 955,200	£ 1,054,778	£ 1,379,808	£ 1,387,845
Interest Received	66,729	91,354	88,985	75,771	35,725
Total Revenue	872,953	1,046,554	1,143,763	1,455,579	1,423,570
Expenditure—					
Claims Paid (a)	1,038,042	1,071,068	1,385,305	1,552,534	1,451,130
Commission	6,444	6,904	7,307	6,114	10,641
Management Expenses	31,325	44,003	46,787	48,881	47,619
Taxation	1,711	1,909	2,810	2,000	2,508
Total Expenditure	1,077,522	1,123,984	1,442,209	1,609,529	1,511,908

(a) See accompanying statement Motor Vehicle Third Party Insurance.

(a) Including estimated outgoings.

Health Insurance Organizations

Voluntary health insurance is offered by a number of organizations 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 organizations registered under the National Health Act 1953-1964 (Commonwealth).

Benefits are available in a wide range to meet the need, 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, radiography 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 organization. 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 table gives details for the years 1959-60 to 1963-64 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

Particulars	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Number of					
Registered Societies	11	12	12	14	1
Branches	261	261	262	277	260
Members at end of Year—					
Benefit Members (a)	19,154	18,480	17,898	17,463	17,120
Honorary Members (a)	23,703	24,773	25,367	25,908	25,307
Non-Benefit Members					
Number of Members Paid	2,894	3,172	3,042	3,024	2,714
Number of Weeks of Sick Pay	57,540	57,140	55,742	55,274	57,100
Revenue—					
From Contributions and Levies	£ 629,088	£ 616,532	£ 641,751	£ 671,595	£ 711,207
Interest and Profit	16,232	28,292	30,268	30,163	66,469
Other	12,173	32,489	71,062	23,272	55,027
Total	657,493	677,313	743,081	725,030	832,703
Expenditure—					
Sick Pay	15,000	21,763	23,443	22,900	21,347
Medical Attendance and Medicines	440,541	518,948	541,772	671,101	606,194
Death Benefits	16,842	19,327	21,432	18,170	18,941
Administration	58,123	60,673	63,168	55,272	67,922
Other	22,490	37,470	48,388	61,007	56,006
Total	652,996	660,181	718,203	726,450	770,410
Balance of Funds at end of Year	1,474,610	1,520,431	1,517,277	1,466,111	1,601,311

(a) "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.

BUILDING SOCIETIES

Building societies in Western Australia are regulated under the provisions of the Building Societies Act, 1926-1962 primarily for the purpose of raising funds to assist members by granting loans, secured on mortgage, to build or secure houses. They also provide a means of investment for shareholder members, trustee lands 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. (Reference is made to this Agreement in Chapter V—Social Conditions.) A requirement of the Act 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 is continued for a period of five years from the 1st July, 1961 in terms of the Housing Agreement Act 1961 (Commonwealth).

The Building Societies Act Amendment Act of 1961 created an office of Registrar of Building Societies separate from that of Registrar of Friendly Societies. By its provisions there is constituted a Building Societies Advisory Committee of five members, comprising the Registrar as chairman, the President of the State Branch of the Commonwealth Institute of Valuers, an officer of the State Public Service, and two persons experienced in building society management.

The following table shows details of the activities of societies operative during the years 1959-60 to 1963-64. Not all bodies registered under the Building Societies Act are included, since some societies which became registered in anticipation of assistance from Commonwealth/State funds have not commenced operating, having failed to receive an allocation of money from the source.

BUILDING SOCIETIES

Particulars	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
Number of societies	29	10	24	39	79
Members	27,702	25,819	25,482	25,320	11,017
Deposits	3,481	7,295	7,902	5,114	11,365
Members' Deposits and Share Subscriptions	2,684,826	2,005,915	2,125,260	2,897,745	1,914,542
Repayment of Mortgage Advances	673,619	1,006,181	1,246,302	1,437,965	1,926,762
Interest on Mortgage Advances	494,551	611,955	735,350	865,034	1,128,994
Commonwealth Housing Advances	251,797	551,446	885,294	1,356,160	1,101,696
Mortgage Advances granted to members	2,702,921	2,895,766	3,172,739	3,405,769	3,033,034
Working Expenses	87,335	91,697	105,795	305,267	745,038
Assets at end of Year	9,194,246	11,005,763	11,126,439	10,478,020	20,852,607

BANKRUPTCY

Under the provisions of the Bankruptcy Act 1924-1960 (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 of 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 realization 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.

Concessions, schemes of arrangement and deeds of assignment are provided for in Part XI, and deeds of arrangement in Part XII, of the Act. A debtor may call a meeting of his creditors and when compounded with them to pay a certain sum in full or full settlement of his debts or enter into a scheme 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 1959-60 to 1963-64.

BANKRUPTCY PROCEEDINGS

Particulars	Financial Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
<i>Sequestration Orders (a) :-</i>					
On Creditors' Petitions	24	27	16	14	15
On Debtors' Petitions (a)	45	130	121	157	171
<i>Assets</i>	<i>£</i>	<i>£</i>	<i>£</i>	<i>£</i>	<i>£</i>
<i>Liabilities</i>	132,130	21,792	90,253	76,525	57,812
	879,369	256,182	308,944	271,114	323,017
<i>Compositions, Assignments and Orders of Arrangement:-</i>					
Number (A)	50	72	97	70	20
<i>Assets</i>	<i>£</i>	<i>£</i>	<i>£</i>	<i>£</i>	<i>£</i>
<i>Liabilities</i>	222,917	246,569	404,106	993,849	196,894
	281,047	293,490	573,588	929,294	270,400

(a) Includes orders for administration of deceased debtors' estates.

(A) Includes petitions by legal personal representatives of deceased debtors.

CHAPTER VII

LAND TENURE AND SETTLEMENT, WATER CONSERVATION AND SUPPLY

PART I—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 (1964-65)* and reference is made to the main developments in the *Chronological Notes from 1829* in Chapter I of the present issue.

The growth of land settlement in relation to particular agricultural and pastoral activities is dealt with in the relevant sections of Chapter VIII, in the *Chronological Notes* and in the *Statistical Summary from 1829* appearing after Chapter X.

LEGISLATION AND ADMINISTRATION

By the Land Act of 1886, 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 acquisition 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, 1886 and the Agricultural Lands Purchase Act, 1909. The Land Act, 1933-1963 is now the basic statute controlling the leasing and disposal of Crown land. Crown settlement legislation relates predominantly to schemes for the benefit of returned war service personnel. Crown land is also leased under the Mining Act, 1904-1964, the Petroleum Act, 1936-1964 and the Forests Act, 1918-1964, but no alienations are made under these Acts. In most freehold or leasehold titles of a residential, agricultural or pastoral nature the mineral 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. It incorporates the Surveyor General's Division and the Land Settlement Branch 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, the Land Settlement Board which is concerned with Crown settlement areas, and the Pastoral Appointments Board. The Pastoral Appointments Board is constituted under the provisions of the Land Act Amendment Act, 1963 which came into operation on the 10th January, 1964. The Act abolishes the former Board of Appraisers. The Pastoral Appointments Board consists of the Surveyor General as chairman, the Director of Agriculture and two members appointed by the Governor.

Permits and leases for mining purposes are issued by the Department of Mines and Energy for forestry and timber milling by the Forests Department.

METHODS OF LAND ALIENATION

The principal methods of alienation provided for in the Land Act, 1933-1963 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.

Conditional Purchase

Titles secured by this method originally take the form of conditional purchase leases, on the basis of the conclusion of which Crown grants may be obtained. The Act provides that a person shall not be competent to acquire, either as lease or transferee, an area of land exceeding in the aggregate 3,000 acres, but on the recommendation of the Minister and with the approval of the Governor, it shall be competent

for a person to acquire an area of land in one or more parcels exceeding 5,000 acres, but not in any event exceeding 15,000 acres, in any case where the Minister is satisfied that a holding requires an area greater than 5,000 acres in order to be of a standard deemed by the Minister an economic farm unit. The Governor may reduce the maximum area that may be acquired in prescribed localities. The minimum purchase price of land acquired by conditional purchase is two shillings per acre and the purchaser must pay the costs of survey as well as the value of any improvements effected on the Government land. In addition, he must fence at least one half of the land within the first five years of the conditional purchase lease and the whole of it within the first 10 years. Expenditure on prescribed improvements is required to total at least one fifth of the purchase money during each of the first 10 years and, if the Minister so directs, an adequate water supply must be provided within the first ten years.

The mortgages provided against the completion of purchase under an ordinary conditional purchase lease run from 25 to 30 years, with a possible extension of 10 years in certain cases. There is, however, provision for conditional purchase by means of accelerated payments under which a 10 per cent. deposit is lodged and the balance of the purchase price paid in four quarterly instalments. The improvement conditions for accelerated payment leases require that the land shall be fenced within three years of the commencement of the lease and that improvements, equal in value to the purchase money, shall be effected within seven years. Unless the ordinary conditional purchase lease, which could be converted to a Crown grant until the expiry of at least five years from the date of commencement, an accelerated payments type of lease can be converted to a Crown grant at any time after the conditions have been met. Residential conditions, requiring that the lessee or a near relative shall reside on the property for at least six months in each of the first five years, attach to ordinary conditional purchase leases but are not obligatory under accelerated-payment leases. Restrictions on transfer are imposed in each case.

Sale by Public Auction

The general conditions governing the sale to the public by auction of land or rights therein laid out in Part IV of the *Land Act*. Land may be offered for sale by order of the Governor or by licence and notice as he may think fit, and notice of forthcoming sale must be published in the *Government Gazette* and in a newspaper. Ten per cent. of the purchase money must be paid at the time of the sale and the balance in four equal quarterly instalments. The purchaser may be required to fence the land on the same day or within two years after the sale. Town or suburban land acquired at auction by instalment purchase is regarded as being held on licence until general requirements such as fencing and other prescribed improvements have been met, after which a grant in fee simple may be issued. In some instances special additional conditions may be imposed. In certain circumstances the Minister may dispense with the requirements as to sale of town and suburban lands by public auction and may approve of any such lands being offered for sale in fee simple or for leasing.

Sale by Private Tender

Sales by private tender, which are also called negotiated cash sales, are comparatively rare and usually relate to unclaimed War Service Land Settlement claims and to areas set apart as special settlement lands.

Endowment of land and reservation for public purposes

Few disposals of Crown land by way of endowment or free grant are now made. However, 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. Crown land is frequently reserved by order of the Governor for a variety of public purposes, and where reservation is ultimately required for certain of such purposes the necessary land is granted in fee simple or trust for the purpose of the reserve. Grounds for reservation include:—the general requirements of the Government (e.g., public works and buildings); conservation of water, timber and indigenous flora and fauna; housing; public health and social welfare; the benefit of the aboriginal inhabitants; local government needs for such purposes as the provision of town halls and other buildings, public utilities, social amenities, sports grounds and racecourses; sites for churches, hospitals and other institutions; sites for clubs and club premises; mining and quarrying purposes; public parks; and the provision of camping and watering places for travellers and stock. Reserves may be of class "A", which by proclamation of the Governor are reservations that must remain dedicated to the purpose declared in their proclamation until by Act of Parliament it is otherwise enacted, or classes "B" and "C",

which are removable by the Governor on notice in the *Government Gazette*. In the case of class "B", however, the Land Act provides that in the event of cancellation, a special report by the Minister shall be presented to Parliament setting forth the reasons for such cancellation and the purpose to which it is intended to devote the land. Common uses of class "A" reserves are for public recreation or amusement and for major public buildings. All reserves under Part III of the Act that are not proclaimed as class "A" are classified as either "B" or "C".

The Land Act provides that, when any reserve is not immediately required for the purpose for which it was made, the Governor may grant a lease for a period not exceeding 10 years at such rents and subject to such conditions as he may think fit. Land reserved for parks or recreation grounds may be leased for the depasturing of stock even though the land is being used for the purpose for which it is reserved.

Other methods of alienation comprise mainly reservations of land for housing projects. Individual exceptions apply to some (single) sites subject to certain conditions. Otherwise the land remains under Crown lease.

State Forests and Timber Reserves

In addition to the foregoing types of alienation, special provision is made in the Forests Act, 1918 (1964, for the purpose, by Order in Council, to designate Crown land as a State Forest or to reserve Crown land as a Timber Reserve. While the constitution of a Forest Reserve may be revoked in whole or in part by the Governor in Council, the declaration of a State Forest may not be revoked except with the consent of both Houses of Parliament. The use of such Forests and Reserves comes within the administrative control of the Commissioner of Forests.

METHODS OF LEASING

Since different land-owning bodies made in the work of the Department of Lands and Surveys, the Department of Mines and the Forestry Department in granting leases of Crown lands in Western Australia. The activities of each Department in this field are now described in greater detail.

Department of Lands and Surveys

Approximately 46 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 servicemen under the War Service Land Settlement Act.

Pastoral Leases. The Land Act, 1933 (1965) provides that the maximum area which may be held under pastoral lease by one person, or by an association of persons, is one million acres, and that no person may become beneficially interested in areas of pastoral land which in aggregate exceed that area. Where an area of pastoral land is worked in association with another area as one separate and distinct station, the maximum area which may be so worked is one million acres. The minimum requirement for the grant of a pastoral lease is that the land shall, in the opinion of the Pastoral Appraisement Board, be capable when fully developed of carrying not less than 4,000 sheep or not less than 1,200 head of cattle.

Pastoral leases are granted for a term expiring on the 30th June, 2015. Before the operation of the Land Act Amendment Act, 1963 all pastoral leases were due to expire on the 31st December, 1962. The amending legislation, effective from the 1st January, 1964, enabled the holder of a lease to be granted a new lease, on application made within a specified period, for a term expiring on the 30th June, 2015.

The annual rent payable in respect of a pastoral lease is determined by the Minister for Lands acting on the advice of the Pastoral Appraisement Board. Rents are subject to reassessment at intervals of ten years. A lease may, at any time not less than five years nor more than six years after the date on which a reassessment of rent became effective, apply to the Minister to have the rent reviewed by the Board. Provision is made for total or partial relief from payment of rent in respect of any year during which, by drought, cyclone or flood, a lessee suffers serious loss of stock or wool production or adversely affected.

The holder of a pastoral lease is required to effect improvements of a specified nature and in accordance with a plan approved by the Minister on the advice of the Board. The amount spent on improvements each year must be at least two and a half times the annual rent, and expenditure at that rate must continue until the improvements proposed in the plan have been carried out. A lease is liable to forfeiture if the land is not stocked or kept stocked with such number of sheep or cattle, or both sheep and cattle, as the Board considers appropriate having regard to circumstances such as seasonal conditions affecting the land and the period since the non-management of the lease. Other conditions attaching to pastoral leases provide safeguards against the deterioration of land due to extensive grazing and to the abandonment of stock-braking of trees.

Special Leases.—Section 116 of the Land Act provides a variety of industrial and other purposes for which the Governor may grant special leases of Crown land. The yearly rental must be not less than £2 and the period of the lease must not exceed 21 years. It is further provided that, in all cases where the standard period of leasing exceeds 10 years, prior notice must be inserted in the *Gazette* of the lease.

Leases of Recreation.—As stated earlier in this chapter in the section *Methods of Land Allocation* the Governor may grant a lease of any reserved land which is not immediately required for the purpose intended at the time of reservation, but the period of the lease may not exceed 10 years. By a further provision of the Land Act, no lease for a term exceeding one year shall be granted unless applications are called by notice in the Government Gazette. With the consent of the Governor, such land may be sub-leased. When land is reserved for parks or for recreation or amusement, if the land is not planned under the control or management of any person the Governor may, even though the land is being used for the purpose for which it is reserved, grant a lease or licence for one year for the purpose of depositing stock. The Governor may insert in the lease or licence such conditions as he may think fit to ensure that the land is available for the purpose for which it is reserved and he may renew any lease or licence for a further period of one year.

Leases of Residential Lots.—The Governor may lease any town or suburban lands on such terms as he may think fit. The usual procedure is to offer a lease at public auction. Unless otherwise specified, any lessee of town or suburban lands acquired at public auction may apply to purchase the fee simple of the land. Provision is also made for approval of any town or suburban lands being offered for leasing during a period not normally exceeding 99 years, as directed from public auction. These leases are not convertible to feehold.

Perpetual Leases are authorized under the *W.A. Survey Land Settlement* legislation, which provides that ex-servicemen who have been allotted farms under the joint Commonwealth-State scheme and who meet the requirements of the appropriate agreement may enjoy perpetual leases. The lessee, on payment of such purchase price for the fee simple as is fixed by the Minister, may obtain the freehold of the property after the expiration of 10 years from the commencement of the term of the perpetual lease or after such shorter period as the Commonwealth and the State have determined or may determine where special circumstances exist.

Department of Mines

Under the provisions of the Mining Act, 1901-1964, 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 royalty provisions were extended by an amendment of the Act in 1957 to embrace most minerals and provisions as such are set forth in the *Gazette* of the 20th May, 1958. 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, 1935-1954, with authority to charge fees, rents and royalties.

Gold mining Leases.—As well as conveying a right to mine for gold to any depth, a gold mining lease permits the construction of all necessary buildings and plant within the area which it defines. Where, in the opinion of the Minister, land is likely to contain alluvial gold, it is normally exempted from lease. However, a lease may be granted if the Minister is satisfied that the land, having already been worked for alluvial gold, has been abandoned or that there is sufficient reason for waiving the exemption. In such cases the lease may range in area up to 48 acres. In all other instances the maximum area is 24 acres. Leases must, where practicable, be rectangular with a length not exceeding twice the width.

The term of any gold-mining lease shall not exceed 21 years, but shall have a right of renewal for a further 21 years, and the conditions provide that for the first year it must be worked by at least two men and for the remainder of its term by at least two men, or one man for every six acres, whichever is the greater. Subject to certain adjustments of these labour conditions, a person may hold two or more leases as an amalgamated group, provided that the group does not total more than 26 acres and that the length along the line of reef or lode does not exceed 60 chains. The Minister has discretion, in certain circumstances, to permit the amalgamation of leases which would result in an aggregate area exceeding 26 acres but the length of reef or lode may still not exceed 60 chains. A rent of 5s. per acre is charged during the first year and £1 per acre during the following years. The grant of a gold-mining lease conveys an exclusive right to mine for gold or other minerals within the bounds of the lease, but excludes rights in respect to petroleum.

Mineral Leases.—Mineral leases authorize the holder to mine for a specified mineral or combination of minerals to any depth within the confines of the lease and convey the same mining rights as a gold mining lease. The term of any mineral lease shall not exceed 21 years, but shall have a right of renewal for a further 21 years. Except under special conditions, including the payment of royalty, as set out in the Act, and held under a mineral lease may not be mined for gold. Land which is proved to the satisfaction of the Registrar to consist of peatland situated adjacent to or near a swampy or boggy tract of land has already been worked or allowed to grow and has been abandoned, or the Minister is satisfied that there is sufficient reason for waiving the exemption, leases may be granted for areas not exceeding individually 50 acres. In all other cases mineral leases may not exceed 500 acres and, where practicable, shall be rectangular of a length not exceeding twice the width. The lessee conditions people that a mineral lease shall be held by at least five men for the first twelve months and thereafter by at least one man for every 50 acres or fraction thereof, with a minimum of two men. An annual rent of 2s. per acre is charged. Leases may, by application to the Registrar, be amalgamated but the total area may not exceed 500 acres.

Coal Mining Leases.—Individual leases for coal mining have a maximum area of 100 acres. The term of any coal-mining lease shall not exceed 21 years, but shall have a right of renewal for a further 21 years. Every year must be effectively worked during the first twelve months by at least one man, during the next twelve months by at least two men and during each succeeding year of the lease by at least three men for every 50 acres or part thereof contained in the lease. The yearly rent of coal-mining leases is 4s. per acre and a royalty of threepence per ton is payable on all coal raised during the first 10 years of the lease, rising to sixpence per ton during the remainder of the term. The Mining Act, 1964-1966 provides for certain specially regulated districts designated coal deposits, where the Mining Regulations contain special provisions regarding development of the deposits in the Coler district, the only area where coal is being mined in the State.

Other Mining Tenements

Washing Leases.—An area not exceeding 100 acres may be applied for as a district lease, but the length must not exceed twelve months. The rent for a district lease is calculated at the rate of 2s. 6d. per annum per acre. Working conditions require that not less than three men shall be continuously employed for every 100 acres or fraction thereof.

Dredging Claims.—Application may be made for dredging claims for gold or minerals in lakes, creeks, marshes, or rivers and the land adjacent thereto, or on the foreshore of, and near and under the sea. The maximum area of a dredging claim shall not exceed 100 acres. Except in the case of river claims, which shall be so restricted by width, the maximum width of right banks to the bank or shore edge shall not be less than 15 chains. A river claim shall not exceed six miles in length. Working conditions require that not less than three men shall be continuously employed on the claim and, in addition, machinery of not less value than £1,000 shall be continuously employed.

Temporary Reserves.—To encourage mining, provision is made for the creation of Temporary Reserves of Crown land by the Registrar, and an Authority to occupy such reserves for the purpose of searching for gold or other minerals may be granted. In the case of gold, these Temporary Reserves may not exceed 200 acres except for deep alluvium, when there is no restriction as to the area. Temporary Reserves for all other minerals are not restricted as to area. In the event of any mineral being found by the occupier of a Temporary Reserve, he is required to acquire mineral mining tenements before he can commence production mining.

Miner's Homestead Leases.—A miner who is not less than 18 years of age and is resident on a goldfield or mineral land or any incorporated company, may apply for a homestead lease of Crown land within the field. In appropriate circumstances a miner may hold more than one such lease, but the aggregate area may not exceed 20 acres within two miles of the nearest boundary of a townsite or suburban area, or 500 acres elsewhere. However, upon the return of a lease may be succeeded by the applicant by transfer of land comprised in a Miner's Homestead Lease which has been in existence for a period exceeding 10 years. During the first 20 years of the lease an annual rent of 2s. per acre is charged where the total area does not exceed 20 acres and for larger areas the annual rental is sixpence per acre. After 20 years the rent is 1s. per annum if demanded. Basic improvements must be made by the lessee within the first six months and the land must be fenced to its boundaries within three years after survey of the lease. Improvements to the value of 10s. per acre must be made within the first five years following survey.

Tenures under Special Acts—Because of the amount of attention devoted to large scale development of uranium and iron ore deposits the Government has made special arrangements with various companies for the working of such deposits. The agreements have been ratified by Acts of Parliament which confer mineral rights but also require the companies to carry out large scale development and pay royalties to the Government. References to these agreements will be found on pages 104, 106 and 110 of *By and For Book of Western Australia, 1964-1965* and in the session *Legislation during 1964 and 1965* in Chapter 111 of this year.

Tenures under provisions of the Petroleum Act, 1939-1964—Exploration petroleum search rights over an area of not less than 1,000 square miles may be granted in the form of a Permit to Explore which is valid for two years with further annual renewals at the discretion of the Minister for Mines. A fee of £100 is payable on application for a Permit and where it is granted the successful applicant is required to lodge with the Under Secretary for Mines a bond of £1,000. It is further provided that a geologist must be engaged, that drilling be confined to "test" drilling and have the Minister's approval, and that the Minister be supplied at regular intervals with full information concerning operations.

Any holder of a Permit to Explore may apply for a Licence to Prospect within a defined portion of the area covered by the Permit. A Licence to Prospect cannot extend over more than 200 acres and may cover eight square miles and the licensee must put up a bond of not less than £1,000. The Licence is valid for two years and the Minister may grant three successive renewals for further periods of one year each. For an annual fee, based on the rate of 1s per square mile during the first year of the licence (maximum fee, £12 10s.) and on the percentage made in subsequent years (maximum annual fee, £35), the licensee has the exclusive right to prospect for petroleum within the specified area. Drilling arrangements require the approval of the Minister and operating information must be supplied to him at regular intervals.

A holder of a Licence to Prospect may, upon discovering petroleum within his area, select as a Petroleum Lease or Leases so much of his licence area as he requires if the licence was granted on or before the 1st January, 1955 or select not more than half the land if his licence was granted after that date. The balance of the area contained in the Licence to Prospect reverts to the Crown and may be disposed of upon such terms and conditions as the Governor may determine, subject to the holder of the Licence to Prospect being granted first right of acquisition upon those terms and conditions. A bond of £1,000 must be lodged with the Under Secretary for Mines when the lease is granted.

The area of a Petroleum Lease must not be greater than 100 square miles nor, unless approved by the Minister, less than four square miles. Initially, the term is for 21 years and there is an option of renewal for any further period during which petroleum in payable quantities is produced. A rental of £10 per annum is charged for every square mile or portion of a square mile comprising the lease. The Act provides for the fixing of the rate of petroleum royalty when a lease is granted.

Incidental mining tenures—The leases and licences detailed above are those which are fundamental to mining development but there are several additional tenures which are issued in order to assist the processes of mineral extraction and treatment. These incidental tenures include rights to operate tramways, to remove and convey water, and to store machinery.

Forests Department

While not designated as mining, certain of the tenures issued under the Forests Act, 1914-1964, such as Sawmilling Permits and Mill Site Permits, are similar in effect.

Sawmilling Permits—A Sawmilling Permit entitles the holder to saw cutting rights in respect of certain classes of timber within a defined area and for a specified period. The cutting programme to be followed by the permit holder must be of such a nature that the forest resources of the area are used to the best advantage and that provision is made for forest regeneration. In consequence, cutting within the permit area is controlled by the Forests Department under a system of defined "camps", each of which is cut over and closed up again. Each sawmilling permit holder is required to lay out the logs to the mill at a prescribed rate, and to supply the Forests Department with details of the logs taken and the timber cut therefrom.

Sawmilling permits are of major importance because of the capital outlay involved and the area is usually selected so as to give a cutting life of about 30 years. However, the usual practice is to grant the permits for a term of one year, subject to annual renewals. The royalty payable is determined by the sale of cutting rights by auction or by tender, the minimum royalty having first been established by the Forests Department.

Sawmill Site Permits.—It is obligatory upon all holders of Sawmilling Permits to erect an efficient sawmill within a short period after the granting of the permit. The sawmill may be erected outside the sawmilling permit area. If, however, a mill is to be established on Crown land, a Sawmill Site Permit must first be obtained. An area not exceeding 50 acres may be leased to the sawmilling permit holder by the Conservator of Forests for this purpose and the annual rental is £3 for every 10 acres or part thereof. The holder of a Sawmill Site Permit is responsible for the buildings erected and must, if required, submit plans of all such buildings to the Conservator of Forests for his approval.

Other leases, licences and permits.—A number of other leases, licences and permits are issued by the Forests Department, one of which, the Forest Produce Licence, authorizes the licensee to collect various types of forest products other than millable timber. Important examples of this form of licence are those granted on the goldfields and in the wheat belt for the cutting of mining and burn timber and firewood and there are special regulations controlling the collection of sandalwood. Provided forestry interests are not prejudiced, the Department also issues Forest Leases, which enable grazing, agricultural or similar rights over forest areas for any term not exceeding 50 years.

Permits involving lesser areas provide residential sites for workmen employed in timber production, and business sites for establishments meeting the normal needs of sawmilling communities. They are issued over small areas of State Forests, usually within sawmilling permit areas, and are granted on a yearly basis at a rental of £3 per annum. Permits are also granted for apiary sites of an area not exceeding three acres. They are issued to persons who are actively engaged in bee-keeping and who have at least 25 hives of bees in the State. A permit may not be issued for an apiary site on Crown land if it is within two miles of a site already granted to another apiarist, and not more than four permits may be held for every 50 hives of bees owned.

LAND CLASSIFICATION

Large-scale as well as detailed land classification measures have been developed progressively in Western Australia, the basic data being the reports made by surveyors when traversing and mapping new tracts of land. From the early years of land settlement, the staff surveyors of the Department of Lands and Surveys have commented generally on the nature of the country in which they were working and a practical guide to land utilization prospects has been obtained. By such methods the settlement potentialities of the State's area of 975,928 square miles first became approximately known, and the Surveyor General has estimated that about 11 per cent. of the total area is represented by agricultural areas, 52 per cent. by pastoral areas and the remaining 37 per cent. by practically unoccupied areas of the interior.

In the agricultural and the pastoral areas, detailed classifications have been facilitated by the comments of surveyors when dealing with individual blocks and, although frequent use is now made of soil analyses, surveyors' reports are still the basis for classifying suitable or feasible Crown land as First, Second or Third Class. The classification system dates back to 1909 and is used primarily to put a price on land but another important function is to ensure, as far as possible, that newly-selected farms are of sufficient size, with adequate amounts of suitable soil, to make an economic unit. Not only are soils classified, but the positions of rivers, creeks, swamps, hills and valleys are taken into account. When assessing the economic prospects of an area it is consequently possible to make allowance for types of soil, the adequacy of water supplies, the proximity of roads and railways and the costs of development. In arriving at an equitable price, all these factors are considered.

In addition to this general method of classifying land for agricultural or pastoral purposes, a considerable area of forest country has been classified by ground survey and by aerial photography and the Department of Mines carries out a continuous geological survey. Substantial use is also made of aerial photography and photographic and photogrammetric methods by the Mapping Branch of the Department of Lands and Surveys.

OCCUPATION OF LAND

The following table shows, for a selection of years during the period from 1906 to 1954, 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 1906, 1916 and 1925 the basis of classification according to Department has been much in conformity to current practice in the State at those and later years. For example, forests 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.

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 sold under lease or licence, increased threefold between 1900 and 1920 and continue to cover 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, 1936-1964 and in temporary reserves under the Mining Act, 1934-1964. At the 30th June, 1964 there were currently, under the Petroleum Act, permits to explore covering 796,875 square miles and licences to prospect covering 8,433 square miles. The area relating to permits appearing under the heading of Forestry Department shows a general increase from less than one million acres in 1900 to more than four million acres in 1964.

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 mentioned in the following section *Government Land Settlement Schemes*. The area conditionally alienated in any one year reached a post war peak of 1,707,894 acres in 1955. During the next decade the area fluctuated between 105,874 acres in 1956 and 1,234,516 acres in 1962, and in 1964 it was 919,867 acres.

The following table gives details of areas of land for which applications were approved, during each of the years 1955 to 1964, 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)**

Year	Conditional Alienation				Total	Leases and Licences			Total
	Conditional Purchase	Settlement under Part VIII of Land Act	Town and Suburban Lots	Mineral Reserves (b)		Pastoral Leases and Licences	Special Leases	Miscellaneous Leases (c)	
	in acres	acres	acres	acres	acres	acres	in acres	in acres	acres
1955	794,549	11,677	657	410	811,114	3,491,745	139,827	41,707	3,672,279
1956	794,053	260	224	1,311	795,648	1,225,487	112,117	294,369	1,632,063
1957	802,926	227	269	1,319	804,731	1,218,047	346,254	224,329	1,788,630
1958	796,985	1,305	225	4,051	802,566	1,175,393	646,222	182,719	1,904,334
1959	916,440	2,119	611	1,266	919,436	1,024,656	1,097,282	276,616	2,398,554
1960	712,410	1,779	286	678	714,153	4,284,028	612,046	251,161	4,947,235
1961	1,017,800	799	281	1,580	1,020,260	6,136,672	111,968	156,082	6,404,722
1962	1,209,894	4,578	449	1,052	1,215,913	12,467,476	275,065	725,546	13,468,087
1963	1,181,247	766	672	1,028	1,183,693	1,846,176	1,155,264	119,182	3,071,622
1964	919,867	2,202	1,740	26,276	929,085	916,411	174,073	120,065	1,210,549

(a) See, however, immediately preceding table. (b) Comprises Free Homestead Farms and Reserves. (c) Comprises perpetual leases, leases of reserves and leases of town and suburban lots.

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.

Soldiers' Settlement Scheme

The Soldiers' Settlement Scheme was introduced after the first World War and was financed partly by the United Kingdom Government, which arranged the passages for ex service personnel and their families, and partly by the Commonwealth and State Governments of Australia. Under joint financial

responsibility for the scheme the Commonwealth Government was to provide loan moneys at a average of £500 per settler as working capital for such assistance as to be required for implements and seed. Later this was increased to £625 and a further average loan of £375 towards the cost of land brought the Commonwealth commitment to £1,000 per settler. The State Agricultural Bank provided all extra funds for operations in Western Australia.

By 1940, when operations under the scheme virtually came to an end, 1,212 soldier settlers had been assisted in Western Australia and provinces totalling 16,217,665 had been made. The ultimate cost of the scheme was greater than had been anticipated and the extension of settlement, which was one of its purposes, was frustrated to some degree by the war caused disabilities of the settlers. Much of the land taken up eventually either reverted to the Crown or was acquired by other settlers.

Group Settlement Scheme

The Group Settlement Scheme was introduced in 1921, but no major development resulted from the passage of the Empire Settlement Act of 1922 by the British Parliament. The main purpose of the Act was to reduce the considerable degree of unemployment prevailing in Britain and to expedite land settlement in the Dominions. Agreements were subsequently negotiated between the Governments concerned and in the case of the Western Australian scheme it was agreed to establish 6,000 holdings in various "Groups" in the south western portion of the State, with the farmers on each "Group" forming a homestead community. The settlers were to be assisted British immigrants and dairying and pig raising were to be the main activities. As in the Soldier Settlement Scheme, the responsibility involved was shared by the British, Commonwealth, and State Governments.

The scheme did not develop to the extent originally planned, the maximum number of holdings settled at any one time being 2,442. By amalgamation of properties and abandonments this number became reduced to 1,766 and in 1941, just over twenty years after the scheme was launched, 516 of the holdings were unoccupied and available for resettlement while little more than one-quarter of the 500,000 acres initially taken up had been brought into production. Nevertheless, the scheme had an important influence on the settlement and development of several parts of the extreme south western portion of the State.

War Service Land Settlement Scheme

Proposals for a scheme to settle discharged members of the Forces in the land were agreed to at a conference of Commonwealth and State Ministers held at Canberra in August, 1945. Legislative authority for the scheme was later given by the War Service Land Settlement Agreements Act 1945 (Commonwealth) and the War Service Land Settlement Agreements Act, 1945 (State). Commonwealth moneys have been made available by means of a series of Loans (War Service Land Settlement) Acts and the States Grants (War Service Land Settlement) Act 1952-1953 (Commonwealth). State Government funds have been allocated by annual parliamentary appropriation. In terms of the Agreement Acts, the Commonwealth assumed responsibility for policy decisions and the power of supervision of the Scheme. The State Government was required to meet the cost of State administration of the Scheme and to make a capital contribution in respect of each holding equal to two-fifths of the costs of the total cost involved in acquiring, developing and improving the holding over the cost of the valuations of land and improvements. The Commonwealth Government agreed to meet other costs of the Scheme, as detailed in the final paragraph of this section.

Those included are ex-members of the Forces who served in the second World War, the Korean War and the operations in Malaya. Grubstake and technical advice are made available to settlers through the extension services of the Department of Agriculture.

In the early years of the Scheme, certain privately owned properties were purchased for resettlement, but suitable areas of Crown land were later acquired and developed. Land claims were closely examined as to accessibility, climate, types of soils, water supply, possibilities of fertility, and the possibilities of development, improvement and subdivision. In order to provide, as far as possible, the assurance of such industrial venture, care was taken to assess the suitability of both the applicant and the land selected for the type of farming contemplated. The policy was to prepare the holdings by clearing, fencing and other improvements before occupation by applicants.

Although freehold was originally available only on perpetual lease, legislation passed by the State Parliament in 1951 enabled War Service Land Settlement lessees to purchase the free title in the land after having held the lease for not less than 10 years. By a provision of the War Service Land Settlement Scheme Act Amendment Act, 1960 freehold can now be obtained after such shorter period than 10 years.

as the Commonwealth and the State have determined or may determine where special circumstances exist.

The main developmental work, both in project areas and on repurchased estates, has been completed. The final allotment of farms in Western Australia was made in October, 1962, and when the last ex-servicemen to be assisted under the Scheme entered into occupation early in 1963 the total number of farms accepted and occupied by ex-servicemen in this State was 1,280.

Commonwealth Government expenditure on the Scheme in Western Australia to the 30th June, 1964 amounted to £48.6 million, comprising provision of credit facilities to settlers, £22.4 million; development and improvement of land, £19.7 million; acquisition of land, £3.55 million; contribution of three-fifths of the excess cost of land and improvements over valuation, £9.86 million; cost of administration of credit facilities, 0.84 million; remission of settlers' rent and interest, £6.63 million; living allowances to settlers during the assistance period, 90.48 million; losses on advances, £6.14 million; and operation and maintenance of vacated holdings, £0.016 million. Up to the 30th June, 1964 the State Government, in addition to meeting administrative and other costs associated with the Scheme, had spent £0.57 million, representing two-fifths of the excess of the total cost involved in the acquisition, development and improvement of holdings over the sum of the valuations of land and improvements.

Commonwealth Government receipts in connection with the Scheme in Western Australia up to the 30th June, 1964 aggregated £24.2 million, comprising principal repaid by settlers, £16.3 million; receipts from sale of structural improvements, £3.75 million; rent paid by settlers, £1.54 million; interest paid by settlers, £1.40 million; the State's contribution to excess costs of land and improvements, £0.37 million; receipts from sale of unwanted land (including interest), £0.56 million; and other receipts, £0.10 million.

Other Schemes of Settlement

The 3,000 Farms Scheme in Western Australia was one of the projects proposed to be undertaken under an agreement in 1925 between the British and Austrian Governments, whereby £34 million was to be made available for joint developmental projects during the following 10 years. The Commonwealth Government set up a Development and Migration Commission to examine the suitability of any suggested projects. The Commission ultimately reported adversely on the 3,000 Farms scheme and it was abandoned, but not before some expenditure had been incurred on the preparatory work of surveys and public works. In fact, the £21 million agreement itself lapsed before any significant results by way of additional farms had been achieved in Western Australia.

PUBLIC PARKS AND RESERVES

Reference has been made earlier in this Chapter in the section *Methods of Land Allocation* to land set aside by the Government for 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. Further reference to reserves will be found in the section *Conservation of the Flora* in Part 3 of Chapter II.

The National Parks Board of Western Australia controls a number of National Parks and reserves, having a total area of approximately 634,000 acres. National Parks and their areas at the 30th June, 1964 were Kallbarri (358,000 acres), which is situated near the mouth of the Murchison River and was vested in the Board in 1961; Stirling Range (288,335 acres), Nannup (52,134 acres) on the south coast; Parrotgum (5,651 acres), Jolly Forest (3,548 acres) near Glen Forrest in the Darling Range; Kalamunda (910 acres); Greenmount (127 acres); and Leonards Falls (81 acres). At the same date, reserves vested in the Board included Yanchep Park and Ours (6,210 acres) near the coast about thirty miles north of Perth; Yanchep Flora and Fauna Reserves (727 acres); Yanchep Beach Reserve (44 acres); Leonards Falls Park (1,271 acres); Hazzell Bay (326 acres) on the west coast near Cape Leeuwin; King Point Bioscience Reserve (112 acres) near Albany; Onslow (57 acres) on the Swan River near Perth; Aradun Gnamptu Pua (50 acres); Penguin Island (50 acres); and East Perth Cemetery (12 acres), a church burial ground containing the graves of early pioneers. In many of the National Parks and reserves, recreation and camping facilities are provided. Flora and fauna are protected in all of them.

The Avon Point (Albany) Reserve Board controls a reserve containing an area of approximately 1,120 acres at Emu Point near Albany, which has been developed for recreation, camping and residential purposes.

The King's Park Board administers an area of almost 1,000 acres close to the centre of Perth. Most of the area is retained in a bushland state and has undergone no development other than the construction of motor drives and footpaths. The most scenic portion of the Park, on a bluff overlooking Perth City

and the Swan River, has been landscaped and contains the State War Memorial and several other public monuments, and tree avenues planted on honour of fallen servicemen and also an commemoration of the State's Centenary in 1929. Other features include a restaurant, a band clock and a wishing well. Plans have recently been made to establish a Botanic Garden of Western Australia; native plants in the Park. The State Government has allocated for this purpose a sum of £156,000 to be spent over a five year period commencing with the financial year 1961-62.

Zoological Gardens Board (Acclimatization Society Inc.)—An area of 55 acres at South Perth is under the control of the Acclimatization Committee. Animals, birds and reptiles are exhibited in the Zoological Gardens, and picnic, sporting and recreational facilities are available to the public.

The Rottnest Island Board administers as a tourist and holiday resort a township comprising almost the whole of Rottnest Island, which is situated about 19 miles west of Fremantle.

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, Vellingdon, Margaret River and Augusta.

Local Government Reserves—Many local authorities hold land for recreational purposes, the areas having been either vested in them by the Crown, acquired by way of purchase or received under private bequest. The reserves are frequently developed as public parks or to provide facilities for sports or for camping.

The National Parks Council controls reserves, principally for youth activities, at Point Peron on the coast south of Fremantle, at Serenite to the north, at Bickley in the Darling Range and at Pemberton in the forest country of the South West.

CHAPTER VII—*continued*

PART 2—WATER CONSERVATION AND SUPPLY

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

The Metropolitan Water Supply, Sewerage, and Drainage Board is constituted under the provisions of the Metropolitan Water Supply, Sewerage, and Drainage Act, 1900-1903. It came into being on the 1st 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 as described in the Act. This Area, which constitutes the territory administered by the Board, extends from Perth seaward to Kwinana and Serpentine, northward to Sorrento and eastward to Geelongport.

The Department of Public Works and Water Supply controls the Goldfields and Agricultural Water Supply and the Great Southern Towns Water Supply as well as 86 local water supplies. It also provides water for irrigation purposes in the South West Irrigation Districts. In addition, water from subterranean sources is used for irrigation purposes at Carnarvon, and from the Fitzroy River for growing rice and sorghum at Coodan. Supplies from the Old River Diversion Dam (Baudouin Bar Dam) are used for experimental work being carried out by the Department of Agriculture and the Commonwealth Scientific and Industrial Research Organization at the Kimberley Research Station. Water from this source is also being used on private farm holdings growing cotton, soyflower, rice and linseed.

Five independent town schemes are controlled by local Water Boards in country areas and individual water supplies serve railways, remote 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 table below. Supplies for the metropolitan area and environs are drawn almost entirely from Serpentine Reservoir and Serpentine Pipeline Reservoir, Canning Reservoir, Wangary Brook Diversion Weir, Churchman River Reservoir and Victoria Reservoir. Mundaring Weir, which is the source for the Goldfields and Agricultural Water Supply, is linked to Kalbarrie 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. An occasion arises Mundaring Weir supplies to be drawn from the Metropolitan Water Supply. Saling Dam with a supplementary catchment at Harvey Weir, serves part of the irrigation area of the South West. Drakes Brook Dam, Simpson Brook Dam and Logan Brook Dam, which was completed in 1963, are also used for this purpose. Wellington Dam, on the Collier 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. Work was begun in 1963 on a second dam on Drakes Brook, the Warcoona Dam, to augment the supply of water to the Warcoona Irrigation District.

The storage capacity of the several dams and reservoirs at the 31st December, 1964 was as shown below.

DAMS AND RESERVOIRS—STORAGE CAPACITY (a)
(million gallons)

Dam or Reservoir	Storage Capacity	Dam or Reservoir	Storage Capacity
Canning Reservoir	20,560	Serpentine Pipeline Reservoir	351
Coodan Brook Reservoir	460	Serpentine Reservoir	22,000
Drakes Brook Dam	504	17-Mile Dam (c)	1,240
Fitzroy Dam	1,209	Selling Dam	12,542
Harvey Weir	2,275	Victoria Reservoir	160
Logan Brook Dam	5,358	Wangary Dam (d)	1,214
Mundaring Weir	16,896	Wellington Dam	45,160
Old River Diversion Dam (b)	21,467	Warcoona Brook Diversion Weir	10
Simpson Brook Dam	2,022		

(a) As at 31st December 1964. (b) Baudouin Bar Dam. (c) On Dingle Creek, an unbridged part of the Fitzroy River. (d) Under construction at 1st December, 1964.

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 holes. 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.

Victoria Reservoir, which was completed in 1891 with a capacity of 160 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 Beach 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, with an estimated catchment area of 302 square miles, has a storage capacity of 20,550 million gallons retained by a concrete wall 213 feet high and 1,534 feet long at the crest. Serpentine Pipehead Reservoir was completed in 1937 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 1,190 feet. Its capacity, which is slightly less than that of Wellington Dam on the Collie River, is 59,000 million gallons and the area of the catchment is 245 square miles.

Water from storages in the Darling Range is conveyed to surface reservoirs at Mount Yellinas, Mount Eliza, Dool Park, Thompson Lake, Mount Hawthorn, Richmond, Melville, Buckland Hill and Greenmount, which serve an area of approximately 1,770 square miles, including the whole of the metropolitan area. To meet the peak demand during the summer months, supplies from these sources are supplemented from a system of artesian holes which can provide a daily maximum of 13 million gallons. On the 31st December, 1964, the number of consumer services was 154,730. The following table shows the quantities of water which were drawn from the various sources during each of the five years ended 30th June, 1960 to 1964.

METROPOLITAN WATER SUPPLY—QUANTITIES OF WATER DRAWN (a)
(million gallons)

SOURCE	1959-60	1960-61	1961-62	1962-63	1963-64
Canning Reservoir	4,085	7,019	7,247	8,931	4,864
Churchman Brook Reservoir	411	517	511	514	1,068
Mundaring Weir	20	227	187	54	184
Serpentine Reservoir (b)	4,026	8,802	7,481	7,644	11,704
Victoria Reservoir	754	381	265	25	15
Wungong Brook Diversion Weir	5,46	5,81	7,825	1,064	1,547
Metropolitan Bore	2,694	2,029	1,297	1,179	289
Total	17,146	18,274	18,702	17,694	11,927

(a) Including supplies to industries and shipping. (b) Includes water drawn from Serpentine Pipehead Reservoir.
(c) Unusually severe restrictions on the use of water were imposed during this year following an exceptionally dry winter.

COUNTRY WATER SUPPLIES

Controlled by the Department of Public Works and Water Supply

Since 1917 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 Unified Comprehensive Scheme. A proposal for a comprehensive water supply scheme was first submitted by the State Government to the Commonwealth Government in January, 1916 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, 1917. The extent of the scheme as originally proposed, and as modified, is shown

on a map appearing in the *Official Year Book of Western Australia*, No. 1—1957 and No. 2—1960. A description of the boundary of the modified scheme is contained in a schedule to the *Agriculture Areas, Great Southern Towns, and Goldfields Water Supply Act, 1947* (S946c), which gave preliminary approval of the undertaking. Commonwealth financial aid was provided by means of the *Western Australia Grants (Water Supply) Act, 1948* (Commonwealth) and later amendments, which authorized reimbursement to the State of one half of its expenditure on the scheme, up to a maximum grant of £5 million.

The modified scheme was completed in 1961, the total expenditure amounting to £10.5 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 1948 was rejected by the Commonwealth Government. Following this rejection the State Government embarked on a necessarily limited programme financed from its own own 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 £5.75 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 were 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 £1.55 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 1966* (Commonwealth).

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 Kalbarra-Barrales areas. To provide this service, the Helena River was dammed near Mundaring, and on completion of the reservoir in 1932 it had a capacity of 4,555 million gallons. The increasing demand for water in the area served made it necessary to augment supplies. This was achieved by raising the wall 12 feet to a height of 112 feet and when the work was completed in 1951 the enlarged capacity of the reservoir was 18,154 million gallons. The capacity has since been further increased to 18,966 million gallons by the erection of adjustable steel crest gates four feet in height. The main pipeline between Mundaring and Kalbarra is 346 miles long. It is, for the most part, of 30 inches diameter and is mostly of steel. The pipeline is equipped with eight pumping stations. The maximum pumping capacity from the Mundaring installation is 12.75 million gallons per day with provision for an increase to 18.5 million gallons per day. The total capacity of all raising, regulating, storage and service tanks including three standby reservoirs at Kalbarra with a combined capacity of 60 million gallons is 124 million gallons.

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. From a point west of Merredin water is taken northward to supplement local schemes at Wubin, Woorin, Barham, Kunzea. Other extensions north and south of the main pipeline provide water for a number of towns and surrounding districts, including Toodyay, Gosmalling, York, Beverley and Renmark. A pipeline southward from Merredin to serve Hyden, Hock, Narembea and Nindorin and surrounding districts is linked to an extension south-west from Doodlakine and taken southward to supply Corrigin. Areas north-west of Burtswagon are served by an extension northward from a point east of Merredin, and districts north of Kellerberrin by a pipeline connecting Kellerberrin to the Wubin-Woorin-Barham-Kunzea system already mentioned. Water is taken northward from Curdneria through Minervale to a point near Kookynie. Extensions eastward, eastward and northward from this pipeline serve a number of towns and localities, including Dumbleton, Wyalkatchem, Yellam, Koonib, Ballin, Daladina and Warran Hills, and surrounding farm lands. An extension northward from the main pipeline to Roodysiding, where iron ore deposits are being developed, was completed in 1961.

At the 30th June, 1964 the Goldfields and Agricultural Water Supply was serving 88 towns and water was being reticulated to farms in an area of 4.2 million acres. The total length of pipelines was 5,910 miles and the number of service tanks 24,414. Consumption, including losses from crop, local schemes and from the Metropolitan Water Supply, was 2,727 million gallons during the year ended 30th June, 1964.

Great Southern Towns Water Supply

The Great Southern Towns Water Supply serves towns on the Great Southern Railway from Renmark to Kalamunda as well as a number of other towns. Water is drawn from Wallington Dam which also supplies the Little River Irrigation District. Work on the raising of the wall of the Dam was com-

ected in 1960 and, with a capacity of 49,750 million gallons, it is now the largest in the State. Water is taken to Narrogin by means of a main pipeline 80 miles long. In addition to the pumping installation at the dam site, there are stations at a point 28 miles east of the dam and at Narrogin. From Narrogin, pipelines extend 40 miles northward to Brooking and 50 miles southward to Katanning. An extension westward from Katanning serves the town of Kojonup. Extensions south-eastward from Katanning through Broomfield to Gnowapup and north-eastward from Narrogin to Wickepin were completed late in 1964. A pipeline to supply water to a power station being constructed for the State Electricity Commission at Maja, 11 miles south-eastward from Collie, was commenced in May, 1964 and completed in April, 1965.

At the 30th June, 1964 the Great Southern Towns Water Supply was serving 19 towns, the total length of pipelines was 365 miles and the number of services was 7,328. During the year ended 30th June, 1964 consumption, including supplies drawn from local sources, was 365 million gallons.

Supplies to other Country Towns

Eighty-six local schemes supply water from stream flow, dams, tanks, wells and bores, mainly to country towns. Seventy-three of these schemes are administered under the provisions of the Country Areas Water Supply Act, 1947-1964 and one under the Rights in Water and Irrigation Act, 1911-1964. The Department of Public Works and Water Supply also controls twelve minor undertakings which do not come within the provisions of any Act. At the 30th June, 1964 the total length of water mains for these local schemes was 521 miles and the number of services was 19,593. During the year ended 30th June, 1964 consumption was 1,561 million gallons.

The Department of Public Works and Water Supply is also responsible for the provision and maintenance of tanks and wells as a source of carriage 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 Department of Public Works and Water Supply, there are five local Water Boards operating under the Water Boards Act, 1901-1964 which also draw supplies from stream flow, dams, tanks, wells and bores. In addition, some local authorities exercise powers under the Local Government Act, 1960-1964 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 Forestry Department and sawmilling companies operate schemes to supply water to their mill towns.

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 Department of Public Works and Water Supply and the Metropolitan Water Supply, Sewerage, and Drainage Board.

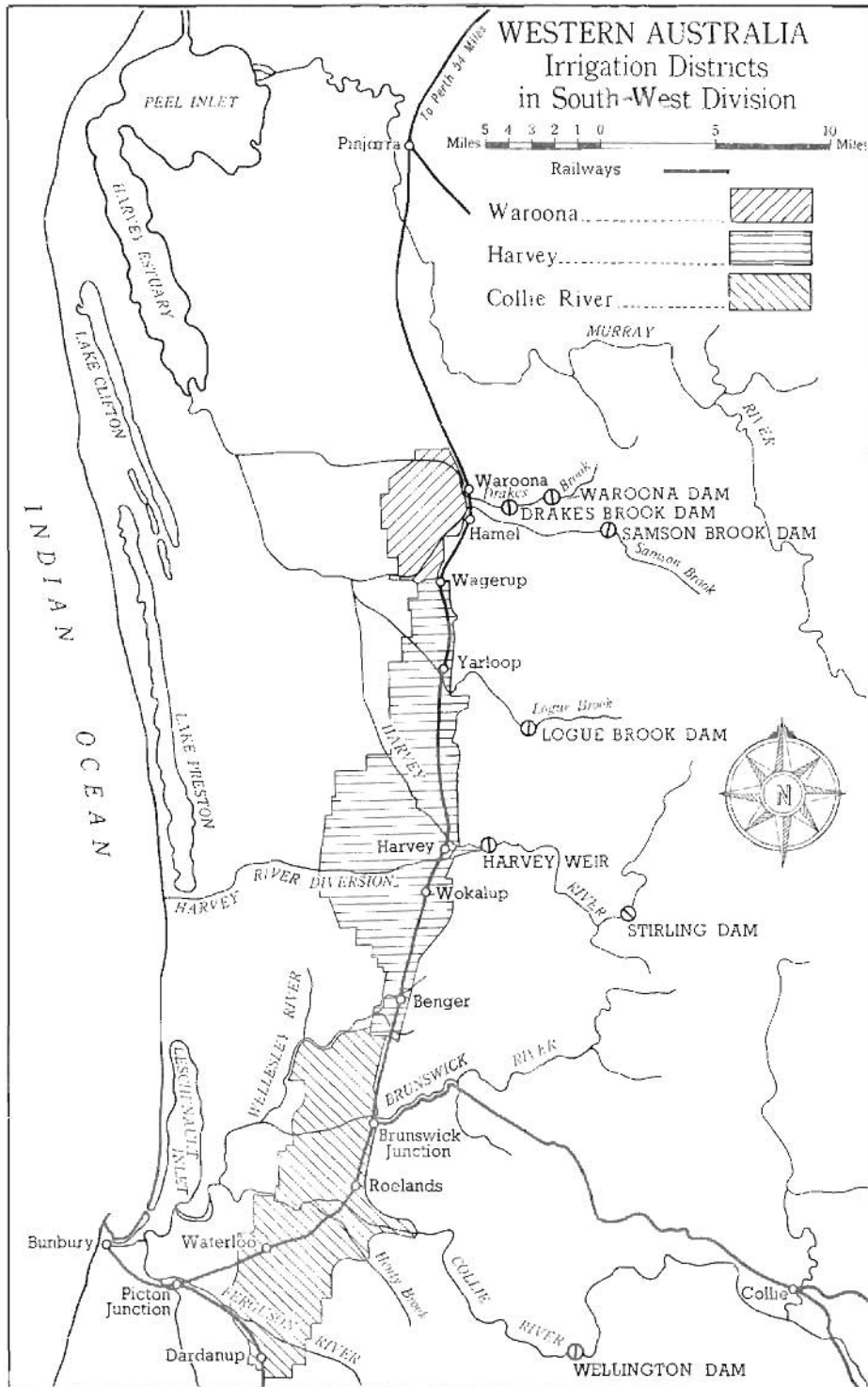
SOUTH-WEST IRRIGATION SCHEMES

Irrigation schemes have been established by the State Government on the coastal plain south of Perth in the Waroona, Harvey and Collier River Irrigation Districts between Waroona and Dardanup, 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 project is now watered on a rotational plan, according to the "zone" or section of the District, within which the farms are situated. Three five waterings are given each season on all mowed land. All mown 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 40 million gallons, 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 3,067 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 is being built on Drakes Brook about three miles up-stream from the existing Drakes Brook Dam. Its planned capacity is 3,231 million gallons and storage is expected to be available for the 1966-67 irrigation season.



In 1931 the capacity of Harvey Weir was enlarged to 2,270 million gallons and in 1944 Stirling Dam, with an original capacity of 12,000 million gallons increased to 12,652 million gallons by alterations in 1938, was completed further upstream on the Harvey River. These works enabled the Harvey Irrigation District to be extended northward to link with the Warrego District. Latta Brook Dam with a capacity of 5,338 million gallons, was completed in 1963 and provides additional supplies for the Harvey Irrigation District, the rated area of which is now 15,142 acres.

Concurrently with developments in the Harvey and Warrego Irrigation Districts, a new intake scheme for surface water for the Collie River Irrigation District and Wallingford District has been in progress since completion in 1953. In view of its importance not only to irrigation, generally, but also to the Great Southern Towns Water Supply, the wall of this reservoir has been raised and when work was completed in 1956 its capacity of 8,000 million gallons had been increased to 49,780 million gallons. It serves an area of 10,706 rated acres in the Collie River Irrigation District, which extends from Bremerweir Junction to Dardanup.

Details of irrigation in each District in the years 1962-63 and 1963-64 are given in the following table.

IRRIGATION										
Particulars		Irrigation District						Totals		
		Warrego		Harvey		Collie River				
		1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	
Area Watered										
Pasture		acres	1,170	1,190	11,074	11,123	10,879	11,087	29,180	29,397
Pasture Crops			405	405	109	103	508	790	1,112	1,114
Potatoes			32	17	32	1	437	330	501	448
Other Vegetation			325	305	109	105	110	101	545	507
Orchards					110	115	58	47	265	273
Other (a)							17	5	22	4
Total			1,932	2,017	12,460	12,347	12,003	12,970	27,675	28,704
Area Waterlogged (b)			12,812	11,308	11,139	11,141	14,257	16,494	11,111	11,189
Average Supply of Waterlogged (c)			6.7	6.4	1.2	0.6	0.4	0.4	0.3	0.4
Total Water Supplied at Entry to District		million gal	1,514	1,467	11,863	11,816	11,911	12,508	16,814	16,861
Dam Capacity		" "	1,515	1,515	14,737	14,737	20,790	20,790	58,142	58,609
Length of Channels		miles	40	40	154	154	121	120	311	330

(a) Land area watered for horticultural purposes. (b) Area watered multiplied by number of waterfalls. Figures shown represent the sum of area watered for individual holdings in each District. (c) Total area waterlogged, divided by total area watered.

NORTHERN IRRIGATION SCHEMES

Although not yet comparable in size with the South West undertakings, the irrigation areas of Carnarvon and on the Ord and Fitzroy Rivers in the northern portion of the State are of increasing significance.

Carnarvon—During the past thirty years a centre of tropical agriculture has been developed at Carnarvon, near the mouth of the Connerine River. As first a number of tropical fruits were grown here, until recent years production consisted mainly of bananas. A considerable quantity of early banana crops is now grown for the metropolitan market and for export overseas, and production of tomatoes and a variety of other vegetables has also increased in importance. This trend towards vegetable production has been accelerated by the damage caused to the banana plantations by cyclones and floods in recent years.

Agricultural development has been made possible only by irrigation, as the rainfall is a highly variable and irregular factor, and further, the land is not suitable for upland crops. Water-lifting has been effected by means of pumps, and wherever possible, the pumping work is installed on a bank of the Connerine River. Usually the river bed is raised, as water flow does not come regularly each year. Connerine flood walls have been built into the river banks and the water collected is pumped either to storage tanks or direct to the plantations by earthen channels, from which it is distributed among the plants by furrows. Because of the limitations of supply from the river banks, the State Government has commenced to develop

up-river sources and is delivering supplementary water by pipeline to twenty plantations on the south bank of the river at the eastern extremity of the Carnarvon Irrigation District. Some experiments have been carried out with overhead methods of irrigation, mainly at the tropical research station which is maintained at Carnarvon by the Department of Agriculture. To the early activities of the 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 where long-term seasonal values of irregular incidence and quantity, varying from an annual mean of 20 inches in the south to 80 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 sugarcane, 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 150,000 acres of land agriculturally and topographically suitable for irrigation. It comprises four stages, the first being the construction of a diversion dam to supply water for an area of 30,000 acres. The other stages are the building of a main storage dam with a capacity of 3.5 million acre-feet (equivalent to more than 500,000 million gallons), the progressive development of the remaining 120,000 acres, and the construction of a hydro-electric power station.

The diversion dam, situated at Bandook Bar about 65 miles by road south-east of Wyndham and 30 miles downstream from the site of the proposed main dam, was officially opened on the 20th July, 1963. The capacity of the diversion dam is 21,467 million gallons. Early in March, 1963 work had progressed sufficiently to enable water to be impounded and irrigation from the dam commenced in April 1963.

Apart from an area of 2,400 acres formerly used as a pasturage farm but now being developed privately, some forty farms are included in the first stage of the project. The farms, each having an area of approximately 600 acres, or about 600 acres after allowing for the area taken up by channels, drains, banks and tracks, are being released progressively. The first five farms were allotted in 1963, followed by a further fourteen farms up to the 30th June, 1964 and an additional seven early in 1965. Crops of cotton, safflower, rice and mixed have been grown.

The diversion dam was recognized by the Commonwealth Government in August, 1962 as an approved project within the meaning of the Western Australia Grants (Northern Development) Act 1955 (State Commonwealth). This legislation provides for payment by the Commonwealth to the State Government of a non-repayable grant of £5 million for development of the part of the State north of 26° S. latitude. Of this grant, £4.1 million was spent on the diversion dam. In February, 1963 a further approach was made to the Commonwealth requesting an amount of £1.65 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. The total anticipated cost of the first stage, estimated on the basis of costs at the end of 1963, is £6.4 million, of which £2.7 million represents expenditure by the State Government and £3.7 million the amount of Commonwealth aid.

In February, 1964 the State Government submitted to the Commonwealth a case for financial assistance to complete the Ord Irrigation Project. The request was for £30 million, also on the basis of costs at the end of 1963, to be spent over a period concluding with the financial year 1979-80. The principal components of this sum are the cost of building the main storage dam and extending the existing channels, drains and ancillary works to irrigate the total area of 156,000 acres (£20 million), the construction of an underground hydro-electric power station at the site of the main dam (£6 million) and the provision of housing for families and their employment, as well as government workers associated with the project (£4 million).

It was announced in April, 1965 that the Commonwealth Government had deferred a decision on the State's request until more information as to the likely future productivity of the area, based on a longer trial period, became available.

Fitzroy River—On the Lavasanga flood plain, sorghum and rice are being produced at Camballin, 70 miles south east of Derby. Irrigation water from the Fitzroy River is diverted through Uralia Creek, an unbranched, for 25 miles to the rice growing area where there is a natural storage of about 320 million gallons capacity. The supply of water to the irrigation area is augmented by pumping during periods of low flow in the Fitzroy River. Further storage with a capacity of 1,250 million gallons has been provided by the construction of a dam on Uralia Creek, 17 miles from the river. A weir has been constructed across the river to provide gravity flow to Uralia Creek during periods when the river is running.

During 1963-64, water used in the irrigation of crops amounted to 8,440 acre-feet. 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.

CHAPTER VIII—PRODUCTION

Although secondary industry in Western Australia has become increasingly important in recent years, the State's economy is still predominantly dependent on primary production and is particularly on the pastoral, agricultural and mining sectors.

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 1826 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 1891 and by the spectacular finds in the 1890's at Coolgardie and Kalbarrie and at other places on the western goldfields. Between 1880 and 1905 the population increased from 50,000 to 250,000 and, despite an increase in the area under crop from 48,700 acres to 361,700 acres during those years, agricultural production remained insufficient to meet local demands.

A decline in gold mining which began after 1902 caused a growing reliance on foreign and other sources of food and by 1911 the area under crop had increased to more than one 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 seven million acres of which more than four and a half million 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 western goldfields. The number of cattle in the State increased from 131,000 to 523,000 and of sheep from 7,175,000 to 1,150,000 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 page 174. With the development of mixed wheat and sheep farming the total number of sheep has risen and in 1964 was 1·1 million, but less than one fifth are now in the pastoral areas and more than two fifths in the agricultural areas. Of the total of 1,098,874 cattle in the State in 1964 nearly half were in the Kimberley District where cattle are raised almost exclusively for beef production.

The concentration of gold mining in the Western Australian economy has diminished greatly since the peak production of 1902. It is nevertheless of considerable importance and is still the major mining activity followed in order by the mining of coal, iron, asbestos, diamonds, pyrites ore and manganese.

Forestry, with an annual milk production of about 57 million gallons, has become a significant factor in primary production and in 1963-64 the output of butter was 15,345,000 lb. and of cheese 5,376,940 lb.

The logging of growth and forest lands in the State has long been a feature of the State's economy. In domestic timbering in earlier years and clearance of the wood for preservation and transportation threatened the survival of the timber industry. However, governmental controls over forestry operations and a policy of reforestation initiated in 1914 have proved to be effective and the industry is now established on a firm basis, timber forming an important component of primary production.

The local demand for whaling, which has developed in post war years, has given great impetus to the whaling industry, the total value of the take of fish being surpassed only by wheat and between 1947 and 1963-64. Interest in whaling was evident in the first years of colonisation, exports of oil and whalebone 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 1946 when a station at Point Thomas on the north west coast was reopened after a lapse of more than twenty years. Since the 1964 season, activity has declined considerably following the imposition by the International Whaling Commission of a total ban on the taking of toothed whales. The only station still operating is at Albany where sperm whales are caught.

Resources from the resources and needs of the more populous States has been an important factor in extending manufacturing development, secondary industries being largely dependent on the limited local demand. In recent years the establishment at Kwinana of a major oil refinery, a non-ferrous mill and an alumina refinery, together with the dredging of a deep water channel and the construction of two new free trade zones there, has introduced a new concept of the manufacturing potential of the State and it is anticipated that future development will be more rapid than in the past.

The following table shows net values of production of the various primary industries and of secondary industry during the five years 1959-60 to 1963-64. An effective comparison of their relative importance is provided by the five yearly averages also quoted as these minimise the effect of seasonal or other fluctuations occurring in individual years.

NET VALUE OF RECORDED PRODUCTION

Industry	1959-60	1960-61	1961-62	1962-63	1963-64	Average of five years
VALUE (£'000)						
Agriculture	44,944	45,794	51,324	54,255	55,820	47,229
Pastoral	10,664	29,975	41,335	41,226	41,771	34,992
Industry	2,933	1,295	1,269	1,267	1,280	1,494
Poultry Farming	470	628	694	693	672	653
Bees Keeping	161	151	249	266	425	269
Fishing	171	349	186	147	377	176
Forestry	6,055	5,167	5,191	5,063	5,367	5,176
Fishing and Whaling	5,729	5,421	5,125	5,164	4,465	4,456
Mining and Quarries	14,766	15,464	15,355	15,162	14,346	15,007
Total Primary	111,917	116,264	123,904	127,605	128,130	123,471
Manufacturing	56,571	60,691	65,041	105,211	115,298	78,592
Total Primary and Manufacturing	168,488	176,955	188,945	232,816	243,428	202,063

PROPORTION OF TOTAL (PER CENT)

Agriculture	12.21	15.94	25.12	24.94	16.91	23.12
Pastoral	20.05	17.15	18.67	17.49	24.85	20.04
Industry	1.08	2.01	1.97	1.91	2.12	2.03
Poultry Farming	0.24	0.25	0.27	0.24	0.27	0.26
Bees Keeping	0.08	0.07	0.11	0.11	0.17	0.11
Fishing	0.02	0.11	0.08	0.06	0.09	0.04
Forestry	2.56	2.45	2.54	2.15	2.18	2.32
Fishing and Whaling	1.65	1.73	2.41	2.26	1.46	1.46
Mining and Quarries	7.41	7.35	7.91	6.91	5.17	6.91
Total Primary	50.45	54.91	55.85	54.17	52.94	54.67
Manufacturing	47.55	31.40	34.17	45.92	46.98	35.11
Total Primary and Manufacturing	100.00	100.00	100.00	100.00	100.00	100.00

The Net Value quoted in the above table represents the return to the producer, after deducting from the gross value the cost of all goods consumed in the process of production and costs of marketing the product. It is the sum available for payment of wages, interest, rent, depreciation, other overhead costs and for the producer's own incomes.

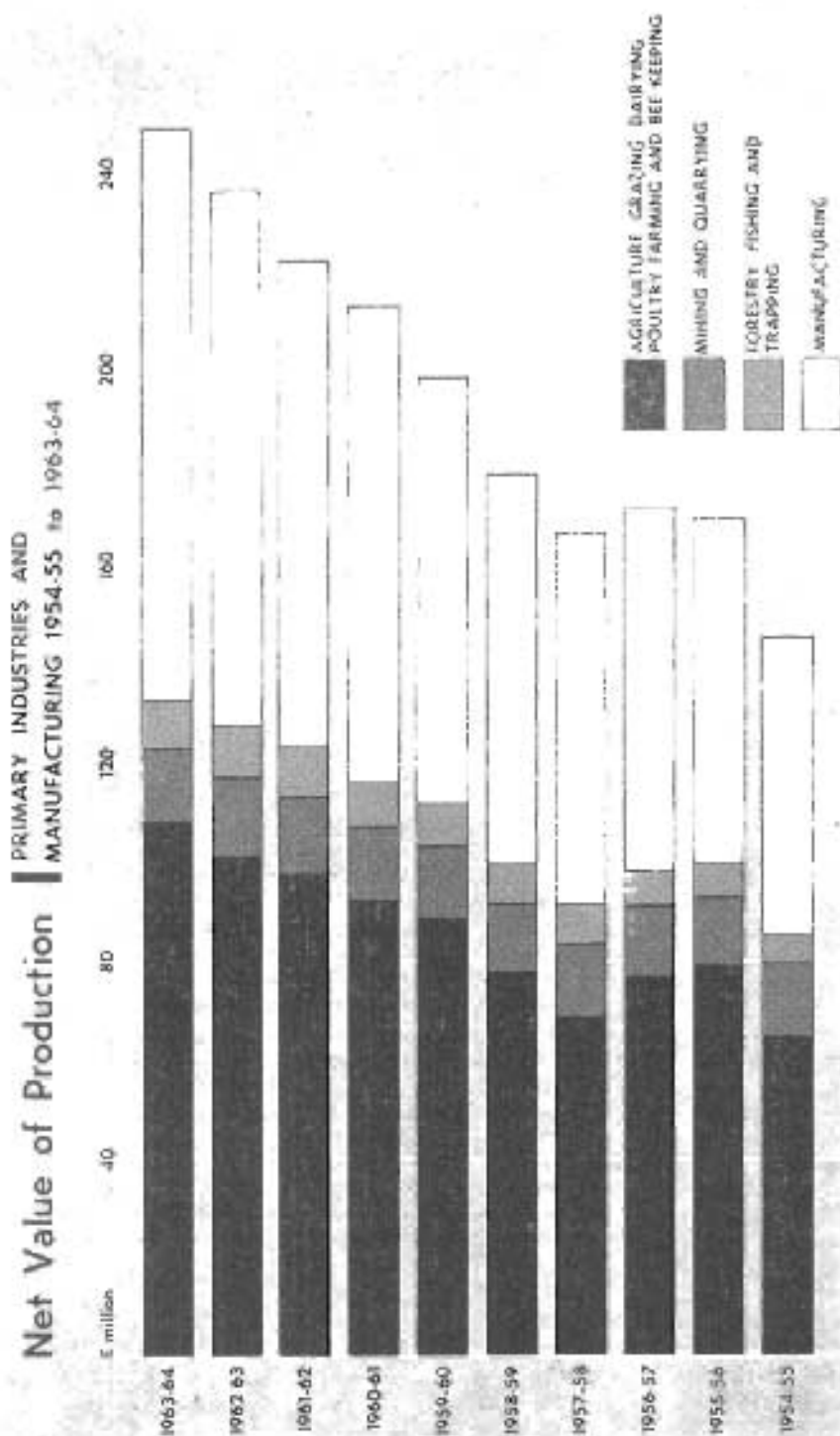
GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

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. References should also be made to the *Notes on Statistical Divisions* preceding the Index.

The Metropolitan Division (191 square miles, with 80,000 persons; population of 155,000, 30th June 1964) is almost three-fifths of the State total, in the principal sphere of manufacturing activity and its industrial establishments, which employ 40,000 or almost three-quarters of the factory workers of the State, are responsible for more than three-fifths of the total net value of factory production. There are some small farms but their production is almost entirely confined to eggs, poultry and vegetables for consumption in the metropolitan area. A well-established fishing industry operates from the port of Fremantle, the main catch being crayfish.

The South Division (1,588 square miles) is becoming increasingly important in the manufacture of wool and its industries, which include an oil refinery and lubricating oil plant, a cement works, a steel-rolling mill, an aluminium refinery, meat works and a large bacon factory, provide employment for 4,500 factory workers. Most of the State's viticultural production occurs in the area. It comprises table grapes for the local market and for export, desert currants, nutcases and raisins, and wine-making grapes for processing to total materials and distillates. Citrus, pome and stone fruits, eggs, poultry, vegetables and whole milk are important products of the Division.

The South West Division (11,825 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 condenser products. Pig raising is carried on as an auxiliary activity to dairying and, in recent years the raising of cattle for meat production has become of importance. Apples, pears, stone fruits, potatoes and other vegetables are grown extensively. Flaxseed is a unique product, being raised upon a crop of wheat and oat and flaxseed



are the principal minerals produced. Commercial fishing is centred on Maudurah, Bunbury and Busselton. The factories of the Division, which employ 4,400 workers, include sawmills, butter, cheese and milk-processing plants, a superphosphate works and a large chemical factory producing titanium oxide pigments.

The Southern Agricultural, Central Agricultural and Northern Agricultural Divisions, which together cover 86,219 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, 15 million, is now almost three-quarters of the State's sheep population. There has been a corresponding rise in wool production which now represents 75 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 229,000 or 18 per cent. of the State total. Tomatoes are grown around Geraldton and citrus fruits in the Chittering area. Dairying, apple and pear growing and potato cultivation are important in the districts around Denmark, Albany and Mount Barker. Whaling and fishing are carried on from Albany, on the south coast, and an important crayfishing industry, based on the Abrolhos Islands, Geraldton, Dongara, Jurien Bay, Cervantes and Lancelin Island, has been established on the west coast. The only mineral of importance is lead, which is mined near Northampton. Factories, which 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, provide employment for 4,400 workers.

The North-West Division (75,732 square miles) has 1.16 million sheep, representing approximately six per cent. of the State total, and almost twenty thousand cattle. Tropical agriculture has been developed on the Gascoyne River at Carnarvon where bananas and beans and other vegetables are grown. Whaling operations, formerly based on Carnarvon, have been discontinued and a prawn-fishing industry has been established in the area. Commercial fishermen operate also from Shark Bay.

The Kimberley Division (162,363 square miles), with over half a million cattle, or 45 per cent. of the State total, and meat works at Wyndham, Derby, Broome and Glenroy, is the most important source of beef for export from Western Australia to overseas markets. Broome is also the centre of pearl shell fishing and at Kuri Bay in Brecknock Harbour, 130 miles north-east of Derby, culture pearls are being successfully produced. Iron ore is mined at Cockatoo and Koolan Islands in Yampi Sound. Reference is made on pages 247-8 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 638,508 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. An important asbestos mining industry is established at Wittenoom and other minerals and ores produced elsewhere in these Divisions include beryl, felspar, gypsum, pyrites and ores of copper, iron, manganese, silver, tin and tanto-columbite. Although mining is the main industry, these Divisions contribute also to pastoral output, the area containing more than 14 per cent. of the sheep and over six per cent. of the cattle in the State. Cereals are grown in the south western portion of the Eastern Goldfields Division, which produced almost 3.6 million bushels of wheat, oats and barley in 1963-64.

PART 1—PRIMARY PRODUCTION

LAND UTILIZATION ON RURAL HOLDINGS

In 1963-64 there were 22,770 rural holdings in the State, comprising 266,555,916 acres of land or almost 43 per cent. of the total area of Western Australia.

The total area of rural holdings consisted of 28,262,509 acres of cleared land and 238,293,407 acres uncleared. Of the cleared land, 6,705,632 acres were used for crop, 9,509,620 acres were under established pastures, 1,133,475 acres were newly cleared during the season and 1,712,050 acres were in fallow. The balance of the cleared area, 9,201,732 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 has been stimulated by generally favourable prices for agricultural and pastoral commodities. Special concessions to primary producers under the provisions of the taxation legislation have also contributed to the increased capital investment in primary industry. This development, which has been undertaken principally by established farmers and by the War Service Land Settlement Board, has been aided by the introduction of modern mechanical methods of land

clearing. As a result, the area of cleared land on rural holdings has been almost doubled, from 14,621,424 acres in 1946-47 to 28,262,509 acres in 1963-64. In the same period land used for crops has increased from 3,532,445 acres to 6,705,632 acres and the area under established pastures from 2,092,279 to 9,509,620 acres. Probably as a result of the increased practice of rotational ley farming as an alternative to fallowing, the area in fallow has decreased from 2,070,676 to 1,711,950 acres.

LAND UTILIZATION

Season	Cleared Land					Rural Holdings	
	Used for Crop (a)	Under Established Pasture	Newly Cleared, prepared for next Season	In Fallow	Used for Grazing or Resting	Total	Number
	acres	acres	acres	acres	acres	acres	acres
1954-55	4,042,550	4,747,383	624,744	1,815,087	3,139,053	16,577,175	20,878
1955-56	5,235,501	5,384,171	745,568	1,711,393	3,391,792	21,464,341	21,323
1956-57	5,119,088	6,055,797	833,317	1,882,291	3,574,474	22,701,957	21,393
1957-58	5,510,567	6,475,564	816,412	1,484,324	3,818,786	22,815,645	21,581
1958-59	4,015,357	4,950,741	710,393	1,888,455	3,604,656	23,711,078	21,583
1959-60	4,762,131	7,358,682	726,382	1,951,417	3,282,097	24,600,679	21,832
1960-61	6,726,807	7,667,468	775,905	1,867,363	3,285,111	25,368,024	21,922
1961-62	6,975,579	8,181,504	898,305	1,745,384	3,164,967	26,361,296	22,082
1962-63	7,326,845	8,879,375	990,138	1,696,395	3,267,951	27,251,914	22,584
1963-64	6,705,632	9,509,620	1,133,471	1,711,950	3,298,732	28,262,509	22,770

(a) Excluding meadow hay.

LAND UTILIZATION IN EACH STATISTICAL DIVISION 1963-64

Statistical Division	Cleared Land					Rural Holdings	
	Used for Crop (a)	Under Established Pasture	Newly Cleared, prepared for next Season	In Fallow	Used for Grazing or Resting	Total	Number
	acres	acres	acres	acres	acres	acres	acres
Metropolitan	1,513	1,210	68	455	2,491	5,354	440
Swagg	25,944	154,031	11,833	6,387	44,466	247,383	3,503
South-West	77,793	1,175,367	46,751	10,309	142,474	1,452,739	4,498
Southern Agricultural	1,198,554	1,949,721	284,710	305,734	1,554,502	5,048,296	1,439
Central Agricultural	8,110,024	2,397,096	118,611	65,426	4,026,894	11,908,963	5,000
Northern Agricultural	2,003,894	1,782,571	66,098	266,840	4,099,704	7,365,784	3,209
Eastern Goldfields	286,751	183,116	190,088	265,639	178,871	1,074,465	838
Central	560	5	1,200	1	1,453	5,112	151
North-West	1,774	1	10	170	2,945	6,794	374
Pilbara	0	0	0	0	50	50	25
Kimberley	8,610	444	3	860	48,046	56,963	106
Total	1,705,632	9,509,620	1,133,471	1,711,950	3,298,732	28,262,509	22,770

(a) Excluding meadow hay.

CLASSIFICATION OF RURAL HOLDINGS

Some of the information from the 1950-60 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 in a series of bulletins, *Classification of Rural Holdings by Size and Type of Activity, 1950-60*. Although similar information on size classification was published in a series of bulletins for the years 1953-56, type of activity classifications had not previously been undertaken uniformly throughout Australia.

Selected size classification tables for Western Australia are published elsewhere in this Chapter and the type of activity classifications for the State are shown on the next three pages. For definitions and a description of the methods used in classifying rural holdings by type of activity, reference should be made to the bulletins mentioned above.

DISCUSSION CLASIFIED ACCORDING TO TYPE OF ACTIVITY - SCUMMER AND ALBA USED FOR VADOLIVE PURPOSES. SHASOLS (HARD)

420

[illegible]

COLLECTION WITH PL: KILLIS, CLASSIFIED ACCORDING TO SIZE OF HERD AND TYPE OF ACTIVITY. BEARBOX 1950-60.

Type of Activity

[illegible]

WHETHER OR NOT: WHAT FOR FIRST, CLASSIFIED ACCORDING TO AREA AND TYPE OF ACTIVITY—REASON 1999-00

[illegible]

HOLLINGS WITH SHEEP FLOCKS CLASSIFIED ACCORDING TO SIZE OF FLOCK AND TYPE OF ACTIVITY - SEASON 1959-60

Size of Sheep flock (commence)	Sheep - owned	Sheep - hired	Cows	Hens	Dairy	Vans	Type of building		Chick size Hatched Age	Poultry	Eggs	To market	Oxen	Health per year	Total value added to property	Subs. prop. married	I. owned, type job, etc.	All Buildings
							Peak owner than year	Peak rent year										
1-40	1	1	20	30	200	10	2.5	21	25	20	2	2	1	21	300	245	7	878
41-100	4	4	30	30	300	10	3.5	21	25	20	2	2	1	21	300	245	7	878
101-200	10	10	40	40	400	10	4.5	21	25	20	2	2	1	21	300	245	7	878
201-300	20	20	50	50	500	10	5.5	21	25	20	2	2	1	21	300	245	7	878
301-400	30	30	60	60	600	10	6.5	21	25	20	2	2	1	21	300	245	7	878
401-500	40	40	70	70	700	10	7.5	21	25	20	2	2	1	21	300	245	7	878
501-600	50	50	80	80	800	10	8.5	21	25	20	2	2	1	21	300	245	7	878
601-700	60	60	90	90	900	10	9.5	21	25	20	2	2	1	21	300	245	7	878
701-800	70	70	100	100	1000	10	10.5	21	25	20	2	2	1	21	300	245	7	878
801-900	80	80	110	110	1100	10	11.5	21	25	20	2	2	1	21	300	245	7	878
901-1000	90	90	120	120	1200	10	12.5	21	25	20	2	2	1	21	300	245	7	878
1001-1100	100	100	130	130	1300	10	13.5	21	25	20	2	2	1	21	300	245	7	878
1101-1200	110	110	140	140	1400	10	14.5	21	25	20	2	2	1	21	300	245	7	878
1201-1300	120	120	150	150	1500	10	15.5	21	25	20	2	2	1	21	300	245	7	878
1301-1400	130	130	160	160	1600	10	16.5	21	25	20	2	2	1	21	300	245	7	878
1401-1500	140	140	170	170	1700	10	17.5	21	25	20	2	2	1	21	300	245	7	878
1501-1600	150	150	180	180	1800	10	18.5	21	25	20	2	2	1	21	300	245	7	878
1601-1700	160	160	190	190	1900	10	19.5	21	25	20	2	2	1	21	300	245	7	878
1701-1800	170	170	200	200	2000	10	20.5	21	25	20	2	2	1	21	300	245	7	878
1801-1900	180	180	210	210	2100	10	21.5	21	25	20	2	2	1	21	300	245	7	878
1901-2000	190	190	220	220	2200	10	22.5	21	25	20	2	2	1	21	300	245	7	878
2001-2100	200	200	230	230	2300	10	23.5	21	25	20	2	2	1	21	300	245	7	878
2101-2200	210	210	240	240	2													

HOLDINGS WITH DAIRY CATTLE HERDS, CLASSIFIED ACCORDING TO SIZE OF HERD AND TYPE OF ACTIVITY—SEASON 1959-60

Size of Dairy Cattle Herd (numbers)	Type of Activity										Unclassified Holdings		All Holdings			
	Sheep— Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairy- ing	Vine- yards	Fruit (Other than Vine)	Other and Mixed Veg- tables	Poultry	Pigs	To- bacco	Other Multi- purpose		Total Class- ified Holdings	Sub- com- mer- cial	Unused, Special, etc.
1-4	2,337	715	79	72	6	35	180	35	47	88	29	36	113	3,781	506	4
5-10	905	192	24	20	11	4	38	10	15	16	7	11	51	1,804	195	6
10-14	189	75	4	9	28	2	16	3	5	2	...	8	32	375	93	3
15-19	55	43	...	6	42	...	7	8	4	3	1	...	17	187	79	4
20-29	28	38	2	7	189	...	34	27	3	3	...	...	3	387	52	7
30-39	10	10	1	5	272	1	23	19	4	3	...	1	12	370	14	3
40-49	1	6	...	4	353	...	7	11	2	...	...	...	18	402	8	2
50-59	4	3	...	8	285	...	9	13	1	...	...	...	15	340	1	1
60-69	...	...	...	3	251	...	6	...	...	...	...	...	13	254	...	3
70-79	2	...	...	3	190	...	2	7	...	...	...	...	6	210	...	3
80-89	...	...	...	6	132	...	1	...	...	...	...	...	7	144	...	1
90-99	1	...	...	3	89	...	...	3	...	...	...	...	4	101	...	1
100-149	...	...	...	6	258	...	1	...	...	...	...	...	8	280	...	1
150-199	...	...	...	1	77	...	...	...	...	...	...	...	4	82	...	1
200 and over	...	...	...	...	76	...	...	...	...	...	...	...	5	81	...	2
Total	3,527	1,090	110	149	2,200	42	323	163	81	115	87	54	10	8,308	1,008	42
																9,358

HOLDINGS WITH BEEF CATTLE HERDS, CLASSIFIED ACCORDING TO SIZE OF HERD AND TYPE OF ACTIVITY—SEASON 1959-60

Size of Beef Cattle Herd (numbers)	Type of Activity											Unclassified Holdings			All Holdings		
	Sheep— Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairy- ing	Vine- yards	Fruit (Other than Vine)	Other and Mixed Veg- tables	Poultry	Pigs	Tobacco	Other	Multi- purpose	Total Class- ified Holdings		Sub- com- mercial	Unused, Special, etc.
1-9	977	321	18	18	315	7	70	13	18	9	19	3	65	1,868	316	10	2,194
10-19	466	247	11	5	139	3	50	6	1	6	19	3	53	1,032	117	6	1,155
20-29	242	169	5	10	90	4	30	7	2	1	6	2	46	633	60	4	726
30-39	234	270	5	99	94	2	32	4	1	1	6	2	46	830	39	5	883
40-49	114	132	1	177	46	...	18	1	...	...	2	...	36	440	3	6	448
50-59	52	99	...	111	28	...	13	1	...	...	1	...	35	349	4	6	350
60-69	32	76	2	70	16	...	6	...	...	...	2	...	34	246	2	7	249
70-79	12	20	...	44	9	...	1	...	...	...	...	...	7	95	3	2	100
80-89	11	22	...	51	4	...	3	...	...	...	...	1	8	106	1	...	107
90-99	1	10	...	23	3	...	...	...	...	...	...	...	...	83	...	1	84
100-149	...	...	...	9	...	...	...	...	...	...	...	...	...	36	...	2	38
150-199	...	...	...	7	...	...	...	...	...	...	...	...	...	18	...	3	21
200-299	...	...	...	21	...	...	...	...	...	...	...	...	...	18	...	...	18
300-399	...	...	...	18	...	...	...	...	...	...	...	...	...	21	...	...	21
400-499	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	18
500-599	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	18
600-699	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
700-799	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
800-899	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
900-999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1,000-1,999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2,000-4,999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5,000-9,999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10,000 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	2,142	1,424	44	604	747	15	252	32	22	17	63	14	391	5,822	554	45	6,421



MERINO SHEEP FLOCK

against a back ground of the picturesque Blue Sky, mountains and ponds.

EMPLOYMENT AND POPULATION

The permanent male work force on rural holdings in the State has increased only slightly during the past ten years. This has been due largely to the rapid development of power farming, which is indicated by the rise in the number of farm tractors from 21,166 in 1953 to 30,379 in 1964. The result has been that in spite of greatly increased production, there has been little change in the permanent male work force which has increased from 29,083 in 1953 to 30,472 in 1964. Permanent male workers in 1964 consisted of 20,548 owners, lessees, tenants and share tenants, 1,312 farmers' relatives who were not receiving wages and 8,607 paid employees. The number of males who were temporarily employed, including contractors and their employees, was 1,508. Full information is not available regarding seasonal or casual employment, as figures relate only to the 31st March in each year. When considering the details which appear in the following table, allowance should be made for this and for the fact that female employment is excluded because of the difficulty in separating domestic from farm activities.

Population on rural holdings at the 31st March, 1964 totalled 91,388 or 11.6 per cent. of the State population.

MALE EMPLOYMENT, POPULATION AND TRACTORS ON RURAL HOLDINGS

As at 31st March	Male Working Permanently Full-time on Holdings				Temporarily Employed including Contractors and their Employees	Population of Rural Holdings			Farm Tractors
	Owners, Lessees, Tenants and Share-farmers	Relatives not Receiving Wages	Employees including Paid Relatives	Total		Males	Females	Total	
1953	29,083	1,695	7,078	37,856	4,101	48,894	27,599	76,493	21,166
1954	29,262	1,546	7,461	38,269	5,321	47,317	27,219	74,536	22,161
1955	29,261	1,515	8,702	39,478	4,467	47,346	27,287	74,633	22,936
1956	29,267	1,520	8,910	39,697	5,087	47,574	26,496	74,070	23,963
1957	29,474	1,526	8,802	39,792	4,824	47,722	26,364	74,086	24,983
1958	30,220	1,432	8,816	40,468	4,711	47,878	26,022	73,900	25,612
1959	30,174	1,485	8,991	40,650	5,348	47,690	26,594	74,284	27,164
1960	29,550	1,767	8,806	40,123	5,968	47,500	26,706	74,206	28,000
1961	29,577	1,256	9,115	40,948	5,167	49,126	26,417	75,543	29,224
1964	20,548	1,312	8,607	30,467	1,508	30,983	17,436	48,419	29,879

VALUE OF PRODUCTION

For primary production the gross value is based on the whole-sale price received "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. This consequently leaves a balance for payment of a loan, interest, rent, depreciation, the overhead costs and for the producer's own income.

The following table shows the net values of production of the various primary industries in 1963-64. The "gross 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.

PRIMARY INDUSTRIES—VALUE OF PRODUCTION: 1963-64

Industry	GROSS VALUE Based on Principal Market Prices	Marketing Costs	NET VALUE (as at source of Production)	Loss of Goods Consumed in Process of Production	NET VALUE
Agriculture	61,077,144	8,707,216	52,369,928	12,490,280	39,879,648
Forestry	24,346,279	4,208,011	20,138,268	2,773,139	17,365,129
Dairy	13,116,598	3,113,310	10,003,288	2,372,548	7,630,740
Poultry, Pigs, etc.	2,788,307	605,697	2,182,610	2,720,293	6,202,903
Blue-keeping	417,290	22,680	394,610	—	394,610
Fishing	315,974	99,306	216,668	—	216,668
Quarrying	57,85,697	101,578	5,684,119	—	5,684,119
Wool and Wholesaling	5,007,664	18,979	4,988,685	—	4,988,685
Mining and Quarrying	25,731,968	1,742,070	23,989,898	2,910,000	21,079,898
Total, Primary	136,267,673	15,696,164	120,571,509	18,173,919	102,397,590

(a) Not available

Gross values of the principal items are shown in the next table for each of the years 1959-60 to 1965-64

PRIMARY PRODUCTION—GROSS VALUES OF PRINCIPAL ITEMS

Industry and Commodity	1959-60	1960-61	1961-62	1962-63	1963-64
Agriculture—	£'000	£'000	£'000	£'000	£'000
Wheat	11,181	80,142	105,027	83,512	71,084
Oats	7,980	8,871	7,571	4,470	4,165
Barley	3,380	3,481	2,411	1,609	1,787
Hay	3,877	3,667	3,754	3,771	3,374
Pasture (less 1c)	946	714	574	30	1,039
Colzaed	451	187	479	1	
Vegetables	3,950	4,282	4,949	4,021	4,401
FRUIT ORCHARD 1c	3,591	4,087	3,497	4,782	3,802
Vine Products	650	670	811	480	872
Nut-tree Products 1c	384	385	373	363	360
Pastoral—					
Wool (Shorn and Dead) 1c	17,120	16,402	16,324	16,522	17,111
Livestock 2c	12,067	11,173	12,401	12,777	12,567
Dairying—					
Whole Milk 1c	8,724	7,121	7,021	8,962	7,168
Manufactured 1c	2,875	2,832	2,873	3,023	2,886
Poultry Rearing—					
Eggs 1c	1,516	654	1,701	1,767	1,821
Poultry	499	723	710	1,082	1,103
Beef Rearing 1c	375	333	384	387	44
Sheeping	141	330	251	188	213
Swine 1c	5,400	5,541	5,550	5,454	5,701
Fishing—					
Crabs	2,011	3,391	4,024	3,621	4,001
Other Fish 1c	290	290	301	111	924
Shell and Pearls 1c	294	277	130	110	114
Mining and Quarrying—					
Gold 1c	14,106	14,307	14,774	14,064	11,774
Asbestos	1,450	1,464	1,314	1,014	1,264
Coal	1,357	1,340	1,009	1,001	955
Gravel 1c	141	200	122	104	64
Granite 1c	340	408	275	171	61
Iron Ore	700	972	1,014	1,112	1,001
Manufactured Ore	1,000	740	1,071	600	111
Pyritic Ore and Concentrates	372	367	409	424	421
Quarry Products	1,304	1,354	1,364	2,011	2,002
Tin Concentrate	100	140	230	104	400

1c) Comprises shorn, lupins, sunflowers, vetches and other pasture seeds. 2c) Includes mutton and bone-balls.
 1c) Value of seedlings, cut flowers, bulbs, trees, etc. produced. 2c) The value of manufactured wool and wool exported.
 1c) Value included in the value of livestock slaughtered which has been estimated from prices of livestock "on foot" and
 therefore includes a value for wool on skins. 2c) Comprises cattle, sheep, and lambs. 3c) Includes manufactured
 (Government supply). 4c) Comprises calves and pigs. 5c) Includes value of non-manufactured mutton. 6c) 1c
 Value of production of bee keepers with less than five hives. 7c) Includes apples, pears, peaches, etc. 8c) 1c
 Value of production of nut growers with less than five hives. 9c) Includes nut products and products distributed
 by the local producers' association Ltd. from premiums on sales of Western Australian nuts. 10c) Copper content of
 ores and concentrates. 11c) Includes expenses on the furnace. 12c) Revised.

It should be noted that both gross values and local values of primary production involve some duplication as they include the products of certain primary industries which are consumed as raw materials by other industries in the group, for example grain and hay consumed by livestock. Furthermore, many of the materials consumed by primary industries are the products of secondary industry, for example artificial fertilizers. However, duplication has been eliminated in calculating net values of primary production by deducting the value of both primary and secondary products consumed by primary industries. Therefore net value of primary production should be used when comparing or combining values for primary industries with those for secondary industry. Gross values do, however, provide a reliable measure of the value of production of any particular group or industry.

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, the trees and vines planted and exceptional seasonal conditions.

SEASONAL CALENDAR

[illegible]

HUSHEL 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 in non-cert production to pounds weight equivalents.

[illegible]

AGRICULTURE

Wheat

Although wheat has been grown from the earliest years of settlement, cultivation was confined to limited areas as late as 1890 when, of a total area of 33,920 acres, about one-third was located in the Toodyay-Northam area of the Avon Valley, almost co-extensive in the Geraldton Greenough district and a similar area in the York-Beverly region, with lesser areas at Williams and at places in what is now the South-West Statistical Division. During the 1890's, however, substantial development took place as a result of extensions in the Great Southern and Eastern Railways and the completion of the line from Midland Junction to Walsby, and by 1910 wheat farming was being carried out in widespread areas in the southern part of the State and as far east as the Merredin district, an area with an average annual rainfall of only 15 inches. An outstanding factor in this development was the introduction and increasing use of phosphate fertilizer (superphosphate) to correct the widespread phosphorus deficiency of the wheat belt soils of Western Australia.

The decline in gold production which began in 1904 reduced employment in mining and caused people in increasing numbers to take up agriculture and . . . This contributed to a spectacular growth in wheat farming and 1,734,117 acres were sown to wheat for grain in 1913 compared with 195,091 acres ten years earlier. The first World War caused a serious reduction in acreage but recovery was fairly rapid from 1921, and by 1925 the area sown for grain had risen to more than two million acres.

Following the war, a policy of expanding land settlement was resumed. A landless settlement scheme was initiated and a large scale programme of assisted immigration, with financial aid provided by the British, Commonwealth and State Governments, was inaugurated. With adequate finance available, greater technical efficiency and a buoyant market for wheat, the area sown for grain increased threefold between 1920 and 1930. Among the technical advances contributing to the increase were the introduction of tractors and the development by the Department of Agriculture of early-maturing and drought and disease resistant wheat varieties.

Because of the relatively low yield per acre, mechanization was of great significance in the growth of wheat farming in Western Australia, but other aspects of the industry received early consideration and experimental farms were established by the Department of Agriculture in areas where particular difficulties were encountered. As a result, special wheat strains have been developed and farming techniques improved. An extensive programme of soil research and classification has been carried out by the Department and has revealed several mineral deficiencies which it has been possible to correct by the addition of trace elements, notably copper and zinc, to standard fertilizers. Experiments have also been made on methods of soil conservation in those areas which are subject to wind or water erosion, and some success has been achieved by the planting of certain grasses and fodder crops and by contour ploughing and the use of contour banks.

In 1930, an area of 3,955,153 acres was sown for grain and produced a generously unimpaired total harvest of 51,504,140 bushels, which was not exceeded until 1959. Low prices subsequently caused a decline in acreage to 2,540,696 acres in 1935, but by 1938 the total had risen to 3,412,818 for a yield of 36,844,600 bushels. The sowing of wheat for grain was reduced during the second World War to one-half of the pre-war level, only 1,815,860 acres being sown in 1944. In the immediate post-war years it steadily increased and by 1950 had again risen above three million acres. Over the next six years it declined slightly, the smallest area sown in that period being 2,764,195 acres in 1956. Significant increases occurred in each of the following three years and in 1959 the area sown was 3,715,396 acres. Except in 1946, when the average yield per acre was only 9.8 bushels, seasonal conditions in the post-war years have generally been favourable and good yields have been maintained. In 1955 a record average yield of 15.4 bushels was obtained from 1,889,381 acres, the total production being 51,250,000 bushels or only a quarter of a million bushels less than the 1930 harvest which was produced from an area one million acres greater in extent. In 1956 and 1957, when seasonal conditions were less favourable than in 1955, average yields were 11.6 and 11.2 bushels per acre and only 32.1 and 33.1 million bushels were harvested. In each season from 1938 to 1961, increases occurred in both area sown and total production, and the average yield per acre varied from 13.5 bushels in 1938 to 15.6 bushels in 1961. In 1962 the area sown, 4,803,797 acres, and total production, 72.5 million bushels, were the largest ever recorded. Adverse seasonal conditions resulted in a decline in 1963, when a total of 62.3 million bushels, the lowest since 1967, was harvested from 4,610,434 acres. The average yield, 13.3 bushels per acre, was also the lowest since 1957.

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) has been the most important customer and purchased 19.0 million bushels or 34 per cent of total exports in 1963-64. In that year other principal buyers, in order of importance, were Japan, the United Kingdom, the Union of Soviet Socialist Republics, the Federal Republic of Germany, North Korea and Hong Kong. In the most recent year principal customers for flour were Malaysia, Singapore, South Arabia, the Union of Soviet Socialist Republics and Mauritius. Further details of exports appear in Chapter IX, Part I.

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 limited undertaking was wound up before commencing operations because the technical difficulties then appeared too great and the saving in handling costs problematical. In 1930, however, the project was revived and a cheaper method was tested with storage bins at five railway sidings in the Wyalkatchem area during the 1931-32 season. The experiment was successful and all wheat produced in Western Australia for marketing is now handled in bulk.

EXPORTS OF WHEAT AND FLOUR

Year	Wheat	Flour (a)	Estimated Total Wheat Equivalent
1911	700,000 2,014,100	100,000 3,000	700,000 2,016,000
1915-16	4,111,000	139,400	4,250,400
1920-21	14,961,000	46,174	15,007,174
1925-26	13,800,000	91,233	13,891,233
1930-31	21,513,000	128,190	21,641,190
1935-36	19,034,700	120,111	19,154,811
1940-41	29,773,000	130,113	29,903,113
1945-46	46,796,000	127,117	46,923,117
1950-51	26,643,000	111,360	26,754,360
1955-56	32,603,000	106,794	32,709,794
1960-61	36,114,000	87,700	36,201,700
1961-62	32,400,000	135,375	32,535,375
1962-63	23,600,700	97,001	23,697,701
1963-64	30,730,454	74,007	30,804,461
1964-65	36,301,700	40,000	36,341,700

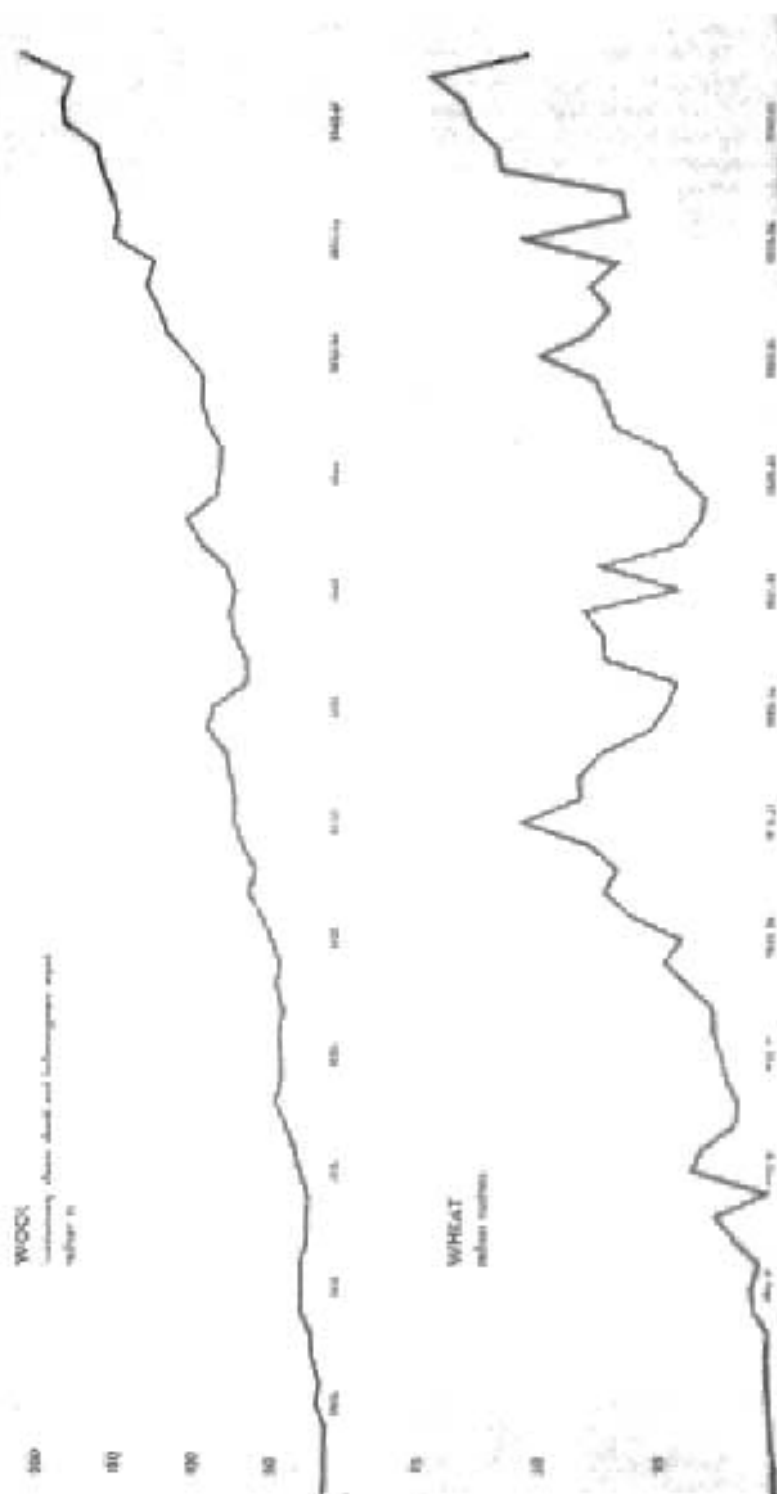
(a) Flour which are excluded from figures are 440 00 and subsequent years.

(b) Short ton = 2,000 lb.

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 Deallocation Plan 1961-62 to 1967-68, established under and controlled by the Wheat Deallocation Act 1961 which replaced similar legislation which expired after the marketing of the 1962-63 crop. The principal object of the Plan is to ensure that, in the event of falling prices, growers receive a return for their wheat at least equal to the cost of production, and for this purpose a fund is established by levying a tax on exports for each a price in excess of the cost of production is received. Should the price fall and fall below that cost 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 and again provides that this must not be less than the cost of production.

In 1961 the Commonwealth Parliament passed the Wheat Tax Act providing for a levy of 1d per bushel on wheat destined for the Australian Wheat Board. This levy, 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 and, in addition, the amount available for research work has been increased by £254,000 made available under the provisions of the Wheat Research (Budgetary Control) Act 1958, from funds held by the Australian Wheat Board.

Wool and Wheat -- Annual Production 1901 to 1963-64



The following 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
	acres	hushels	hushels	£
1900-01	74,306	774,654	10.4	104,031
1901-02	101,071	7,365,909	11.6	425,544
1902-03	201,266	5,297,540	10.1	1,091,216
1903-04	1,794,117	16,166,392	10.3	5,267,247
1904-05	1,278,676	12,445,080	9.8	5,511,636
1905-06	2,112,032	20,471,177	9.7	6,416,547
1906-07	1,761,793	16,304,146	11.3	6,100,048
1907-08	1,246,646	10,113,517	9.3	4,272,641
1908-09	1,603,801	21,092,000	9.5	4,253,953
1909-10	1,803,700	20,329,000	11.4	5,429,771
1910-11	1,785,300	19,805,000	11.7	19,564,123
1911-12	2,375,151	16,405,000	11.1	21,327,513
1912-13	2,689,305	22,220,000	10.4	34,819,891
1913-14	2,794,469	25,190,000	11.9	33,537,512
1914-15	2,867,208	23,100,000	11.2	25,526,217
1915-16	3,291,008	26,000,000	17.9	38,919,314
1916-17	3,715,000	35,670,000	9.6	41,100,601
1917-18	4,021,225	41,300,000	9.3	46,145,110
1918-19	4,379,751	45,700,000	10.0	55,913,341
1919-20	4,603,147	51,000,000	8.1	51,013,380
1920-21	4,695,130	50,100,000	7.3	37,100,370

The principal varieties of wheat sown in each of the seasons 1919-20 to 1923-24 are shown in the following table.

AREAS SOWN TO INDIVIDUAL VARIETIES OF WHEAT

Variety	1919-20		1920-21		1921-22		1922-23		1923-24	
	Area (acres)	Per cent. of Total	Area (acres)	Per cent. of Total	Area (acres)	Per cent. of Total	Area (acres)	Per cent. of Total	Area (acres)	Per cent. of Total
Boscobel	126,114	1.5	179,978	4.1	151,114	1.7	240,835	5.2	343,557	3.1
Boscobel 49	126,114	1.5	80,033	2.1	71,404	1.7	71,100	1.6	61,302	1.0
Burgundy	806,513	19.1	971,240	11.1	907,146	10.2	465,450	9.5	497,010	5.0
Dora	18,754	0.4	23,000	0.4	22,117	0.3	16,230	0.3	14,290	0.3
Excelsior E.	97,343	1.4	83,000	2.1	96,000	1.1	117,000	2.4	79,000	1.0
Gale	1,071,000	26.1	1,205,700	27.7	1,004,000	12.2	1,000,000	20.0	1,000,000	19.0
Glenn					90		1,000		30,475	0.0
Glenn 2	20,570	0.3	35,000	0.4	35,174	0.7	14,000	0.7	25,500	0.0
Glenn 3	801,000	19.7	877,000	19.1	717,770	14.0	779,000	16.0	732,000	14.1
Glenn 4	140,000	3.0	125,000	3.0	407,000	11.0	543,000	11.2	579,000	12.4
Glenn 5	110		300		2,000	0.1	17,000	0.3	20,000	0.0
Glenn 6	116,542	1.4	145,000	3.1	144,000	1.3	150,544	3.7	105,507	2.0
Glenn 7					170		1,000	0.2	62,544	1.0
Glenn 8	1,114	0.0	14,000	0.3	21,400	0.4	11,700	0.7	30,771	0.3
Glenn 9	170,000	1.4	17,000	0.1	160,000	1.0	240,000	7.1	280,000	5.1
Other Varieties	100,000	4.0	140,000	3.0	141,000	1.0	147,000	3.0	140,000	1.2
Total	5,794,000	100.0	4,977,000	100.0	5,432,444	100.0	4,810,122	100.0	4,074,106	100.0

In the following tables, holdings growing wheat for grain in 1923-24, in three groups of the average seven, are classified according to the size of the holding and the size of the sheep flock on the holding. Of the 21,832 rural holdings of all types in the State, wheat for grain was grown on 8,780. Holdings of between 1,000 and 5,000 acres accounted for 78 per cent. of this number and holdings which sowed between 500 and 1,000 acres represented 66 per cent. Of the holdings growing wheat for grain, 5,002 carried sheep and 79 per cent. had flocks of between 100 and 2,000 sheep.

WHEAT FOR GRAIN—AREA AND PRODUCTION, AUSTRALIAN STATES

Season	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australian Capital Territory	Australia
AREAS SOWN TO WHEAT FOR GRAIN ('000 ACRES)								
1959-60	1,930	2,261	683	1,349	1,719	8	2	12,172
1960-61	4,070	2,272	693	1,969	4,021	7	1	15,433
1961-62	4,498	2,549	750	2,220	4,380	16	1	14,724
1962-63	5,028	3,121	919	2,965	4,304	15	1	16,469
1963-64	4,964	3,109	955	2,907	4,640	14	1	16,474
PRODUCTION OF WHEAT ('000 BUSHEL)								
1959-60	75,368	18,783	11,365	11,819	58,070	181	17	195,603
1960-61	82,867	27,287	15,999	16,390	82,900	148	39	273,734
1961-62	78,366	36,579	12,918	21,851	45,700	245	32	247,179
1962-63	106,802	47,509	15,681	28,310	72,508	410	70	356,632
1963-64	102,475	76,303	22,475	33,671	52,346	483	69	337,932
YIELD PER ACRE (BUSHEL)								
1959-60	19.1	17.2	19.8	7.7	15.8	22.2	28.8	16.1
1960-61	20.8	25.1	15.9	23.8	15.9	21.4	28.5	22.4
1961-62	17.4	20.0	18.0	11.2	15.0	22.2	22.7	19.2
1962-63	21.8	21.7	20.6	14.8	15.1	27.3	29.3	18.4
1963-64	24.7	24.3	23.5	13.3	11.3	27.5	24.0	19.9

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, where their high nutritional worth as stock feed made them a very valuable crop. The area sown to oats for grain increased from 193,456 acres in 1930 to 214,874 in 1939, to 429,171 in 1949 to 585,701 in 1959 and 1,329,896 in 1963. Since then, it has declined steadily, and in 1964 the area sown was 1,124,896 acres.

In addition to their importance as hard stock feed, oats are exported in substantial quantities. In 1963-64 the total sold overseas was 5,297,544 bushels, the principal buyers being China (Mainland), the Federal Republic of Germany, the Netherlands and the United Kingdom. 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 Oats Pool of W.A. under the control of the Minister for Agriculture.

OATS FOR GRAIN—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	bushels	bushels	£
1959-60	1,145,807	19,579,646	15.8	7,969,975
1960-61	1,129,804	21,894,845	16.4	8,574,872
1961-62	1,139,651	20,196,436	16.4	7,824,964
1962-63	1,177,481	18,171,578	15.8	8,175,798
1963-64	1,124,896	17,549,180	15.9	6,146,410

Barley

Barley grows well on the lighter soils of the wheat belt. It is also successful as a first crop on newly-developed land, and the opening up of new areas for farming accounts partly for the remarkable increase in the area sown for grain from 56,574 acres in 1951-52 to a peak of 540,646 acres in 1960-61. It declined to 490,572 acres in 1961-62. In the two following seasons, mainly because of unfavourable seedling conditions in many cereal growing districts, the area declined further and in 1963-64 it was reduced to

298,855 acres. Both "two-row" and "six-row" barley is grown, and while a large amount of the grain produced is retained on farms for stock feed, a significant surplus is available for export. In 1963-64 the quantity exported overseas was 3,067,061 bushels, the principal buyers being the United Kingdom, China (Mainland), Italy and Japan. Most "six-row" barley marketed is shipped overseas, while sales of "two-row" barley are mainly to local millers.

The marketing of barley, both for export and for local consumption, is controlled by the Western Australian Barley Marketing Board.

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	£
1954-55	52,780	1,023,615	19.4	575,527	555,330	5,354,013	35.4	2,805,303
1955-56	71,923	1,173,417	16.3	715,048	489,723	7,320,490	15.0	2,751,960
1956-57	54,187	989,043	16.6	653,124	437,403	6,285,480	14.6	2,145,963
1957-58	66,135	1,150,150	18.0	737,586	750,147	4,956,506	15.0	2,295,129
1958-59	63,790	955,191	14.2	611,966	735,125	3,141,548	13.1	1,173,657

Rice

Rice has been produced commercially for several years at Camballin on the Lawreys flood plain, using irrigation water from the Fitzroy River. It is also being grown on a commercial scale at Kunzea area on the Old River where experimental work on rice growing is being carried out at the Kimberley Research Station. Rice mills have been established at Camballin, Kunzea and Fremantle.

Other Grains and Pulse

Rye and field peas are the only other grain or pulse crops which are cultivated to any appreciable extent. Some maize is grown but not in significant 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	quintals	£	acres	bushels	bushels	£
1955-56	8,118	77,141	8.1	17,028	3,938	4,794	5.1	14,800
1956-57	10,118	79,434	8.2	14,741	4,371	34,002	7.8	45,565
1957-58	9,573	89,877	8.1	39,790	4,180	34,003	5.5	45,504
1958-59	8,746	57,039	6.1	27,416	4,800	29,807	6.1	31,114
1959-60	5,340	70,154	13.5	33,050	3,809	18,708	10.0	33,061

Hay

The principal hay crop is oats and 139,003 tons of oat hay were cut in 1963-64 from 121,316 acres. Wheat is the only other cereal crop which is used extensively for this purpose and in 1963-64 the production was 39,534 tons from 31,951 acres. Large quantities of meadow hay are cut from clover and grass pastures, production in 1963-64 being 187,046 tons from 122,941 acres. Barley, rye, lucerne and field peas are also used for hay making but they are of minor importance only.

HAY—AREA AND PRODUCTION

Season	Oats		Wheat		Meadow		Other (a)		Total	
	area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	acres	tons	acres	tons	acres	tons	acres	tons	acres	tons
1955-56	179,362	228,364	53,390	66,276	83,079	120,874	3,840	7,937	310,448	435,201
1956-57	147,800	187,825	40,808	51,090	95,305	133,763	5,854	8,321	284,558	361,210
1957-58	144,990	185,368	40,302	49,208	103,532	154,213	6,319	7,130	293,540	396,662
1958-59	170,990	204,100	48,114	51,790	117,382	164,638	8,541	10,332	336,504	430,500
1959-60	117,817	150,966	37,361	50,034	127,541	182,946	7,449	8,713	282,567	386,415

(a) Malt barley, rye, lucerne and field pea hay.

Green Feed

Large areas of oats are grown for use as green feed for stock. Other crops which are cultivated for this purpose, but to a far lesser extent, are barley, wheat, peas, beans, rye and maize. In 1963-64 the total area of crops used for green feed was the lowest for many years, being only 417,341 acres compared with 607,918 acres in 1962-63. The large decrease occurred mainly in oats and barley and was due to a number of factors, an important one being the abundance of natural feed and pasture in 1962 and 1963.

GREEN FEED—AREA GRAZED AND CUT

Season	Oats	Barley	Wheat	Peas and Beans	Rye	Maize	All Other Crops (a)	Total
	acres	acres	acres	acres	acres	acres	acres	acres
1959-60	407,337	33,793	22,863	2,136	4,061	1,981	12,704	704,935
1960-61	514,892	49,015	15,123	6,770	9,038	363	10,392	606,133
1961-62	526,433	52,719	15,441	7,357	9,062	467	10,401	622,793
1962-63	576,132	43,969	15,420	7,404	10,744	511	12,392	697,918
1963-64	526,143	28,297	6,813	6,370	3,410	994	14,312	417,341

(a) Vetch, sainfoin, grass, lucerne, sorghum, millet, rape and vetches.

* Rotted.

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 reared on wheat farms by far the greater area is now devoted to the wheat growing districts.

Subterranean clover was one of the first pasture species sown and it is still the most important, although other clovers and a variety of grasses including Wimmera ryegrass and perennial ryegrasses are also grown extensively. The present practice is to sow a mixture of two or more species, selected for their suitability to the type of soil and rainfall, to give a pasture of about equal parts of clover and grass.

The area under established pasture has increased remarkably from 1.0 million acres in 1945-46 to 9.5 million acres in 1963-64. More than three quarters of the present acreage occurs in mixed cereal and sheep farming areas.

The top dressing of pastures with superphosphate has developed to such an extent that this treatment is now general practice.

Exceptionally favourable harvesting conditions and the prospect of satisfactory prices caused a marked rise in production of pasture seed in 1963-64, when 12,260,000 lb. of subterranean clover was produced, compared with 5,512,000 lb. in 1962-63. Corresponding figures for barrel medic were 2,863,000 lb. and 246,000 lb. Production of other seeds in 1963-64 amounted to 2,239,000 lb., comprising lupins, 1,189,000 lb., Wimmera ryegrass, 843,000 lb., and 227,000 lb. of other clover and other pasture seed. The total production of all pasture seeds was 17.4 million lb., compared with 8.03 million lb. in 1962-63. There is an important export trade in subterranean clover seed and in 1963-64 the total was 1,699,452 lb., almost all of which went to the other Australian States.

Tobacco

Although there were several earlier experiments in the cultivation of tobacco, the planting of exploratory plots at Manjimup in 1923 first revealed that leaf of a satisfactory quality could be produced in Western Australia and commercial production began in 1930, when 25 acres were planted for a yield of 12,900 lb. of cured leaf. Production rose gradually until wartime shortages of overseas supplies caused a rapid increase, and in 1942-43 there were 1,347 acres planted to tobacco for a yield of 1,356,512 lb. of leaf. Production then declined because of labour shortages and the demands of more essential forms of agriculture for service and civilian requirements, the area cropped in 1945-46 being only 296 acres.

Production was slow, but by 1952-53 the area planted had risen to 1,523 acres. Subsequently it declined and in 1955-56 only 1,176 acres were planted. The area increased in each of the three following seasons and in 1958-59 had grown to 1,561 acres, which produced 1,369,510 lb. of leaf. Of this total 106,023 lb. remained unsold because it did not meet the requirements of manufacturers.

In that 6,000-acre area of 1,176 acres produced 1,287,042 lb. but more than one-half of the leaf offered at the annual auction sale held at Fremantle in August, 1961 was not sold. This collapse of the market was a serious blow to the industry and only 154 acres were planted in 1961. Production was 169,020 lb. of which more than 116,000 lb. could not be sold. Since 1962, when the area was only 28 acres, no tobacco has been planted.

FLAX FOR LINSEED--AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	£
1950-51	136	965	6.2	2,380
1951-52	439	1,375	3.1	4,650
1952-53	1,253	2,535	2.0	15,447
1953-54	626	2,710	4.3	9,511
1954-55	1,534	4,290	2.8	24,727

Cotton

The first commercial crop of cotton was grown at Kununurra in 1952-53 on land irrigated from the Ora River diversion dam at Bandedoot Bar. In 1953-54 a total area of 1,586 acres produced 18,871 cwt. of seed cotton, the yield per acre being 1,355 lb. There has been a substantial increase in the area planted in 1954-55. A cotton ginneries to process the seed cotton was installed at Kununurra in 1953.

Under the Raw Cotton Bounty Act 1953, the Commonwealth Government pays a bounty, up to a maximum amount of £2 million in any year, on the cotton of grade higher than "strict good ordinary" which is produced and sold for use in Australia. Bounty is paid at the rate of 16½ pence per lb. of cotton of "medium white" grade with a staple length of one inch. Provision is made for premiums and discounts on staple and grades above and below these standards. The bounty is payable for a period of five years from the 1st January, 1954.

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 hill-sides and drained flats of the coastal areas between Harvey and Donnybrook. Mid-season plantings are made from the middle of July to November in market gardens and in the Metropolitan and Swan Demarcated Irrigation land in the Shires of Waroona, Harvey and Dardanup and summer-moist areas in the Shires of Donnybrook, Russellton, Manjimup and Albany. Late crops are planted between mid-November and the end of April in approximately the same districts as the mid-season crops.

The average yield of potatoes per acre in Western Australia is consistently very much greater than that for Australia as a whole, and in 1953-54 comparative yields were 9.5 tons and 5.5 tons per acre. This is due mainly to the favourable climatic conditions in Western Australia but an important factor is the reliability, under a wide range of conditions, of the Delaware variety which is grown almost exclusively. There is a substantial export surplus, the bulk of which usually goes to the other Australian States. In 1953-54, however, Singapore provided the principal market and significant quantities were sent also to Hong Kong.

Potato production in Western Australia is controlled, under the provisions of the Marketing of Potatoes Act, 1946-1947, by the Western Australian Potato Marketing Board, which is the sole marketing authority for potatoes produced for local consumption. The object of this provision is to ensure adequate supplies for local consumption and efficient marketing of crops. The downward trend in acreage in potatoes during recent years is partly a result of this aim. Average yields per acre have been increasing for some years and as the local and export markets have remained static it has been necessary to restrict the area sown in order to avoid creating surpluses. This policy has maintained total production at a fairly constant level up over the period from 1951-52 to 1953-54.

POTATOES--AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	£
1950-51	9,861	60,000	6.0	1,725,000
1951-52	9,616	46,000	4.8	1,700,000
1952-53	10,724	53,700	5.0	1,700,000
1953-54	9,150	58,000	6.3	1,795,000
1954-55	10,215	51,000	5.0	1,500,000

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 generally grown in light sandy soils and yields of up to 20 tons per acre are obtained. Both area and production increased in each year from 1950-51 to 1962-63, when 599 acres produced 6,677 tons, the yield per acre being 11.15 tons. In 1963-64, although the area fell to 446 acres, the yield per acre was 15.3 tons and total production rose to 6,811 tons.

Onions are imported annually into Western Australia during the winter but a surplus is produced locally during the summer months and is exported overseas, mainly to Singapore, as well as to the other Australian States. Sales are controlled by the Western Australian Onion Marketing Board under the provisions of the Marketing of Onions Act, 1938-1960, which was passed by the State Parliament in order to stabilise prices.

ONIONS—AREA AND PRODUCTION

Season	Area acres	Total Tons	Production	
			Average Yield Tons/Acre	Gross Value £
1950-51	500	5,767	11.5	778,200
1951-52	561	6,229	11.1	841,224
1952-53	579	6,290	11.0	776,448
1953-54	559	5,922	10.6	680,774
1963-64	446	6,811	15.3	811,766

Tomatoes

The main centre of production of vegetables and of fruit is in the districts around Perth. At Gosman, because of the warm winter climate, growers are able to produce early crops and take advantage of the high prices ruling in the Melbourne market during the winter and spring. They also supply substantial quantities to the Perth market and there is a seasonal export trade with Singapore. Production of early tomatoes has also become important at Carnarvon.

Supplies to the Perth market from December to June are grown in and near the metropolitan area, principally in the Wanders and Osborne Park districts. Tomatoes are also grown in a number of districts in the South West and a small acre is planted annually at Kalgoorlie.

The total area under tomatoes reached a peak of 1,555 acres in 1944-45 but the yield per acre in that year was low and total production was only 1,434 tons. Since then, although the area has declined, yields per acre have improved and production in 1963-64 was 2,086 tons from 866 acres, an average of 2.4 tons per acre.

TOMATOES—AREA AND PRODUCTION

Season	Area acres	Total Tons	Production	
			Average Yield Tons/Acre	Gross Value £
1950-51	641	7,547	11.8	1,071,000
1951-52	679	8,199	12.1	1,101,000
1952-53	770	8,519	11.1	1,001,000
1953-54	682	8,179	12.0	1,001,000
1963-64	866	2,086	2.4	251,000

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 small outlays. Small quantities are also produced in some country districts. An important early crop of beans is grown at Carnarvon and transported by road to Perth. If the price available is sufficient to permit growers for the whole year, gardens of this crop are raised as well as at Adelaide and Melbourne.

TURNIPS, CARROTS, PARSNIPS, BRETFROOT—AREA AND PRODUCTION

Season	Turnips (Swede and White)			Carrots			Parsnips			Bretroot		
	Production			Production			Production			Production		
	Area	Quantity	Gross Value	Area	Quantity	Gross Value	Area	Quantity	Gross Value	Area	Quantity	Gross Value
	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£
1955-56	137	18,889	24,548	231	67,492	130,301	145	30,089	41,300	136	10,303	24,320
1956-57	146	18,658	25,132	315	81,054	79,919	158	17,010	18,364	135	19,530	65,141
1957-58	158	18,606	27,652	324	84,010	104,308	114	15,817	70,703	125	19,326	32,230
1958-59	169	19,254	27,756	315	71,735	127,266	108	18,368	45,457	142	20,098	28,934
1959-60	168	19,598	47,616	381	85,379	174,757	127	10,289	12,505	117	17,894	46,863

PUMPKINS, BEANS, GREEN PEAS—AREA AND PRODUCTION

Season	Pumpkins			Beans						Green Peas		
				Runner			French					
	Area	Quantity	Gross Value	Area	Quantity	Gross Value	Area	Quantity	Gross Value	Area	Quantity	Gross Value
	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£
1955-56	909	75,474	104,720	291	80,838	119,044	51	1,804	14,007	2,008	50,976	137,943
1956-57	908	85,436	109,866	315	77,354	505,379	57	2,355	15,365	1,698	32,539	149,790
1957-58	1,071	56,858	135,460	7,107	82,548	424,260	45	2,654	15,404	2,014	34,487	130,983
1958-59	1,060	55,002	107,596	568	61,573	480,541	55	2,815	11,915	1,480	28,738	141,271
1959-60	894	75,798	186,111	1,587	85,156	119,731	44	2,815	11,304	1,666	52,247	117,482

CABBAGES, CAULIFLOWERS, LETTUCE—AREA AND PRODUCTION

Season	Cabbages			Cauliflowers			Lettuce		
	Production			Production			Production		
	Area	Quantity	Gross Value	Area	Quantity	Gross Value	Area	Quantity	Gross Value
	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£
1955-56	377	70,778	54,442	589	66,568	102,637	349	64,563	151,407
1956-57	386	70,276	55,184	615	714,860	204,437	369	67,580	142,145
1957-58	345	75,774	77,753	665	705,142	184,653	387	64,673	195,409
1958-59	349	82,559	77,746	643	713,215	197,224	375	74,221	164,317
1959-60	350	102,555	112,627	614	761,925	107,369	411	81,581	170,115

Orchards

Fruit production is largely confined to the temperate regions between Inverclyde 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 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 1959-60 to 1963-64.

FRUIT—AREA AND GROSS VALUE OF PRODUCTION

Season	Pome (a)		Citrus (b)		Stone (c)		Other (d)		Total Fruit (e)	
	Area	Gross Value of Production	Area	Gross Value of Production	Area	Gross Value of Production	Area	Gross Value of Production	Area	Gross Value of Production
	acres	£	acres	£	acres	£	acres	£	acres	£
1959-60	25,051	1,865,813	3,796	615,111	3,855	425,943	55	513,958	33,757	3,291,109
1960-61	25,136	2,031,859	3,912	805,299	3,485	335,407	730	81,392	33,915	4,267,428
1961-62	15,548	2,755,740	3,369	549,617	2,174	431,227	812	153,468	24,867	3,492,038
1962-63	15,848	2,681,156	3,605	645,779	2,555	417,023	640	292,512	23,291	4,795,743
1963-64	16,222	2,857,541	3,781	711,574	2,440	416,517	1,031	563,679	25,673	5,092,154

(a) Includes grapes. (b) Apples, pears and quinces. (c) Principally cherries, plums, peaches and apricots. (d) Includes figs, guavas, pineapples, mangoes and other minor fruits. (e) Includes area under young non-bearing trees.

Apples

Apples, which are the principal fruit crop, account for more than half the total orchard area. Bridgeman, Mt. Barker, Dunnybrook and Manjimup are the most important centres but other districts in the south west and in the Darling Range near Perth produce large quantities. In 1963-64 the total area of bearing trees was 10,880 acres which produced 1 287,310 bushels, the principal varieties being Granny Smith, Chiquita, Yato, Jonathan, Delmon, Dougherty and Doris.

There is a valuable export trade and overseas shipments average about one million bushels annually. The United Kingdom is the most important market, Sweden and Singapore also being consistent buyers.

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	£
1959-60	10,811	3,525	1,185,012	109.4	1,728,541
1960-61	10,798	3,686	2,052,680	190.7	2,809,451
1961-62	10,657	3,766	1,187,400	108.7	2,024,841
1962-63	10,813	3,516	1,977,305	182.1	2,769,774
1963-64	10,880	4,277	1,287,310	118.2	2,187,364

(a) Calculated on the area of bearing trees only.

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 1963-64 being 783 acres and the production 155,517 bushels. The bulk of the crop is consumed locally but small quantities are exported, principally to the United Kingdom and Singapore.

PEARS—AREA AND PRODUCTION

Season	Area		Production		
	Trees of Bearing Age	Young Trees not Bearing	Total	Average Yield per acre	Gross Value
	acres	acres	bushels	bushels	£
1959-60	823	177	138,340	168.1	225,134
1960-61	750	185	165,300	218.9	240,409
1961-62	790	237	153,400	194.2	229,159
1962-63	799	275	171,740	214.8	235,255
1963-64	783	287	155,517	198.0	240,501

Citrus Fruit

While the Shire of Claremont is the chief citrus fruits producer, there are other important areas in the Darling Range near Perth and in the Shires of Swan Cuddles, Murray, Harvey, Capel and Doreybrook. Although oranges are by far the most important crop and account for about four fifths of the total area, substantial quantities of lemons, grapefruit and mandarins are also produced.

Production is largely for local consumption but there is some export trade, mainly with Singapore.

The following tables give details of production of each type for the years 1959-60 to 1963-64.

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	£
1959-60	4,478	787	945,174	510,595	184	107	11,205	44,537
1960-61	4,167	771	882,703	484,841	188	110	18,000	67,742
1961-62	4,554	811	1,000,000	525,086	201	113	20,000	76,100
1962-63	4,653	910	1,113,911	571,378	224	121	23,210	72,305
1963-64	4,630	1,063	1,011,693	535,206	221	121	27,255	83,231

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	£
1959-60	501	117	108,276	72,398	129	7	20,137	17,921
1960-61	499	126	141,774	69,439	133	8	22,983	16,868
1961-62	511	157	84,537	65,950	119	7	17,267	13,456
1962-63	522	182	107,160	47,333	119	12	18,780	13,036
1963-64	511	164	123,697	75,984	114	17	21,053	17,253

(a) Principally grapefruit.

Stone Fruits

Plums, peaches, apricots, nectarines and cherries 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 1963-64 was 2,430 acres, comprising 1,045 acres of plums, 904 of peaches, 316 of apricots, 128 of nectarines and 37 of cherries. The bulk of the stone fruit crop is consumed locally but shipments of plums are sent overseas, mainly to Singapore.

The following tables give details of production of the principal stone fruits for the five years 1959-60 to 1963-64.

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	£
1959-60	768	290	54,707	131,150	647	182	50,064	98,181
1960-61	778	256	95,986	139,854	647	222	88,401	105,590
1961-62	786	261	72,974	105,963	660	245	88,937	151,193
1962-63	822	262	89,043	188,818	700	240	78,975	126,887
1963-64	814	231	95,152	214,006	706	198	84,228	111,687

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	£
1959-60	327	47	29,061	74,751	154	29	14,201	29,507
1960-61	299	39	49,213	58,235	132	22	17,105	27,463
1961-62	288	50	38,650	82,023	127	23	16,187	28,957
1962-63	288	56	35,114	75,532	126	24	13,559	24,053
1963-64	270	46	35,596	76,332	112	16	12,307	25,855

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 quarry eggs, which do not occur every year, a problem is presented in the falling-off of water supplies and in the exposure of the soil to frost in the underground water during long dry periods. These conditions and also periodic damage from cyclones or dry bush-fires 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	1954	Average Yield per acre (c)	1954 Value
	acres	acres	tonnage	tonnage	£
1951-52	222	104	107,604	263 c	205,121
1952-53	21	122	7,686	63 c	17,000
1953-54	191	46	44,111	231 c	112,200
1954-55	222	32	79,573	354 c	214,000
1955-56	311	46	140,643	452 c	330,277

(a) Calculated on the area of bearing plants only.

Vineyards

Almost three-quarters of the State's vine crops are in the Shires of Swan-Goldfields, other important centres being Clittering, Wyndham, Toodyay, Leonora, Northern and Mandurah.

The area of vines for the production of dried currants, sultanas and table raisins has declined from a post war peak of 3,836 acres in 1947 to 3,381 acres in 1953-54 but it still represents two-fifths of the total area under grapes. Currants are the main item of production and a high proportion of the crop is exported to Europe, the United Kingdom, Canada, Jamaica and Ceylon being the principal buyers in 1953-54. 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 Malaya. More than half a million gallons of beverage wine have also been produced annually for the past five years, quantity for local consumption although small amounts are exported to the other Australian States and overseas.

GRAPES—AREA AND PRODUCTION

Season	Wine Grapes for Table Use and Wine Making				Dried Vine Fruits				Production of Beverage Wine
	Area		Production		Area		Production		
	Vines of Bearing Age	Young Vines Not Bearing	Wineable Tonnage	Wine Value	Vines of Bearing Age	Young Vines Not Bearing	Quantity (Packed Weight)	Gross Value	
	acres	acres	tons	£	acres	acres	tons	£	
1951-52	4,191	794	1,097	260,262	9,799	143	1,475	103,147	549,547
1952-53	4,125	904	1,007	251,406	9,633	99	2,035	227,513	556,173
1953-54	4,379	1,101	1,028	263,114	9,502	122	2,707	241,006	620,793
1954-55	4,554	613	1,207	314,003	9,277	138	1,276	100,547	536,054
1955-56	4,844	750	1,143	279,213	9,773	165	2,117	200,000	569,463

PASTORAL

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 Gascoyne, Kalbarri, Laverton, Leamur and Menzies, which form part of the Eastern Goldfields Division. The balance of the State, referred to as the "agricultural areas," comprises the Metropolitan, Swan, South West, Southern Agricultural, Central Agricultural and Northern Agricultural Divisions together with the Shires of Dardanup, Esperance, Ravensthorpe and Yilgarn in the Eastern Goldfields Division.

In the early days of settlement, pastoral activities in Western Australia were largely confined 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 now 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 1847 and 1853, 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 Avonmouth, Fortescue, De Grey and Ordover 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. Pastoralists were thus turning their attention to the south-west and in the 1870's 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 Flinders and Gascoyne 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 coastal boats of droving.

Pastoral production, comprising the production of meat as well as wool, now contributes about two-fifths of the total net value of Western Australian primary production. It is no longer confined mainly to the pastoral areas but extends also to much of the agricultural areas of the State.

Sheep

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 a slight 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 storage in the coastal belt, the provision of many acres 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 has 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 the 31st March, 1946, the State total was 20.2 million or more than double the total of 9.8 million at the same date in 1940. Numbers in the agricultural areas increased from 1 million, or 12 per cent. of the State total, to 16.6 million or more than 82 per cent. This also increased in the pastoral areas from 2.7 million to 3.6 million, but as a percentage of the State total this represents a decline from 28 per cent. to less than 18 per cent.

SHEEP NUMBERS AND DISTRIBUTION

As at 31st March	In agricultural areas		In Pastoral areas		State Total
	Number	Proportion of State Total (per cent.)	Number	Proportion of State Total (per cent.)	
1946	16,600,000	82.2	3,600,000	17.8	20,200,000
1945	16,000,000	80.0	3,500,000	17.4	19,500,000
1944	15,500,000	78.4	3,400,000	16.6	18,900,000
1943	15,000,000	76.8	3,300,000	16.2	18,300,000
1942	14,500,000	75.2	3,200,000	15.8	17,700,000
1941	14,000,000	73.6	3,100,000	15.4	17,100,000
1940	13,500,000	72.0	3,000,000	15.0	16,500,000
1939	13,000,000	70.4	2,900,000	14.6	15,900,000
1938	12,500,000	68.8	2,800,000	14.2	15,300,000
1937	12,000,000	67.2	2,700,000	13.8	14,700,000
1936	11,500,000	65.6	2,600,000	13.4	14,100,000
1935	11,000,000	64.0	2,500,000	13.0	13,500,000
1934	10,500,000	62.4	2,400,000	12.6	12,900,000
1933	10,000,000	60.8	2,300,000	12.2	12,300,000
1932	9,500,000	59.2	2,200,000	11.8	11,700,000
1931	9,000,000	57.6	2,100,000	11.4	11,100,000
1930	8,500,000	56.0	2,000,000	11.0	10,500,000
1929	8,000,000	54.4	1,900,000	10.6	9,900,000
1928	7,500,000	52.8	1,800,000	10.2	9,300,000
1927	7,000,000	51.2	1,700,000	9.8	8,700,000
1926	6,500,000	49.6	1,600,000	9.4	8,100,000
1925	6,000,000	48.0	1,500,000	9.0	7,500,000
1924	5,500,000	46.4	1,400,000	8.6	6,900,000
1923	5,000,000	44.8	1,300,000	8.2	6,300,000
1922	4,500,000	43.2	1,200,000	7.8	5,700,000
1921	4,000,000	41.6	1,100,000	7.4	5,100,000
1920	3,500,000	40.0	1,000,000	7.0	4,500,000
1919	3,000,000	38.4	900,000	6.6	3,900,000
1918	2,500,000	36.8	800,000	6.2	3,300,000
1917	2,000,000	35.2	700,000	5.8	2,700,000
1916	1,500,000	33.6	600,000	5.4	2,100,000
1915	1,000,000	32.0	500,000	5.0	1,500,000
1914	900,000	30.4	400,000	4.6	1,300,000
1913	800,000	28.8	300,000	4.2	1,100,000
1912	700,000	27.2	200,000	3.8	900,000
1911	600,000	25.6	100,000	3.4	700,000
1910	500,000	24.0	100,000	3.4	600,000
1909	400,000	22.4	100,000	3.4	500,000
1908	300,000	20.8	100,000	3.4	400,000
1907	200,000	19.2	100,000	3.4	300,000
1906	100,000	17.6	100,000	3.4	200,000
1905	100,000	17.6	100,000	3.4	200,000
1904	100,000	17.6	100,000	3.4	200,000
1903	100,000	17.6	100,000	3.4	200,000
1902	100,000	17.6	100,000	3.4	200,000
1901	100,000	17.6	100,000	3.4	200,000
1900	100,000	17.6	100,000	3.4	200,000

SHEEP FLOCKS AS AT 31st MARCH 1960, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF FLOCK

Size of Holding (acres)	Size of Sheep Flock (numbers)											Total All Rural Holdings
	1-99	100-199	200-299	300-399	400-499	500-599	600-699	700-799	800-899	900-999	1,000 and over	
1-99	427	1										427
100-199	228											228
200-299	318											318
300-399	534											534
400-499	542											542
500-599	561											561
600-699	584											584
700-799	602											602
800-899	1,371											1,371
900-999	2,051											2,051
1,000-1,999	8,850											8,850
2,000-2,999	9,783											9,783
3,000-3,999	2,520											2,520
4,000-4,999	1,427											1,427
5,000-5,999	217											217
6,000-6,999	101											101
7,000-7,999	473											473
Total	13,950	1	20	50	975	431	275	50	1	1	13,950	71,879

SHEEP FLOCKS AS AT 31st MARCH 1960, CLASSIFIED ACCORDING TO SIZE OF FLOCK AND AREA OF ESTABLISHED PASTURE

Size of Established Pasture (acres)	Size of Sheep Flock (numbers)											Total All Rural Holdings
	1-99	100-199	200-299	300-399	400-499	500-599	600-699	700-799	800-899	900-999	1,000 and over	
1-99	427											427
100-199	228											228
200-299	318											318
300-399	534											534
400-499	542											542
500-599	561											561
600-699	584											584
700-799	602											602
800-899	1,371											1,371
900-999	2,051											2,051
1,000-1,999	8,850											8,850
2,000-2,999	9,783											9,783
3,000-3,999	2,520											2,520
4,000-4,999	1,427											1,427
5,000-5,999	217											217
6,000-6,999	101											101
7,000-7,999	473											473
Total	13,950	1	20	50	975	431	275	50	1	1	13,950	71,879

Size of Sheep Flock (numbers)

Size of Established Pasture (acres)

Size of Sheep Flock (numbers)

Size of Established Pasture (acres)

In the preceding table sheep flocks at the 31st March, 1960, in size groups are classified according to the size of the holding and to the area of established pasture. Of the 21,832 holdings of all types, sheep were reared on 12,950. Holdings of between 1,000 and 2,000 acres accounted for 63 per cent. of the flock and holdings which carried between 600 and 2,000 sheep for 60 per cent. of the flocks. Of the holdings carrying sheep 8,459, or 65 per cent., had some established pasture and 6,764, or 52 per cent., had 200 acres and over.

An analysis of collected data relating to breeds of sheep as at the 31st March, 1962 showed that Merinos accounted for 92 per cent. of the total. Corriedales, Polwartha and British breeds, the most important of which are Romney Marsh, South Down, Dorset Horn, Border Leicester and English Leicester, comprised 5 per cent. and the remaining 5 per cent. was made up of Crossbreeds, including Merino Crossbreeds. 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 1962 comprised about 17 per cent. of the rams in the State. As a result of the high wool prices offered after the war the "fat lamb" industry declined sharply in 1950-51 and 1951-52 but recovered in 1952-53. Since then exports of lambs have fluctuated between 4.1 million lb. in 1953-54 and 11.3 million lb. in 1960-61, the total in 1963-64 being 5.3 million lb.

The following table shows the numbers of each breed of sheep in the State at the 31st March, 1962

BREEDS OF SHEEP AT 31st MARCH, 1962

Breed	Rams (One Year and Over)	Other Sheep	Total
Merino	188,729	10,792,006	10,980,735
Other Recognized Breeds -			
Corriedale	4,502	414,875	419,377
Romney Marsh	4,166	39,000	43,166
South Down	10,511	28,420	38,931
Dorset Horn	3,027	20,746	23,773
Border Leicester	3,666	18,334	21,999
Polwarth	401	11,811	12,212
Suffolk	1,201	2,662	3,863
English Leicester	175	1,174	1,349
Cheviot	377	1,393	1,770
Swartfleur	66	1,298	1,364
Hyland	952	1,071	1,023
South Suffolk	138	781	919
Other	39	626	665
Total Other Recognized Breeds	11,918	55,117	67,035
Merino and Other	200,647	10,847,123	11,047,770
Unrecognized and Other Good Stock	672	600,646	601,318
Total All Sheep	201,319	11,447,769	11,649,088

(a) More than half the flock.

(b) Flocks based to the extent of one-half or more.

Wool

During the ten years from 1953-54 to 1963-64 the total wool production rose from 129.7 million lb. to 216.0 million lb. Shorn wool in 1963-64 amounted to 207.2 million lb. and was a record for the State. It was shorn from 11.2 million sheep and lambs, the average weight per fleece being 18.5 lb. The balance of the 1963-64 production consisted of 123,000 lb. of dead wool, 2,182,000 lb. of fellmongered wool and 1,010,000 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 appraisement 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 organization 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 terms 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.

SHEEP SHORN AND WOOL PRODUCTION

Year	Sheep Shorn (a)			Average Weight per Fleec (a)	Wool Production in the greater				
	Sheep	Lambs	Total		Shorn (a)	Dead Wool (a)	Fell-mongered (b)	Expected on Skins (c)	Total (c)
	'000	'000	'000	lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
1956	11,711	2,945	14,657	8.4	121,000	125	3,048	5,289	129,402
1956	12,232	2,661	14,893	8.8	108,196	95	3,476	5,692	126,464
1957	12,718	2,208	15,026	9.2	145,797	115	2,482	5,028	150,402
1958	13,117	2,762	15,879	9.0	149,125	108	2,793	7,265	156,993
1959	13,916	2,349	16,265	9.0	154,681	80	2,917	6,164	160,622
1960	14,423	1,941	16,364	8.8	157,979	118	2,847	6,369	170,445
1961	14,991	1,623	16,614	9.7	178,690	190	3,511	9,138	191,329
1962	15,461	1,055	16,516	9.2	190,060	82	3,262	8,227	198,169
1963	16,227	1,790	18,017	8.7	171,969	110	3,098	9,847	184,125
1964	17,021	1,791	18,812	9.8	207,235	128	2,182	7,919	215,374

(a) Year ended 31st March.

(b) Year ended 30th June.

(c) See items (a) and (b).

GROSS VALUES OF WOOL PRODUCTION

Year	Shorn and Dead Wool (a)	Fell-mongered Wool (b)	Wool Expected on Skins (c)	Total (c)
	£	£	£	£
1955	29,528,921	495,613	1,020,168	31,044,702
1956	24,388,969	426,051	1,029,785	25,844,805
1957	44,715,312	423,321	1,823,357	46,962,000
1958	37,382,713	331,378	1,595,145	39,309,237
1959	39,337,844	365,895	1,215,287	40,919,026
1960	37,191,255	457,777	1,663,359	38,312,391
1961	56,101,699	520,722	1,380,739	58,003,160
1962	49,254,117	367,145	1,615,921	51,237,183
1963	39,123,196	292,397	1,458,143	41,073,736
1964	52,716,369	422,316	1,765,267	54,904,052

(a) Year ended 31st March.

(b) Year ended 30th June.

(c) See items (a) and (b).

Although the greater proportion of the wool-clip is exported in the grease, scouring is done in the State and scoured wool is an appreciable item in the external wool trade. During 1953-64 exports of greasy and scoured wool were 159.3 million lb. and 22.9 million lb. respectively. The most important buyers of greasy wool were Japan, the United Kingdom, France, Australian States, China (Mainland), Italy, the Federal Republic of Germany, the Union of Soviet Socialist Republics, Belgium-Luxembourg and the United States of America. Principal purchasers of scoured wool were the United States of America, the United Kingdom, the Federal Republic of Germany, China (Mainland), Australian States, Canada and Italy.

Beef Cattle

In 1963 the Kimberley Statistical Division owned 287,967 head of beef cattle or 56 per cent. of the State total. Other pastoral areas owned 70,711 head and agricultural areas 399,029.

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 northern breeds, and these still form the great bulk of all beef cattle. Carcase weights, however, have been increased by importing better type bulls and by improving watering facilities, both on the cattle stations and on the stock routes.



Killing and freezing works operate at the ports at Wyndham and Broome and a freezing factory at the port of Derby. To maintain loss of weight conditions in shipping the ports some cattle are slaughtered on board at Oceanic Station and the carcasses transported to the freezing works at Derby. Fatness and chilled beef from Wyndham, Derby and Broome is mainly exported overseas, but some is shipped north for consumption in the metropolitan area.

Although some beef cattle are shipped from northern ports for slaughtering and consumption in the metropolitan area, by far the greater proportion of the beef supplied to the southern part of the State is supplied from the agricultural zone. Much of this beef comes from culled stock from dairy herds. As indicated in the following table, the number of beef cattle in the agricultural areas has increased considerably in recent years. Owing to a change in the manner where the information was collected, details of beef cattle at the 31st March 1964 are not available on the same basis as for 1963 and earlier years.

A table showing the total number of cattle in Western Australia as at 31st March, 1964 appears on page 386.

BEEF CATTLE—NUMBERS AND DISTRIBUTION

As at 31st March—	In Agricultural Areas		In Pastoral Areas		State Total
	Number	Proportion of State Total (per cent.)	Number	Proportion of State Total (per cent.)	
1954	122,390	22.1	405,000	77.9	527,390
1955	126,909	22.7	408,525	78.3	535,434
1956	126,248	22.1	413,085	77.9	539,333
1957	123,700	22.1	445,324	77.9	569,024
1958	225,372	28.4	558,145	71.6	783,517
1959	217,226	27.7	567,245	72.3	784,471
1960	227,185	29.1	579,776	70.9	806,961
1961	226,666	29.1	586,167	70.9	812,833
1962	226,100	27.7	593,701	72.3	819,801
1963	269,277	41.7	605,179	58.3	874,456

In the tables on page 381 beef cattle herds as at the 31st March, 1960, in size groups, are classified according to the sort of the holding and the area of established pasture. Of the 11,832 rural holdings of all types, beef cattle were reared on 6,421. Holdings of between 1,000 and 5,000 acres accounted for 47 per cent. of the herds but holdings which carried less than 50 beef cattle for 77 per cent. of the herds. Of the holdings carrying beef cattle 1,296, or 20 per cent., had some established pasture and 3,870 or 60 per cent., had 200 acres and more.

Slaughtering

Beef from cattle slaughtered at Wyndham, Broome and Oceanic in the Kimberley District is principally for export. The local market for meat is supplied mainly from abattoirs at Midland, Fremantle, Mandurah, Harvey, Broome, Albany and Kalbarri but these establishments, with the exception of Kalbarri, are slaughter for the export trade. Small establishments operating in country towns also contribute to the supply by total production, and most stations and many farms slaughter sufficient for all or part of their own requirements.

The following table gives details of slaughtering both in abattoirs and on stations and farms.

LIVESTOCK SLAUGHTERED (a)

The total 19th June—	Sheep		Lamb		Cattle		Calves	
	Number	Gross Value (A)	Number	Gross Value (B)	Number	Gross Value (C)	Number	Gross Value (D)
1955	1,515,024	1,174,694	849,821	1,154,341	218,444	1,781,269	26,142	146,342
1956	1,112,000	1,050,204	920,244	1,228,009	191,011	1,596,771	15,717	109,249
1957	1,471,024	1,101,109	1,019,892	1,795,895	212,322	1,628,167	17,808	106,411
1958	1,613,113	1,242,778	863,105	1,225,518	222,282	1,635,237	20,025	106,013
1959	1,757,761	1,600,107	876,272	1,696,112	140,743	1,932,101	14,128	122,701

(a) Mainly slaughtering for human consumption but also includes small quantities of livestock slaughtered for feeding to swine. Details of pigs slaughtered are shown on page 386. (b) Value "ex hoof" at principal yards.

BEEF CATTLE HERDS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Size of Holding (acres)	Size of Beef Cattle Herd (numbers)													Total Herd Total Herd Holding		
	1-9	10-19	20-29	30-49	50-69	70-99	100-149	150-199	200-299	300-499	500-999	1,000- 1,999	2,000- 4,999		5,000- 9,999	10,000 and over
1-99	218	65	28	11	1	1	1	1	1	...	...	...	...	...	...	326
100-199	176	101	48	63	22	12	1	1	...	...	1	...	...	...	...	424
200-299	143	76	63	55	27	19	2	1	...	...	...	...	...	...	...	386
300-399	100	61	30	46	20	27	19	4	3	...	...	...	...	...	...	1,112
400-499	81	33	35	44	25	25	20	4	3	...	...	...	...	...	...	888
500-599	73	45	37	42	24	19	14	6	3	...	...	...	...	...	...	277
600-699	93	69	35	57	31	32	18	7	8	...	...	...	...	...	...	509
700-799	97	69	28	71	26	29	20	8	5	...	...	...	...	...	...	339
800-899	181	105	85	88	48	37	24	10	15	...	...	...	...	...	...	772
1,000-1,999	252	145	73	104	37	30	19	14	16	...	...	...	...	...	...	330
2,000-2,999	335	179	121	125	53	43	31	14	16	...	...	...	...	...	...	2,051
3,000-4,999	279	150	81	97	53	36	29	14	10	...	...	...	...	...	...	939
5,000-9,999	110	69	38	47	27	25	25	12	16	...	...	...	...	...	...	765
10,000-19,999	15	11	7	15	11	6	7	6	5	...	...	...	...	...	...	377
20,000-49,999	3	3	1	1	2	5	1	7	1	...	...	...	...	...	...	93
50,000 and over	32	22	11	17	10	13	18	7	11	...	...	...	1	21	...	23
Total	2,194	1,155	726	883	448	359	249	100	107	84	38	21	18	21	18	21,832

BEEF CATTLE HERDS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF HERD AND AREA OF ESTABLISHED PASTURE

Area of Established Pasture (acres)	Size of Beef Cattle Herd (numbers)															Total All Rural Holdings	
	1-9	10-19	20-29	30-49	50-69	70-99	100-149	150-199	200-299	300-499	500-999	1,000- 1,999	2,000- 4,999	5,000- 9,999	10,000 and over		Total Herds
<i>NH</i>	519	190	86	87	36	30	31	15	16	17	15	21	17	21	18	1,125	
1-9	38	1	5	3	2	2	2	1	1	1	1	1	1	1	1	40	
10-19	56	10	7	4	2	2	2	1	1	1	1	1	1	1	1	74	
20-29	48	22	17	17	10	10	10	5	5	5	5	5	5	5	5	83	
30-49	65	37	25	13	4	4	4	3	3	3	3	3	3	3	3	156	
50-69	82	60	22	34	9	20	1	1	1	1	1	1	1	1	1	147	
70-99	155	94	45	67	27	18	1	3	3	3	3	3	3	3	3	221	
100-149	106	48	45	49	26	18	1	1	1	1	1	1	1	1	1	409	
150-199	176	79	79	87	39	33	23	10	1	1	1	1	1	1	1	296	
200-299	185	74	63	68	41	33	23	9	6	2	3	3	3	3	3	564	
300-399	95	65	40	49	32	23	29	9	1	1	1	1	1	1	1	451	
400-499	150	103	70	107	57	51	35	10	6	2	4	4	4	4	4	355	
500-599	181	116	74	113	47	30	29	13	16	15	2	2	2	2	2	633	
600-699	241	137	114	140	80	57	32	17	23	16	9	9	9	9	9	898	
700-799	46	36	34	52	45	33	35	13	16	17	11	1	1	1	1	340	
1,000-1,999	2,194	1,155	726	883	448	359	249	100	107	84	38	21	18	21	18	21	21,832
2,000 and over	2,194	1,155	726	883	448	359	249	100	107	84	38	21	18	21	18	21	21,832

DAIRYING

Compared with the wheat, wool and meat producing industries, dairying as a major well-organized rural activity is of fairly recent origin. Its growth was retarded initially by the difficulty of clearing heavily-forested 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 Croup 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. The Department also established in May, 1950 an artificial insemination centre at its Wickepin Research Station and dairy herds, which consist mainly of Australian Downy Shorthorn, Jersey, Guernsey and Friesian breeds, are now being served from eight distributing centres.

Price instability has been one of the major difficulties of the industry and in 1928 the "Paterson Plan," which was a voluntary scheme of price stabilization, 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 the 1st April, 1946, Western Australia entered the voluntary butter price equalization scheme, operated since 1936 by the Commonwealth Dairy Products Equalization Committee Ltd., 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 equates returns to factories through an Equalization 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 fifth five-year stabilization plan, which came into operation on the 1st July, 1962, provides a fixed bounty of £12,500,000 annually for the Australian industry. The average subsidy rates per cwt. in 1963-64 were 6s. 1d. on butter and 23s. 7d. on cheese.

From 1942 until the 30th June, 1948, and a shorter time from the 1st July, 1949 to the 30th June, 1951, bounty 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 1961, the Commonwealth provided for payment of a maximum amount of £350,000 as a bounty on exports of processed milk products during the year ended 30th June, 1963. For the purpose of the Act, processed milk products are goods containing butter fat and produced 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 £500,000 in respect of exports during 1963-64 and of £400,000 on trade for 1964-65. An amending Act operative from the 1st July, 1965, sets the maximum annual payment at £400,000.

In the tables on page 283, dairy cattle herds at the 31st March, 1960, in size groups, are classified according to the size of the holding and the area of established pasture. Of the 21,832 rural holdings of all types, dairy cattle were carried on 9,308. Holdings of between 1,000 and 5,000 acres accounted for 42 per cent. of the herds but 87 per cent. of these herds had less than 10 head each. All holdings with less than 10 head accounted for 63 per cent. of the herds in the State. Of the holdings carrying dairy cattle 7,173, or 77 per cent., had some established pasture and 4,239, or 45 per cent., had 200 acres and over.

DAIRY CATTLE AND MILK PRODUCTION 121

At 31st March—	Dairy Cattle						Milk Production, (b)		
	Dairy Cows		Heifers one year and over	Heifer Calves under one year	Other Calves under one year	Pulps one year and over	Total Dairy Cattle	Quantity	Gross Value in
	In Milk	Dry							
	No.	No.	No.	No.	No.	No.	No.	gal/lbs.	£
1955	49,477	74,934	39,719	25,502	17,689	5,880	225,345	51,215,999	4,942,543
1956	49,176	75,521	38,694	25,428	17,275	5,469	221,964	50,175,997	4,192,474
1957	49,051	75,817	37,024	24,748	17,025	5,289	224,943	50,826,772	4,460,571
1958	57,614	76,028	38,155	25,126	17,078	5,129	223,051	51,755,735	4,860,999
1959	55,793	74,167	37,549	24,703	16,852	4,744	215,999	50,996,979	4,102,119
1960	54,898	73,518	37,108	25,211	17,908	4,480	215,508	51,099,205	4,723,999
1961	54,129	73,185	37,529	25,525	17,064	4,824	224,279	52,544,118	5,121,465
1962	55,924	73,492	38,523	25,761	17,289	4,934	223,691	52,236,866	5,071,471
1963	56,749	73,167	37,803	26,928	17,448	5,062	225,216	54,026,516	4,982,174
1964	(a)	(a)	(a)	(a)	(a)	(a)	(a)	57,146,219	5,464,217

(a) Details of births and cheese production appear in Part 2 of this Chapter. (b) Up to 1960, for year ended 31st March. Thereafter for year ended 30th June. Includes milk used for processing into butter, cheese and condenser products, all of which is subject to payment of Government milk levy. (c) Owing to a change in the form in which the information was collected, details of dairy cattle at the 31st March, 1964 are not available at the same basis as the 1963 and earlier years; a table showing the total number of cattle in Western Australia as at 31st March, 1964 appears on page 126.

Pig Raising

For many years the raising of pigs has been carried on in conjunction with the production of butterfat as a result, those providing a practical means of utilizing the dairy milk obtained. They are also raised on green growing holdings and in 1964 more than two-thirds of the pigs in the State were on the wheat belt. There are also a number of farmers in the districts around Perth who specialize in pig raising but the number of pigs on these properties is not now significant compared with the total number in the State.

The principal breeds in Western Australia are the Berkshire, Large White and Landrace and crosses of these breeds. Pigs are raised for bacon and hams 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 1963-64 a total of 1,612,327 lb. of pork was shipped interstate and 285,198 lb. overseas, mainly to China, the Islands, Indian Ocean and Singapore.

PIGS

At 31st March—	Born	Breeding Sows	Baconers and Fattens	Suckers, Weaners, Stags	Other Pigs	Total
1960	1,399	14,237	6,331	45,556	19,161	107,030
1961	1,442	14,497	7,077	47,649	19,272	99,097
1962	1,311	20,264	41,199	69,340	18,141	149,961
1963	1,822	18,899	30,210	69,318	18,925	190,174
1964	1,676	14,824	38,417	46,478	11,744	113,448
1965	1,984	16,111	45,307	53,264	15,774	131,952
1966	1,867	15,191	45,119	55,169	18,011	125,357
1967	1,840	15,138	(a)	(a)	16,146, (a)	124,163
1968	1,641	17,444	(a)	(a)	17,000, (a)	126,161
1969	1,961	17,778	(a)	(a)	16,107, (a)	125,149

(a) Not recorded separately included with Other Pigs. (b) Includes baconers, suckers, weaners, stags and other.

In the tables on page 789 pig herds at the 31st March, 1960, are shown in accordance with the size of the holding and the size of the dairy cattle herd on the holding. Of the 21,532 rural holdings of all types, pigs were raised on 1,096. Holdings with between 1,000 and 5,000 acres of land accounted for 70 per cent. of the pig herds and those which carried less than 15 head for 42 per cent. of the herds. Of the holdings carrying pigs 1.82% or 89 per cent., and some dairy cattle and 1,230, or 30 per cent., had 10 or more dairy cattle.

PIG HERDS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Size of Holding (acres)	Size of Pig Herd (numbers)										Total All Rural Holdings	
	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-69	70-99	100-149		200 and over	Total Herd
1-19	24	10	10	11	12	4	6	2	9	13	6	107
20-29	10	6	3	1	7	1	3	2	5	2	4	44
30-49	12	8	5	4	9	5	3	3	4	0	5	62
50-69	9	4	1	1	7	3	5	5	4	1	1	40
70-99	16	5	2	4	1	2	2	4	2	2	3	33
100-149	34	23	15	11	12	7	4	9	3	6	8	124
150-199	42	29	18	13	33	9	3	3	4	0	3	130
200-299	67	57	42	27	84	24	11	20	5	3	3	295
300-399	43	36	34	19	32	13	7	10	0	2	2	201
400-499	34	21	15	15	23	12	8	7	4	4	1	143
500-599	47	30	27	11	31	2	7	1	5	1	1	185
600-699	46	31	27	22	27	13	13	14	3	3	1	216
700-799	40	25	23	22	27	12	13	21	10	12	1	140
800-899	46	33	34	27	34	14	23	21	22	11	3	317
900-999	42	33	34	49	76	61	44	41	77	34	7	484
1,000-1,499	151	113	140	133	200	123	112	102	54	54	10	1,285
1,500-4,999	51	37	30	30	55	43	55	40	32	28	10	391
5,000 and over	723	540	449	388	610	393	287	295	194	159	48	4,080
Total	2,000	1,400	1,100	800	1,200	800	500	400	300	200	100	21,832

PIG HERDS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF DAIRY CATTLE HERD AND SIZE OF PIG HERD

[illegible]

PIGS SLAUGHTERED; BACON AND HAM

Year ended 30th June—	Pigs slaughtered		Bacon and Ham	
	Number	Value (a)	Factory Production	Exports (including Ship's Bins)
		£	lb.	lb.
1955	122,531	1,993,341	7,437,738	1,212,891
1956	180,515	2,109,322	7,237,217	1,157,791
1957	157,534	2,336,373	6,639,875	1,465,315
1958	229,718	2,440,341	7,022,477	1,585,835
1959	197,596	2,217,703	6,819,108	1,631,850
1960	149,543	2,508,145	7,117,467	1,690,691
1961	199,625	2,586,157	7,684,789	1,551,911
1962	209,444	2,684,529	7,339,887	1,691,013
1963	237,422	2,708,318	8,394,475	1,195,667
1964	185,222	2,559,345	8,445,073	91,841

(a) Value "on board" at principal markets or at factory door.

LIVESTOCK IN AUSTRALIA

The following table gives details of livestock numbers in each State and Territory at the 1st March, 1964, together with Australian totals.

LIVESTOCK NUMBERS AT 1st MARCH, 1964 AUSTRALIAN STATES

(Thousands)

State or Territory	Horses	Cattle	Sheep	Pigs
New South Wales	61	2,759	21,764	791
Victoria	56	2,401	26,413	828
Queensland	216	7,002	24,157	1,000
South Australia	22	591	16,464	114
Western Australia	39	1,239	20,165	138
Tasmania	8	400	2,800	83
Northern Territory (a)	26	7,035	9	2
Antarctic, Capital Territory	1	11	228	
Australia	547	15,004	101,980	1,263

(a) As of end of June.

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 this activity the sole or predominant source of income. Most of the commercial poultry farms are situated in the Metropolitan and Swan Statistical Divisions, within a 30-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 usually from White Leghorns crossed with Australorp hens. Production of poultry meat has increased considerably in recent years. It is now predominantly a specialized industry using strains of birds which have been developed specifically for meat production.

Under the Marketing of Eggs Act, 1945-1960, all producers 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 equalize returns from local and export sales the Board, prior to the 1st July, 1953, made a charge on all eggs sold locally, the amount of the charge varying with the proportion of eggs being exported and the export price obtained. This charge has now been replaced by a levy imposed by Commonwealth legislation which came into operation on the 1st July, 1963.

The Poultry Industry Levy Act 1965 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 21 hens, nor to the first 20 hens in any flock, is payable fortnightly and may not exceed 10c. annually per bird. It commenced on the 1st July, 1965 at a rate of 5jd. per fortnight for each hen. Under the Poultry Industry Levy Collection Act 1965 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 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 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 1963-64 Saudi Arabia, Qatar, the Bahrain Islands and Hong Kong were the most important overseas markets for eggs in the State. Exports of egg pulp were not significant in 1963-64.

POULTRY

As at 31st March—	Fowls	Ducks	Turkeys	Geese
1955	903,986	11,036	3,421	497
1956	864,056	11,873	2,599	712
1957	955,059	11,946	11,071	1,557
1958	961,669	12,129	7,113	1,079
1959	872,288	11,369	1,331	1,416
1960	931,391	12,782	1,750	1,079
1961	1,069,116	12,527	7,315	1,331
1962	1,251,062	12,820	4,145	1,201
1963	1,441,515	12,625	5,327	398
1964	1,613,076	12,091	7,495	719

EGG PRODUCTION AND POULTRY SLAUGHTERED FOR TABLE PURPOSES

As at 31st March—	Egg Production (a)		Poultry Slaughtered for Table Purposes
	Quantity	Gross Value	Gross Value
	doz.	£	£
1956	7,802,232	1,111,648	(b) 351,494
1957	7,091,431	1,472,640	(b) 357,457
1958	7,443,378	1,823,081	264,871
1959	7,810,686	1,597,324	330,907
1960	7,353,745	1,614,077	359,469
1961	7,165,679	1,834,679	484,024
1962	7,665,794	1,594,710	701,392
1963	7,482,180	1,706,942	716,049
1964	7,664,654	1,761,137	1,085,071
1965	8,091,311	1,806,107	1,333,714

(a) Includes non-commercial production owing to variation in method of valuation.

(b) Figures not comparable with those for 1956-57 and 1957-58.

BEE KEEPING

Commercial producers of honey in Western Australia may be divided into three categories. There are a comparatively small number of specialist apiculturists, 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 occasional producers who are engaged in agricultural activities and use their farms as a centre, one 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)

Classification of Hives (c)	Bee Keepers		Productive Bees (d)		Honey Production	
	Number	Proportion of Total (per cent.)	Number	Proportion of Total (per cent.)	Quantity	Proportion of Total (per cent.)
5-10	186	12.0	907	2.2	52,093	0.5
10-20	21	20.4	1,495	4.7	132,729	1.0
20-50	26	12.4	2,096	6.5	273,669	1.2
50-100	36	5.1	3,799	9.1	419,756	1.8
100-200	29	4.4	4,267	10.7	584,297	2.6
200-500	59	6.5	6,076	21.0	7,571,496	30.7
500-750	31	4.7	15,475	36.1	2,149,117	79.1
750 and over	6	1.3	6,916	1.5	1,052,212	1.1
Total	147	100.0	50,931	100.0	5,510,279	100.0

(a) Excludes details of bee-keepers with less than five hives. (c) Excludes the number of hives at 30th June, 1963-1964 which honey was taken during the year and excludes hives kept for production but from which no honey was taken, young hives and nuclei.

In 1963-64 exports of honey totalled 3,218,841 lb., the export value being £374,038. The principal buyers were the United Kingdom, which purchased 2,732,519 lb., and the Federal Republic of Germany which took 1,590,818 lb.

BEEHIVES AND HONEY AND BEESWAX PRODUCTION (a)

Year	Beehives (b)		Honey Production		Beeswax Production	
	Productive (c)	Unproductive (c)	Quantity	Gross Value	Quantity	Gross Value
	No.	No.	Lb.	£	Lb.	£
1956-60	82,998	8,575	2,571,344	162,114	67,520	12,655
1960-6	36,566	10,668	5,313,008	151,387	71,890	14,073
1961-62	37,813	7,359	5,892,377	152,775	91,502	15,916
1962-63	37,297	7,269	6,098,713	155,289	78,026	13,913
1963-64	39,024	9,489	6,310,149	157,169	102,861	17,126

(a) Excludes particulars of bee-keepers with less than five hives. (c) Figures at 30th June. (d) Hives from which honey was taken. (e) Includes hives kept for production but from which no honey was taken, young hives and nuclei.

THE DEPARTMENT OF AGRICULTURE

Brief references have been made earlier in this Chapter 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 numerous laws relating to agriculture.

The operations of the Department are organized 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, Aquaculture, Poultry and Pigeons), Wheat and Sheep (including the Grains Products and Pests Testing Laboratories, Planting, Horticultural (covering Fruit and Vegetables), Soils (including Soil Conservation and Irrigation), Plant Research, Biological Services (including Plant Pathology, Entomology, Botany, Seed Certification and Weed Control), and North-West. In addition there are Branches for Veterinary Control and Markets and separate sections covering Rural Economics and Marketing, Publications and Library, Milk, Agricultural College (also controlled and staffed by the Department).

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 1896 the Department of Agriculture was established and absorbed the staff of the Bureau. Up to this time, some 70 years after the first settlement, agriculture in Western Australia had



Above—Rice plants in an experimental plot at Kimberley Research Station

Below—Cotton grown on Ord River Irrigation land



made little progress. The area of cleared arable land was less than two 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 Perth 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 April 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 four 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 Hamlet in 1896. Valuable work was carried on at this centre for nearly twenty years in connexion with the growing of potatoes, fruits, cereals, hops, fodder crops and pasture, and some success was achieved with wheat breeding.

Government farms were opened at Narrogin in 1901 and at Nubawa, 25 miles north of Geraldton, in 1902. In 1907 a farm at Nannoo, 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 sheep 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. 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, pure pedigree seed wheat and oats were bred. It would be difficult to over-estimate the subsequent value of the farms in this new role, which is still one of their most important functions. In later years more "research stations," as the experiment farms came to be called, were established and they now number 21.

Research stations at Nubawa, Badgingarra, Wongan Hills, Merredin, Beverley, Newdegate, Salmon Gums and Esperance deal with agriculture in the cereal growing and sheep-raising districts and stations at Duncraig, Breamley and Wickeup serve the dairying districts. Vegetable research stations are situated at Medina and Manjimup and a new pig-breeding unit is being established at Medina. 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. At Boyanup, near Bussell, an experimental block has been established to investigate the suitability for irrigation of certain soils in the Upper Boyanup area in connexion with a proposed extension of irrigation works.

The Kimberley Research Station, operated in conjunction with the Commonwealth Scientific and Industrial Research Organisation, is concerned with problems of irrigation in relation to agriculture in the tropics, with particular reference to the agricultural settlements now taking place on the Ord River. At Ahyda, near Port Hedland, regeneration of overgrazed pastoral country and a study of sheep breeding problems are the main concerns. At the Claremont Research Station at Carnarvon, problems of growing tropical fruits and winter vegetables are being investigated. The newly established Walpole Ground-water Research Station is for the study of the controlled use of underground water supplies.

Advisory Services

Extension work is perhaps the Department's most important function and it has undoubtedly exercised a powerful influence in publicizing and accelerating the adoption of better 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 and foster the formation of farmers' organizations such as Pasture Groups and attend meetings and field days where talks can be given to groups of farmers. It is estimated that in the past year over 4,000 farmers attended nearly 150 field days with which the Department was associated. Film evenings provided by the Department's mobile film units are of great assistance in the regions. 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 exhibiting 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 a weekly press service is maintained to supply information through press and radio. In addition, the Department produces several publications including a monthly *Journal of Agriculture*, which has a circulation of about 19,000, special quarterly publications for large farmers and bee keepers, and bulletins covering a wide range of subjects.

Advisory work is not concentrated in a single Division, as is the case in some Departments of Agriculture, but is carried out by several Divisions and Branches of the Department. In recent years a move has been made to decentralize the Department's work and groups of officers have been stationed at Albany, Bridgetown, Bunbury, Busselton, Denmark, Derby, Esperance, Geraldton, Harvey, Katanning, Mandurah, Merredin, Moora, Mount Barker, Narrogin, Northam, Wiluna and at the Kimberley and the Gascoyne Research Stations. An officer is also stationed at each of the following places: Armadale, Broome, Camballin, Glenella, Kalamunda, Kalbarrie, Kellerberrin, Kununurra, Margaret River, Manildra, Pinjarra and Port Hedland.

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 cross-breeding activities is well known. Cross-breeds produced by the Department have increased the income of farmers by many millions of pounds 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, iron and molybdenum. As a result of this work, fertilizers containing trace elements have been applied in recent years to about a quarter of the State's farming land. These investigations, together with allied work on superphosphate and the establishment of substantial 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.

Notifiable disorders and diseases of farm animals are controlled by laws for farmers and post of state. Some of the Department's most notable successes have been achieved when dealing with problems in this field, which include enzootic ataxia, microcystemia, toxic paralysis, and clover disease in sheep, copper and cobalt deficiencies in cattle, Kimberley horse disease, plant poisoning of calves and infertility in dairy cows.

A weed conservation service was established in the Department in 1943. Since then a great deal of information about the incidence and nature of weeds has been collected and many farmers have been assisted with their erosion problems. Considerable attention has also been given to the ash problem in the agricultural districts.

In somewhat more restricted fields the use of a hormone spray instead of shearing, for certain uses, is a noteworthy change in agricultural practice resulting from investigations by the Department. The selection of the rust resistant summer bean variety, "Western," 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 1931 following recommendations by a Royal Commission, is constituted under the provisions of the Agriculture Protection Board Act, 1950-1954, 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, 1950-1963. "Vermin" means any animal, bird or insect proclaimed to be vermin as provided by the Vermin Act, 1918-1964, and includes rabbits, foxes, dingoes, sparrows, 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 organized 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 specialized 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 by herd, bull and 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. An artificial insemination centre for dairy stock has been established at the Wokabup Research Station.

The producers who benefit from these services pay something for them, but not necessarily the full amount of the cost of providing them.

Administration of Acts

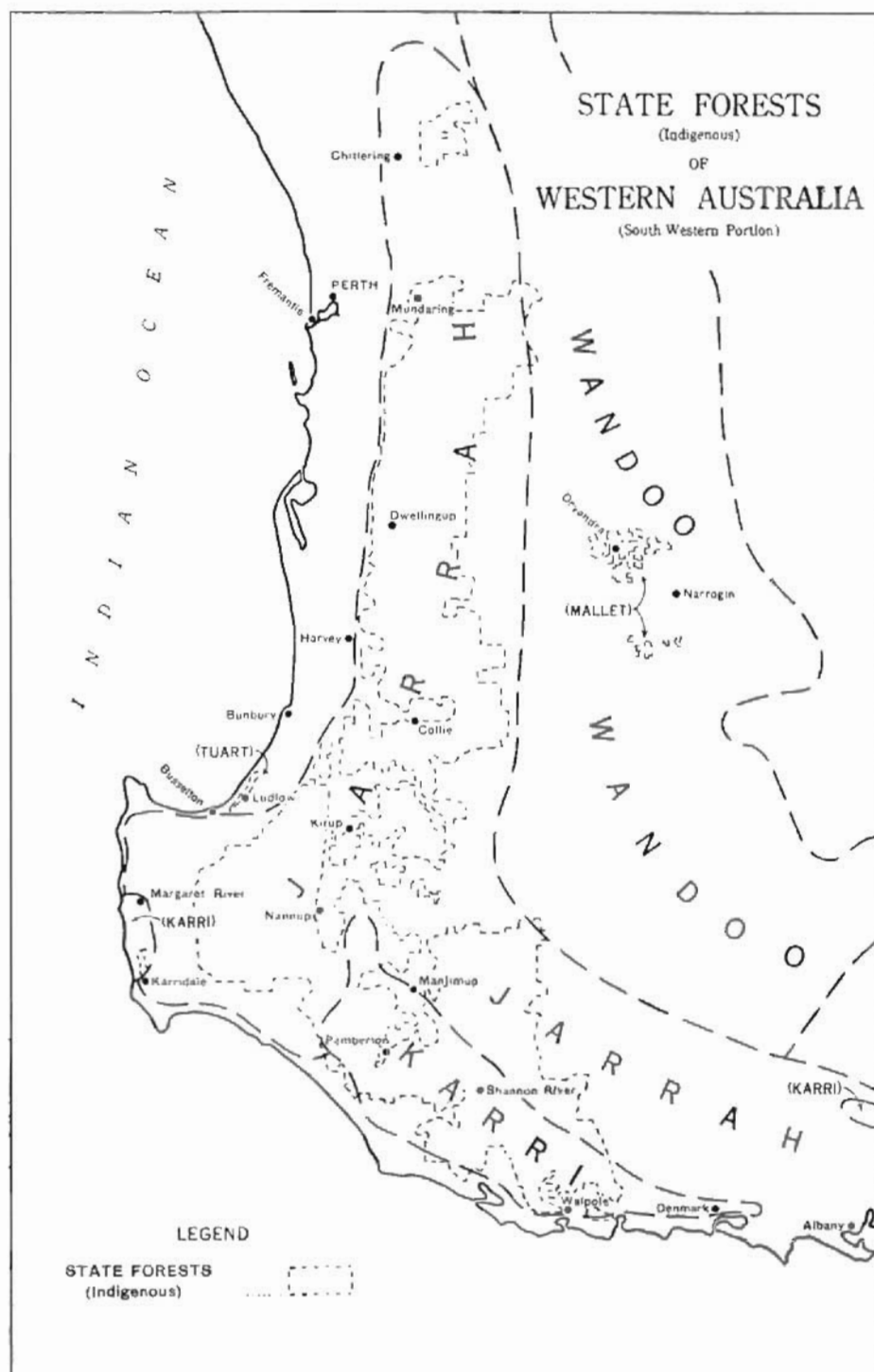
The Department of Agriculture is responsible for administering some fifty Acts concerning a wide range of subjects. Some of the more important relate to animal and plant diseases and insect pests, industry trust funds, soil conservation, vermin control, marketing of agricultural products and registration of feeding stuffs, fertilizers and stock brands.

TRAPPING

Although trapping has been carried on from the first years of settlement, it has never been an important industry. In 1965-66 the recorded gross value was only £315,978 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 organized system then being the damage done to pastures and fencing. As early as 1849 the export of kangaroo skins for the year was valued at £12,387. It is estimated that in 1963-64, 134,000 skins of macropods (comprising kangaroos, wallabies and opossum skins) valued at £56,700 were exported or used in local factories. Kangaroo meat is used as pet food but estimates included in the gross value of trapping are considered too unreliable to publish separately.

The earliest recorded export of rabbit skins relates to the year 1870 and the most and skins of these animals have been a source of income to trappers ever since. In an attempt to reduce the damage done



to traps and poisons, 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 in 1963-64 the total value was estimated at only £82,002.

The skins of animals other than macropods and rabbits are exports of Western Australian fauna account for the balance of the value of the trapping industry in 1963-64.

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 or the high rainfall and densely populated section of the State. Being easy to regenerate after cutting, they form a natural and effective protection against soil erosion. Nearly 4.5 million acres have been permanently dedicated as State Forests and approximately 2.6 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 three million acres of the State Forests. Karri (*E. diversicolor*) is next in importance and is distributed over some 800,000 acres and only about 20 per cent. of it is in plantations. Wandoo (*E. viminalis*) occurs in a smaller portion of the dedicated area and Tuart (*E. gomphocarpa*), another valuable timber, has a restricted area of about 6,000 acres. Mallet (*B. rotundifolia*) and Blackbutt (*B. pilularis*), which occur through the jarrah and karri forests, are important milling timbers, but the present output is comparatively small.

Other acacias 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 (*Leptospermum* spp.) and casuarinas. Sandalwood (*Santalum spicatum*), indigenous to the wheat belt and some 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 on the ordinary basis, 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 recognized. The Forestry 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 Forestry 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 appraised 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 mallee 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 immediate growth and to encourage natural regeneration, which is a very important feature of the Department's policy.

Brown Mallet (*Brediplum natriqae*), the bark of which is an important source of tannin, once covered large areas on the fringe of the inland forests but was practically exterminated by clearing for farms and by excessive exploitation. Regenerated areas and plantations of mallet now total 19,111 acres.

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

The principal species of edible fish are shown in the following table with the quantities of each species caught in the years 1959-60 to 1963-64.

PRODUCTION OF FISH (a)

Species	Common Name	1959-60	1960-61	1961-62	1962-63	1963-64
<i>Crustaceans</i>						
	Ton	Ton	Ton	Ton	Ton	Ton
Crayfish		74,790	10,000	59,941	55,551	59,751
Prayfish		19,545,435	18,016,937	19,772,000	21,340,600	17,972,537
Penaeus		111,773	100,000	118,957	1,016,751	2,118,317
Total		19,731,998	18,126,937	20,059,978	22,432,432	20,150,605
<i>Fishes</i>						
	Ton	Ton	Ton	Ton	Ton	Ton
Bream, Black		19,128	15,292	21,811	27,228	32,561
Bream, Buffie		41,774	42,298	79,586	17,701	38,895
Bream, Yellowfin		53,568	35,601	48,728	40,261	50,701
Bream, Silver or Tassie		7,551	8,072	1,667	5,174	9,881
Lobster		445,719	649,114	771,192	995,517	1,265,591
Cod		18,111	20,217	19,709	18,981	41,682
Flathead		11,454	21,149	16,841	17,011	20,890
Garfish		75,876	79,174	48,238	14,931	71,576
Groper		24,111	19,381	17,979	21,039	19,147
Herring, Perth		50,118	112,002	17,874	156,801	154,295
Jackfish, Western		290,197	540,134	936,401	842,830	971,346
Kingfish, Sea (Garmon Fish)		158,514	71,792	54,694	72,468	80,104
Leatherjackets		41,284	45,474	42,904	11,455	11,201
Mackerel, Spanish		32,747	144,861	52,814	129,209	192,821
Mullet, Sea		777,297	871,989	856,304	932,157	952,149
Mullet, Yellow-eye		430,764	568,269	428,874	445,132	574,782
Salmon, River (Kingfish)		17,841	8,746	17,289	8,594	29,624
Snake		21,512	25,082	29,257	31,051	29,202
Snapper (Sea Bass)		1,078,887	816,892	777,892	830,012	1,000,000
Silurus, Australian		7,741,767	2,101,094	5,543,459	1,116,881	4,014,814
Sole		487,607	438,118	861,274	681,838	674,007
Snapper		9,549,267	1,265,107	1,072,141	1,284,711	1,044,000
Tallor		150,088	128,769	187,240	199,742	163,779
Trevally, Silver (Jackfish)		82,099	104,657	59,100	82,209	21,387
Whiting, Broad and School		460,887	444,128	595,879	559,977	542,151
Whiting, King George		39,887	78,809	62,782	59,358	43,886
Other Species		423,582	161,834	15,425,391	1,043,149	1,011,103,811
Total		10,526,757	10,128,342	11,627,169	10,368,012	12,244,754
GRAND TOTAL		30,258,755	28,255,279	31,687,147	32,790,444	32,395,359

(a) Includes Sea Trout.

(b) Includes Baffin.

* Revised

Since the end of the second World War, crayfish has 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 crayfish, but in 1941 production was stimulated by canning for the armed forces. Although canning continued until 1955, it had become far less important by 1947 than another development, the freezing of crayfish 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 more than eightfold between 1947 and 1960-61, when total production of live crayfish was 19.5 million lb., valued at £3,013,266 to the fisherman. In 1960-61 production fell to 18.0 million lb. valued at £3,003,301 but in 1961-62 it again increased, the total catch being 19.8 million lb. valued at £4,093,690. In 1962-63, the value of crayfish taken declined to £3,953,000, although the catch of 21.4 million lb. was the highest ever recorded. Production in 1963-64 amounted to 18.0 million lb. valued at £3,441,736. In 1963-64 the overseas export of crayfish tails totalled 7.5 million lb. the f.o.b. value being £4.6 million. In addition, consignments of whole crayfish were exported, almost entirely to overseas markets.

The most important commercial species of crayfish in Western Australian waters is *Pastulus equatus*, which occurs off the south-west coast in the vicinity of the Abrolhos Islands, Geraldton, Dongara, Jurien Bay, Cervantes, Lanerke, Fremantle and Bunbury. It is protected from overfishing by such measures as the declaration of closed seasons, the proclamation of fishing zones, the prohibition of the taking of fish

of sex that a prescribed size or of female crayfish having berry (i.e. eggs) attached, the granting only in special circumstances of new licences for boats for crayfishing, 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.

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 (*Pomulotus rubens*), sea herring or haff (*Arripis georgiana*), transparent whiting (*Sillago leucoma*), sand whiting (*Sillago analisburgensis*), sea mullet (*Mugil cephalus*) and trevally or skipjack (*Ulucepentes gerrhonotus*). 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 non-commercial importance. Snapper (*Chrysophrys variegatus*) are caught between the Murchison River and North West Cape, during the northern schooling season from May to August, by means of hand-lines. The use of traps, which have also been employed in this fishery, has been prohibited for a trial period of two years commencing with the 1955 season with the object of obtaining comparative data on the effect of the traps on the soft coral habitat of the fish. Cod and gopier, though in smaller quantities, are also caught between the Murchison River and North West Cape. The waters northward from the Murchison River to Bernier Island, west of Carnarvon, yield heavy catches of Western Australian jewfish (*Macranodus hebrideus*). At Shark Bay a prawn fishing industry has been successfully established in recent years, the catch being processed at Carnarvon and Denham. The species caught are the king prawn (*Penaeus latissulcatus*) and the tiger prawn (*P. secalentus*). At Exmouth Gulf a small fishery has commenced, the principal species being the banana prawn (*P. merguensis*) and the tiger prawn. The catch is processed at Leemurth. A new conservation measure, the number of boats licensed to operate has been limited to 30 at Shark Bay and 15 at Exmouth Gulf.

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 (*Oxidopterus macrocephalus*), and yellow-eye mullet (*Aldrichetta forsteri*), most of which are caught in the estuaries of the Murray, Serpentine, Harvey and Swan Rivers. Other species include gulfish (*Hemiramphus regularis* and *H. melanochloris*), Perth herring or gizzard shad (*Morone chrysops*), sea mullet, tailor, sand whiting, kang George whiting (*Sillago analisburgensis*), and flathead. Crabs (*Portunus pelagicus*), king prawns and other prawns are also caught commercially.

There are no indigenous inland or freshwater fish of commercial value. A small crustacean, the crayfish (*Cherax tenuimanus*), occurs in the streams of the lower south-west. Brown trout, rainbow trout and flannel perch have been introduced into the streams of the southern districts.

Research work on crayfish, Australian salmon, prawns, tuna, whiting and whales in Western Australian marine waters is being carried out by the Commonwealth Scientific and Industrial Research Organization in association with other Commonwealth and State Government authorities, including the Western Australian Department of Fisheries and Fauna.

GENERAL FISHERIES

At St. Mar. December—	Boats Licensed	Value of Boats and Equipment £	Fishermen Licensed (a)	Year ended 30th June—	Production			
					Crayfish		Other Fish (b)	
					Quantity (c)	Value £	Quantity (d)	Value £
	No.	£	No.		mt.	£	mt.	£
1954	616	1,345,491	1,049	1951	97,390	1,090,664	83,942	119,206
1955	687	1,414,575	1,159	1956	94,071	1,228,448	87,288	180,904
1956	708	1,562,120	1,286	1957	96,009	1,355,108	88,347	177,512
1957	812	1,808,546	1,548	1958	118,994	1,721,441	87,459	172,619
1958	877	2,165,548	1,808	1959	156,400	2,290,087	90,101	187,919
1959	890	2,601,481	1,673	1960	174,513	3,013,255	91,561	206,907
1960	1,051	3,440,405	1,923	1961	160,888	3,006,101	91,661	199,075
1961	1,119	3,710,328	2,049	1962	176,530	4,000,509	104,076	266,497
1962	1,325	4,294,100	2,438	1963	190,893	3,983,010	90,462	201,801
1963	1,426	4,890,206	2,528	1964	193,469	4,444,736	102,823	267,441

(a) Comprises employees and working proprietors.
(b) Value of whole crayfish.

(c) Estimated live weight.

(d) Includes oysters, mussels, prawns and shellfish.

(e) Live

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 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 87 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 early in August, 1963. The only station now operating is at Albany where sperm whales are caught.

The information shown in the following table, which covers each of the years from 1954 to 1963, has been supplied by the Department of Fisheries and Fauna. It does not include particulars of sperm whales taken.

HUMPBACK WHALING

Season	Whales Taken			Whale Products			
	Number (a)	Average Length (b)		Oil (c)		Meal	Solubles
		Males	Females	Total	Average per Whale		
		feet	feet	barrels	barrels	tons	tons
1954	1,320	38.8	40.5	82,995	47.7	3,312	1,497
1955	1,120	39.9	41.8	54,582	48.7	2,708	1,002
1956	1,121	40.3	42.3	55,996	50.0	3,193	1,952
1957	1,120	39.8	41.6	56,534	50.5	3,008	1,910
1958	972	39.3	41.1	48,885	50.3	2,877	1,968
1959	714	37.9	39.8	32,884	46.1	1,916	1,150
1960	547	38.0	39.7	25,754	47.1	1,432	1,128
1961	582	37.0	38.3	26,893	46.2	1,361	925
1962	543	37.9	39.0	23,286	42.9	1,243	1,245
1963	87	37.0	38.5	3,805	43.7	193	169

(a) Includes one fin whale in 1956, two blue and three bryde whales in 1958, one fin, one sperm and 12 blue whales in 1959, two blue whales in 1960, and two bryde whales in 1961. (b) Whales mentioned in note (a) have not been taken into account in calculating average lengths. (c) 6 barrels = 1 ton (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 after the outbreak of war with Japan, when valuable luggers and equipment were lost. Following the war recovery was slow, because of a shortage of suitable boats and of experienced divers, until 1953 when the rate of progress quickened after 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 with a depressed market in 1958 it fell to 753 tons. Except for a slight recovery in 1960, there has been a decline in production in each year since 1959, and in 1964 the total quantity of shell raised was only 138 tons.

In 1956 a lease was granted to a company to grow culture pearls at Kuri Bay in Brecknock Harbour, 130 miles north-east of Derby. A small initial harvest of pearls was gathered in 1957 and significant quantities were harvested in each year from 1958 to 1962 and marketed overseas. Other licences have since been issued for the establishment of pearl culture farms, in King Sound and at Exmouth Gulf near Giralda Landing, which, however, have not yet reached the stage of commercial production. Figures in the following table do not include details of culture pearl production.

PEARL AND PEARL-SHELL FISHERIES
(Excluding Culture Pearls)

Year ended 31st December—

Item	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
NUMBER OF VESSELS										
Number	41	42	45	47	50	57	73	16	15	10
Aggregate tonnage	740	901	1,100	967	730	670	140	124	208	238
Value (including Equip- ment)	£ 200,000	£ 211,000	£ 225,000	£ 218,200	£ 186,750	£ 151,700	£ 30,200	£ 74,000	£ 87,000	£ 44,000
NUMBER OF PERSONS ENGAGED										
Europeans	51	54	51	41	44	42	5	10	6	10
Australian Aboriginal	81	95	80	84	35	51	21	37	19	19
Chinese	51	85	110	100	74	32	12	6	6	2
Japanese	105	106	117	110	90	101	74	66	45	30
Indians	25	28	31	37	15	6	4	4	5	1
Malay	30	121	110	90	34	64	50	45	42	35
European Chinese	1	4	1		4	2	2			1
Total	260	382	379	328	245	232	121	178	86	74
Total Persons Engaged	371	484	481	410	311	312	187	171	130	103

PEARL-SHELL AND PEARL PRODUCTION

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Pearl shell quantity	654	698	591	753	508	481	354	345	247	198
Value	£ 411,371	£ 561,577	£ 604,901	£ 543,015	£ 386,704	£ 366,796	£ 155,080	£ 166,074	£ 106,490	£ 81,560
Value of vessels	1,072	1,200	1,299	10,000	5,070	1,220	4,300	4,100	4,320	140

MINING AND QUARRYING

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 nappes 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. Although gold is not now mined in quantities approaching the peak-year production of more than two million ounces in 1903, it nevertheless accounts for more than half the total value of mine and quarry products.

The mining industry, for many years predominant in the Western Australian economy, is now far surpassed in importance by agriculture and grazing but is still of considerable significance and contributes about one-eighth of the gross value of all primary production. The mineral resources of the State are extremely varied in character and are widely distributed geographically. Extensive exploratory work carried out as a result of wartime demands proved the existence of a number of important minerals, some of which are now being produced commercially. The geology of the State is described in Chapter II, Part I—*Physical Features and Geology*, and reference is made there to the occurrence of mineral deposits.

In recent years there have been developments which will lead to a great increase in the value of mineral production. Black sands in the lower south-west of the State are being exploited for their magnetic content, bauxite deposits in the Darling Range near Perth are being worked as a source of aluminium, and iron ore mining at Yampy Sound has been considerably expanded. Exploitation surveys in the Frobber and elsewhere have proved the existence of vast reserves of high grade iron ore and a number of companies are engaged in developmental work connected with the mining, export and processing of the ore. Oil search drilling has resulted in the discovery of flow oil and in widely spaced finds of natural gas. Significant quantities of

The following table gives details of mine and quarry production during the calendar years 1961 to 1963. Particulars of production during 1964 are given in the Appendix.

RECORDED MINE AND QUARRY PRODUCTION (1)

Item	1961		1962		1963	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons or kilos (t)	£	tons or kilos (t)	£	tons or kilos (t)	£
Gold (a)	57,928	11,125,849	580,029	14,367,790	595,560	11,278,541
Silver (b)	201,421	54,085	215,987	101,131	212,678	122,793
Asbestos—	tons		tons		tons	
Crocidolite	14,987	1,405,540	15,817	1,491,935	15,066	1,505,302
Chrysotile	158	2,829	52	1,163	10	788
Barren			494	5,150		
Beryl	201	40,079	195	35,842	32	11,102
Bauxite	912	371	181	40	32	
Clays—all kinds (c)	tons		tons		tons	
Coal	537,644	221,841	548,985	234,412	501,420	224,123
Copper Ore	765,545	1,880,329	915,112	1,895,778	905,495	1,861,060
Copper Ore (d)	4,295	525,090	1,277	207,085	5,396	507,902
Copper Concentrate	7,984	157,459	8,275	94,590	1,240	186,209
Fluorspar	1,196	1,210	1,267	5,884	992	5,880
Glass Sand	3,315	5,261	19,126	7,108	9,025	7,525
Gypsum	4,713	62,844	51,940	87,419	50,805	82,487
Ironstone Concentrate	151,842	785,421	174,375	700,119	145,005	597,129
Iron Ore	3,584,548	1,380,807	1,401,753	1,498,705	1,333,195	1,746,254
Lead and Silvered Ore and Concentrates	597	25,685	445	15,251	583	4,535
Limestone Concentrates	555	7,606	623	3,918	317	4,946
Limestone and local building rock-making stone but excluding hard (e) stone	54,135	201,696	702,102	350,390	687,103	311,751
Magnesia	4,625	54,977	224	1,543	4,165	44,787
Manganese Ore	53,692	1,070,601	87,871	864,879	14,502	489,154
Mosses Concentrate	1,405	31,325	600	19,000	1,390	22,644
Nickel	1,766	1,770			511	1,278
Pyritic Ore and Concentrate	11,107	427,621	40,461	424,190	58,472	687,249
Pyrite Concentrates	915	14,408	123	12,103	764	12,790
Stone, Building and Monuments, sandstone, Limestone, Grit, etc.	11,045	182,608	157,971	117,939	210,770	213,802
Stone, Crushed and Broken (e)—Granite, Marble, Quartzite, Basalt	103,115	1,281,548	900,831	1,494,330	1,306,056	1,790,323
Talc	4,143	54,581	4,981	71,210	4,660	71,531
Tantalite Concentrates (excluding Potassium Concentrate)	6		10		10	
Tantalum Concentrate	45,858	71,917	41,059	55,874	30,860	23,284
Tin Ore and concentrates	241	215,580	495	534,280	570	408,063
Tungsten Ore and Concentrates—Schudde			7	3,853		
Uranium Concentrates	7,381	74,299	3,731	40,023	12,542	130,646
Other (Value only) (f)		20,251		47,531		104,318
Total Value		24,897,551		24,707,692		23,713,908

(1) For particulars of mine and quarry production during 1964 see Appendix.

(a) Values are in terms of Australian currency and include amounts realized by the Gold Producers' Association Ltd. on sales of western Australian gold—in 1961, £28,512; in 1962, £8,104; in 1963, £14,679. They also include Commonwealth and sales-tax paid to gold producers—in 1961, £155,288; in 1962, £221,574; in 1963, £269,735. (b) By-product from treatment of anthracite ore and includes silver obtained in silver-lead and copper ore and concentrates exported, (in which see table on page 302) (c) Includes production of bentonite. (d) For Kestring. (e) Excluding limestone. (f) Includes production of boulder and salt. * Refined.

During the war years employment in mining and quarrying decreased considerably and, although there was some recovery after 1945, the number of men engaged in 1963 was only 7,495 compared with 16,335 in 1939. This decline in employment occurred mostly in the gold-mining industry and further comment on it appears on page 301.

MEN WORKING AT MINES AND QUARRIES

Description	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Gold Mining (a)	8,126	5,845	5,428	5,385	5,302	5,272	4,902	4,145	4,003	4,161
Coal Mining	1,540	1,856	1,919	1,938	1,875	1,911	184	537	757	717
Other Mining and Quarrying	1,166	1,161	1,167	1,349	1,321	1,438	1,308	1,396	1,519	1,517
Total	8,874	8,862	8,514	7,879	7,545	7,623	7,374	7,398	7,669	7,495

(a) Excludes all other diggers.

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 I—*Gold Tenure and Settlement*.

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 1855. 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, which is still the State's most productive field, was developed. By 1900 all the present proclaimed goldfields, ranging from Kimberley in the north to Phillips River in the south, had been opened up.

The production of each of these fields, as reported to the Department of Mines, for each year from 1954 to 1963 is shown in the following table.

MINE PRODUCTION OF GOLD IN CLASSIFIED ACCORDING TO GOLDFIELD
(Pierces)

Goldfield	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Kimberley	85	193	173	88	50	28	18	10	51	150
Pilbara	3,093	3,874	2,074	745	1,084	1,071	2,944	4,039	1,803	1,794
West Pilbara	11	25	3	57	15	11	5	4	—	—
Ashburton	89	18	3	1	—	—	—	—	—	—
Lawson	24	—	—	—	6	45	141	885	274	242
Pink Hill	3,885	112	11	260	628	439	504	329	289	57
East Murchison	543	134	215	206	815	722	351	572	353	278
Murchison	135,214	89,185	85,464	81,027	87,884	85,381	93,470	83,877	84,878	85,700
Yilgarn	—	12	—	175	6	81	1	85	153	105
Model Margaret	58,418	58,073	59,853	52,670	51,010	54,189	54,168	55,177	57,198	51,582
North Coolgardie	84,531	86,918	87,645	87,925	87,027	87,458	86,256	11,345	15,887	8,357
Broad Arrow	1,947	2,732	1,965	1,925	1,945	1,985	2,345	1,855	285	1,285
North-East Coolgardie	515	889	105	115	72	185	141	161	198	151
East Coolgardie	485,040	485,040	474,595	510,839	529,708	510,882	511,386	540,473	528,478	531,702
Coolgardie	15,747	11,099	17,839	16,287	14,897	17,388	17,042	15,894	11,888	10,189
Yilgarn	60,340	58,716	64,039	66,998	67,740	73,355	70,689	84,801	65,128	17,904
Dundas	83,425	85,718	88,055	91,071	108,181	101,843	101,165	98,486	110,052	102,851
Phillips River	78	3	1	359	817	1,382	1,371	1,775	1,887	1,754
Outlets—Pierces Gold Fields (a)	175	84	12	56	34	482	66	722	86	34
Total	861,996	804,330	811,937	868,741	874,817	880,899	869,865	879,888	866,533	861,560

(a) As reported to the Department of Mines.
South West Mineral Field

(b) Produced mainly from copper concentrates.

(c) Includes

Production reached a maximum of 2,564,500 fine ounces in 1903 but there followed a gradual and continuous decline, due mainly to exhaustion of surface deposits, until in 1929 the total was only 375,176 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 1,311,238 fine ounces. The second World War brought about a decline which was accelerated by the outbreak of hostilities with Japan, gold mining being one of the first industries to be affected by the introduction early in 1942 of a rigid system of horsepower control. The average annual production as reported by gold mines for the ten year period 1954-1963 was 845,866 fine ounces.

The figures given in the table on page 301 relate to refinery production and comprise gold refined at the Mint and gold contained in gold-bearing materials exported. Particulars for individual years do not agree with those for mine production, quoted in earlier tables, because of the delay between production at the mine and refining at the Mint. Values are in Australian currency and include amounts, totalling £1,311,000 for the years 1957 to 1963, distributed by the Gold Producers' Association Ltd. from payments on mine of Western Australian gold. Values also include net royalty payments to gold producers made by the Commonwealth Government under the provisions of the Gold Mining Industry Assistance Act (1952-1961). This assistance to the industry in Western Australia amounted to £3,658,220 in the years 1957 to 1963. The values exclude amounts, totalling £91,000 up to the end of 1963, paid by the Commonwealth under the Gold Mines Development Assistance Act 1962 which was designed to increase the rate of gold mining development and by granting assistance in certain circumstances, to assist gold-bearing subsidy under the Gold Mining Industry Assistance Act.

It will be seen that refinery production of gold from 1898 to 1963 averaged 64.2 oz. fine gold ounces. The total value was \$488.4 million but it should be noted that this figure has been decreased by the aggregation of minor valuations made at prices current at the time of production, which ranged from 24 to 11.454 per fine ounce in 1898 and 212.154 do. per fine ounce in 1963, and the addition of production paid by the Gold Producers' Association Ltd. and of government subsidies.

REFINERY PRODUCTION OF GOLD FROM 1898

Period	Quantity (a)		Value			
	Raffined Genuine Fine Gold (b)	Raffined at Paris Mint	Total	Market Value	Payments by Gold Producers' Association Ltd.	Company worth Net Receipts
	fine oz. 11,257.282	fine oz. 14,065,561	fine oz. 25,322,843	£ 100,000,000	£ 1,000,000	£ 1,000,000
From 1898 to 1963				100,000,000	1,000,000	100,000,000
1964	1,000	847,402	848,402	13,348,774	13,348	13,362,122
1965	4,302	337,914	342,216	13,156,322	13,156	13,169,478
1966	7,131	515,040	522,171	17,003,477	17,003	17,020,480
1967	2,567	661,930	664,497	14,010,456	14,010	14,024,466
1968	1,811	341,077	342,888	11,540,700	11,540	11,552,240
1969	1,371	564,287	565,658	11,445,701	11,445	11,457,146
1970	1,094	561,090	562,184	11,371,358	11,371	11,382,729
1971	2,946	565,362	568,308	11,825,677	11,825	11,837,502
1972	4,050	564,829	568,879	11,457,602	11,457	11,469,059
1973	4,000	795,546	799,546	12,503,305	12,503	12,515,808
From 1898 to 1963, 64.2 oz. average, 1963	11,661,170	12,573,525	24,234,695	400,000,475	1,700,000	401,700,475

(a) Figures for gold refined were gold by the Gold Producers' Association Ltd. and of government subsidies. (b) Company's gold refined and concentrates exported.

Except for minor fluctuations, a general increase has occurred in the quantity of ore treated annually since the war. This has been achieved with a decreasing work force by the adoption of new methods and improved tools and machinery, the number of men employed (including official diggers) having declined from 5,997 in 1948 to 4,901 in 1963 while, in the same period, the amount of ore treated rose from 2,124,477 to 2,770,166 tons.

The Department of Mines operates batteries for the treatment of ore which is mined by prospectors or other small producers, and various concessions are made in order to encourage work which is profitable or too limited in extent to warrant the installation of major plant. Figures for the State Batteries are included in the following table.

GOLD MINING—SUMMARY OF OPERATIONS (a)

Years to Period to 31st December		Gold-mining Machinery in use at 31st December						Employment in Mines (b)		Official Diggers	
Year	Tons	Batteries		Other Crushing Machinery	Crushing		Total Value of Gold-mining Machinery	Tons Treated			
		Name	Head of Battery		Crushing and Grinding Machinery	Vacuum Filters and Presses			Active at 31st Dec.		Under Contract
	No.	Active	No.	No.	No.	£	Tons	No.	No.	No.	
1964	1,340	25,593	85	407	373	156	8,406,713	1,140,000	1,000	1,000	
1965	1,264	23,732	84	398	377	156	8,478,564	1,070,000	1,000	1,000	
1966	1,180	21,738	83	378	377	156	8,508,738	1,070,000	1,000	1,000	
1967	1,150	21,260	82	368	368	156	7,321,356	1,070,000	1,000	1,000	
1968	1,121	20,777	81	358	358	156	7,270,166	1,070,000	1,000	1,000	
1969	1,129	20,799	80	351	351	156	7,081,401	1,070,000	1,000	1,000	
1970	1,091	18,808	79	334	334	156	7,080,707	1,070,000	1,000	1,000	
1971	1,028	18,718	78	325	325	156	7,087,604	1,070,000	1,000	1,000	
1972	992	18,025	77	316	316	156	6,448,870	1,070,000	1,000	1,000	
1973	949	18,751	76	306	306	156	6,508,745	1,070,000	1,000	1,000	

(a) Includes Government Batteries. (b) Includes those taken up on private property, such as—Batteries, services on work, accident, annual and long service leave.

Silver

Western Australia has produced over 10·9 million ounces of silver, by far the greater part of it as a by-product in the recovery of gold. The other silver production is from silver-lead and copper ores and concentrates exported for treatment outside the State.

PRODUCTION OF SILVER

Year	From Treatment of Auriferous Ore		Silver Content of Silver-lead and Copper Ores and Concentrates Exported		Year	From Treatment of Auriferous Ore		Silver Content of Silver-lead and Copper Ores and Concentrates Exported	
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value
	fine oz.	£	fine oz.	£		fine oz.	£	fine oz.	£
1954	222,449	85,171	5,931	1,590	1959	144,856	70,081	4,711	3,862
1955	235,667	91,661	1,123	1,145	1960	139,389	79,249	6,170	2,591
1956	207,478	83,274	9,769	3,969	1961	201,491	84,264	3,266	3,316
1957	198,204	74,779	8,910	3,321	1962	213,967	101,431	4,379	2,079
1958	195,975	77,771	4,792	1,891	1963	211,874	122,780	4,856	1,864

Asbestos

Several types of asbestos occur in the State but only two have been produced in significant quantities. Blue asbestos (crocidolite) is mined at Wittenoom Gorge in the West Pilbara district and, in 1963, production was 11,095 tons, valued at £1,202,002. The production of chrysotile, which occurs at a number of places in the Pilbara and West Pilbara districts, was only 10 tons in 1963, valued at £783.

PRODUCTION OF ASBESTOS

Year	Crocidolite		Chrysotile		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	£	tons	£	tons	£
1954	3,791	142,201	333	13,414	4,124	555,677
1955	4,147	165,032	275	15,997	4,422	502,025
1956	7,555	300,710	761	25,360	8,316	820,076
1957	11,346	1,105,034	1,380	42,067	12,726	1,217,701
1958	11,287	1,394,724	1,378	46,052	12,665	1,344,376
1959	14,480	1,811,598	612	17,240	15,092	1,928,348
1960	12,923	1,418,767	81	2,992	12,994	1,420,389
1961	14,087	1,632,640	130	3,829	14,217	1,535,169
1962	15,817	1,561,803	52	1,133	15,869	1,693,636
1963	11,095	1,202,002	10	783	11,105	1,202,785

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 *Official Year Book of Western Australia, No. 4-1964*. The refinery commenced production of alumina towards the end of 1963. The alumina is shipped to Victoria and Japan for reduction to aluminium. In March 1965 it was announced that the company operating the refinery intended to install additional processing equipment designed to increase its annual output from 210,000 metric tons of alumina to 410,000 metric tons. The extensions would enable shipment of 230,000 metric tons of alumina annually to an aluminium producer in the United States of America.

Beryllium Ore

Beryl occurs in many localities throughout the State but is obtained mainly from the Pilbara and Gascoyne districts. 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 has recovered to some extent, reaching a post-war peak of 359 tons in 1957. Production subsequently decreased considerably, and in 1963 was only 82 tons.

PRODUCTION OF BERYL

Year	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantities (tons)	120	199	140	180	170	247	181	261	190	82
Value (R)	21,000	34,800	21,112	31,224	31,260	45,000	32,000	48,070	32,000	11,100

Coal

The first reports of coal discoveries in the Northern district of coal in the Lower River, were made in 1840 but the only commercial production in Western Australia occurs at Collie where the Collie River Coal Mining District was proclaimed in 1896. The coal is rich in bitumen in its rank and there are substantial reserves in this area.

National production estimates have fluctuated much for the last decade but in 1963 fell to 820,000 tons. A projected growth of the next four years led to 1968 production of 971,393 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 819,111 tons were produced, but in 1963 production declined slightly to 802,465 tons.

Open cast mining was inaugurated at Collie in 1943 and this method is expected by the State Government to supply about 10 per cent of the total production over the next years. In each year from 1953 to 1960 the proportion of open cast coal was less than in 1952, and in 1963 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 open cast, and from that year more than one-third of the State's production has come from this source.

COAL PRODUCTION

Year	Quantity		Total	Value
	From Deep Mines	From Open Cast		
	Tons		Value	£
1959	607,791	414,471	1,022,262	3,000,000
1960	546,602	264,136	810,738	2,499,211
1961	617,461	148,282	765,743	2,771,063
1962	688,604	130,507	819,111	2,812,500
1963	719,100	91,365	810,465	2,800,000
1954	600,000	110,079	710,079	2,350,504
1955	728,154	124,200	852,354	2,490,100
1956	558,000	220,454	778,454	2,480,500
1957	546,501	230,811	777,312	2,490,774
1958	600,054	240,140	840,194	2,490,000

For some years after the war, employment in coal mining rose steadily and reached 1,560 in 1954. It then declined and in 1960 had fallen to 684. There was a sharp increase in 1961 when the total was only 582, of whom one third were employed above ground compared with about one fifth in each of the three previous years. In 1962 and 1963 employment was 757, the proportion of those working above ground remaining at about one-third.

MEN WORKING AT COAL MINES

Employment	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Above Ground	708	592	443	377	730	507	506	198	257	240
Under Ground	852	904	774	736	842	804	778	384	500	517
Total	1,560	1,496	1,217	1,113	1,572	1,311	1,284	582	757	757

Copper Ore

Copper ore in commercial quantities was discovered in 1849 in the Northampton district. High grade ore was found in 1833 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 pro-

duces as the main ore 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 Mount Magnet 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 1923 and 1956. It has since increased substantially, however, and in 1963 amounted to 6,266 tons valued at £307,302.

PRODUCTION OF COPPER ORE (a)

(For Smelting to Copper)

Item	1964	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantity (tons)		11	111	1,804	1,500	1,408	3,584	4,390	5,977	6,266
Value (£)		1,061	13,801	60,011	51,507	201,534	201,743	325,090	207,361	307,302

(a) For production of cuprous ore for fertilizer see following section.

Cuprous Ore (For Fertilizer)

Until recent years, the production of ores having a low copper content was uneconomical because of high costs of transport and smelting. The demand for copper to remedy trace element deficiencies in soils has, however, created a market for low grade ores for use as chemical fertilizers. Production for this purpose commenced in 1947, and in 1962 the output was 9,275 tons, valued at £94,569. In 1963 production declined to 3,235 tons but the average copper content was about 14 per cent, compared with slightly less than 6 per cent, in 1962 and as a result the value rose to £136,250. The Pilbara and Peak Hill areas are the principal sources of supply.

PRODUCTION OF CUPROUS ORE FOR FERTILIZER

Item	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantity (tons)	4,742	7,791	7,713	4,639	7,644	11,859	7,797	7,854	9,275	3,235
Value (£)	50,061	100,731	112,442	82,127	114,676	184,000	140,282	167,498	94,569	136,250

Ilmenite, Leucosene, Monazite, Rutile and Zircon

Although beach sands being treated near Dunsborough, Incewille and Capel also contain ilmenite, monazite, rutile and zircon, 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. After 1960, when recorded production of ilmenite concentrates was 3,293 tons, valued at £15,150, output rose rapidly and 193,008 tons valued at £923,172 were produced in 1963.

PRODUCTION OF ILMENITE CONCENTRATES

Item	1960	1961	1962	1963	1964	1965	1966	1967
Quantity (tons)	3,293	70,029	80,317	80,317	105,268	263,849	174,079	191,005
Value (£)	15,150	412,499	338,191	345,690	438,019	795,124	391,020	927,121

Concentrates containing leucosene, monazite, rutile and zircon, are recovered as by-products from the treatment of the beach sands and the first shipments were made in 1958, when 513 tons of concentrates valued at £16,759 were exported. In 1963 recorded production totaled 15,172 tons valued at £213,166.



Above: Iron ore exploration team on a reserve in the Pitara

Below: Geologists in Hamersley Range examining rock structure showing aboriginal drawings



PRODUCTION OF LUCOXYENE, MONAZITE, RUTILE AND ZIRCON CONCENTRATES

Year	Lucocoxene		Monazite		Rutile		Zircon		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	tons	£	tons	£	tons	£	tons	£	tons	£
1959			110	7,311	287	8,823	108	7,175	511	14,569
1959	774	5,930	40	4,008	100	3,784	4,787	71,491	7,251	44,394
1960	49	1,506	741	9,311	514	17,514	4,014	41,471	4,864	40,111
1961	515	7,606	1,155	15,881	914	16,696	7,387	74,396	10,967	134,890
1962	627	8,910	990	14,004	503	12,543	1,721	40,029	4,481	49,358
1963	547	6,246	1,220	16,864	761	22,710	11,141	136,646	13,174	213,168

Iron

Iron ore deposits are widely distributed throughout Western Australia, but until comparatively recent years there was very little development, due to the absence of smelting works in the State and the high cost of transporting ore to distant markets. Since 1955, however, large quantities of hematite have been produced at Crayke Island (Yampi Sound) in the West Kimberley district for shipment to other Australian States. The first shipment of ore from the deposits of the adjacent Koolberrong Island was made in January, 1965, following the completion of mining and loading facilities which had been under development since 1962.

Pig iron production in Western Australia began in 1948. It is smelted at Wandawee in the Darling Range east of Perth using material produced from local cinnabar. Originally, hematite iron ore (limonite) shipped from Wandawee was used in the smelting process, but has now been replaced by ore obtained from Koolberrong, east of Bullock in the Yalgarn district. The Koolberrong deposits in the Koolberrong area are mainly high grade hematite ore with some limonite. The production of pig iron at Wandawee for each of the five years to the period ended 30th June, 1964 is shown on page 323.

PRODUCTION OF IRON ORE

Year	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantity (tons)	551,719	553,000	554,000	555,000	556,000	557,000	558,000	559,000	560,000	561,000
Value (£)	554,323	555,000	555,000	555,000	555,000	555,000	555,000	555,000	555,000	555,000

In recent years there have been a number of developments in the iron ore field with deposits which will lead in greatly expanded production.

As a result of the passage in 1959 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, development work is in progress in the Koolberrong Range area with the aim of greatly increasing production from these deposits. The withdrawal of the Government from the Commonwealth Government's decision to modify the iron ore resources of the State, which had been in force since 1958, caused increased interest in Western Australian deposits. The withdrawal of the deposits other than those reserved for the domestic iron and steel industry under the Commonwealth's revised report power was then categorised as 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 reserved by the Crown to supply supplies for the State's steel requirements of the future. The second category, being known medium and low grade deposits and the third category, comprising deposits of iron ore, may be made the subject of temporary reservations granting the right to explore, each reservation being limited to a maximum area of 50 square miles. The State Parliament has since ratified a number of agreements between the Government and private companies for the mining and export of iron ore and, in certain instances, for the supply of iron ore to the domestic iron and steel industry, for the establishment of integrated iron and steel works. The provisions of these agreements are contained in the 1961-62 and 1962-63 Budget of Western Australia, No. 1, 1964 and in the various Legislative Orders 1963 and 1964 in Chapter III of the present issue. The ore will be exported overseas, mainly to Japan. Contracts between leading Japanese steel mills and certain of the mining companies have been concluded or are under negotiation, and development work has begun on a large scale.

Lead Ore

Lead ore was discovered near the House Mountain River in 1848, at what became known as the Geraldine Mine. It has since been found in other localities, principally at the Pilbara, Ashburton and West Kimberley districts, and had 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 almost ceased entirely during the war, but a substantial increase occurred in the post-war years and in 1955 it rose to 2,613 tons. In later years production has greatly declined and in 1963 amounted to only 186 tons.

Although the ore from the Northampton field, the principal producer, is almost free from silver, that from other areas further north, notably the Ashburton and Pilbara, 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 AND SILVER-LEAD ORES AND CONCENTRATES

Item	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantity (tons)	2,197	1,476	7,613	4,193	2,493	1,303	2,284	297	441	186
Value (£)	102,863	96,311	845,964	376,463	138,000	80,430	118,842	26,891	16,251	4,554

Manganese Ore

Deposits of manganese ore occur in several parts of the State but up to the end of 1947 only 262 tons had been mined. From 1947 production increased rapidly and in 1961 totalled 83,066 tons valued at £1,076,695. In 1963 it fell to 34,808 tons valued at £432,134. Production in that year was almost entirely confined to the Pilbara field, only a small tonnage of low-grade material being produced from the Peak Hill field.

PRODUCTION OF MANGANESE ORE

Item	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantity (tons)	40,567	44,194	54,234	75,151	47,643	75,730	51,942	83,066	47,371	34,808
Value (£)	608,213	491,538	737,509	1,162,401	604,366	1,055,673	740,120	1,076,695	694,879	432,134

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 Koolberru, which is the principal source of supply, commenced in 1942. All ore is now concentrated at the mine before being taken to superphosphate works in the metropolitan area for extraction of the sulphur. A second source of supply was developed in 1956 when a metropolitan works commenced using concentrates from a gold mine at Kalgoorlie. Gold is obtained as a by-product following the extraction of the sulphur from these concentrates.

PRODUCTION OF IRON PYRITES (ORE AND CONCENTRATES)

Item	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Quantity (tons)	4,130	49,465	60,099	17,913	49,080	35,339	51,299	32,397	49,481	38,472
Value (£)	117,455	367,269	420,952	382,867	541,947	371,012	385,739	437,629	494,130	447,548

Tin Ore

Tin ore was first discovered at Greenbushes in 1898. 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 1945 and reached a peak in 1956 when 358 tons of ore and concentrates valued at £208,212 were produced. In 1958 it declined to 138 tons valued at £77,319, the decrease being due mainly to contraction of operations in the Greenbushes field. After 1958 production again increased and in 1963 total output was 576 tons valued at £406,073. An extensive dredging programme was commenced at Greenbushes in 1963 and is expected to lead to a considerable increase in the production of tin.

PRODUCTION OF TIN ORE AND CONCENTRATES

Year	1954	1955	1956	1957	1958	1959	1960	1961	1967	1968
Quantity (tons)	127	180	354	270	139	356	171	141	461	524
Value (\$)	42,378	84,312	594,274	45,078	77,819	194,779	104,774	106,300	384,000	408,061

Other Minerals

In addition to the other minerals listed in the table on page 299 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 antimony ores. Small amounts of bismuth concentrates assaying as high as 73 per cent bismuth have also been produced. Production of tantalum ores and concentrates has fluctuated with demand, but a large part of world requirements has been met from the States resources. Tungsten ores have been produced in small quantities for some years with a slight increase during the war. Since then output has been sporadic, but in 1957 was valued at \$49,710. Lithium, yttrium, cerium, thorium, vanadium, niobium and zirconium bearing minerals are known to occur in commercial quantities and small amounts of minerals containing uranium, radium and thorium have been found. Deposits of bentonite, barites, graphite, mica, lignite, sillimanite, andalusite and vermiculite are also known and small amounts have been produced.

An extensive programme of oil exploration was commenced in 1914 but, although there oil was found in the Bonaparte Gulf area of the Northern Basin in 1928, no commercial development resulted. After 1953 the search was intensified and a large area of the State has been scientifically examined and geological and geophysical surveys are still being carried out. In 1964, gas and oil were produced from wells at Yarlwina about eight miles east of Donnybrook on the west coast. In the same year oil and gas were discovered on Barrow Island, 60 miles north east of Donnybrook and gas was obtained from a well drilled in the Bonaparte Gulf Basin in the extreme north of the State. No commercial development of these discoveries has yet been undertaken. In February, 1965 a show of gas was obtained in a well at Congee, fifty miles north of Perth and subsequent tests confirmed the find. In the same month gas flowed from a well drilled twenty five miles north of Donnybrook.

Quarries

The following table gives details of the production of certain quarry products from 1963-64 to 1968.

SELECTED YEARS OF QUARRY PRODUCTION

Year	Building and Monument Stone (cu)	Other Stone	
		Gravel, Limestone, Chalk, Sand, etc. (cu)	Limestone and Shell (cu)
1963-64	34,811	458,082	231,819
1964-65	1,475,346	3,117,673	1,620,116
1965-66	469,070	889,402	479,238
1966-67	33,071	3,764,274	827,199
1967-68	76,139	469,981	126,331
1968-69	72,848	143,086	183,316
1969-70	118,119	755,172	657,022
1970-71	131,040	78,910	518,376
1971-72	127,021	602,663	762,508
1972-73	119,770	1,306,384	687,145

(a) Dimensional measures including lime-stone and gravel. (b) Principally for roads, concrete aggregate, munn, etc.
(c) Estimated for the manufacture of lime and cement and for road making. (d) Four orders until December

The increasing demand for building and road construction materials is shown by the preceding table but it should be noted that gravel, sand and clays, for which reliable and complete returns are cannot be obtained, are not included.

CHAPTER VIII *continued*

PART 2—SECONDARY INDUSTRY

EXPLANATORY NOTES AND DEFINITIONS

Unless otherwise stated the figures quoted in this Part cover all industrial establishments conforming to the definition of a factory, including power stations and gas works.

Factory

For statistical purposes a factory is defined as any establishment which is engaged in the production of manufacturing, assembling, finishing or repairing and in which five or more persons are employed during any period of the year or power other than manual is used.

Employment

Average employment figures may be expressed as an average "over the period under consideration" or "over the whole year." Thus a factory which operates for only six months of the year and employs 70 persons throughout that period has an average employment of 21 "over the period under consideration" but an average of only 10 "over the whole year." Where seasonal industries, such as fruit and fish processing, where the fruit picking, are concerned there are consequently large differences between figures covering the same field of different bases are used in their comparison. In this Part, unless otherwise stated, figures quoted are an average "over the whole year." It should also be noted that they include working proprietors, but exclude all persons engaged in obtaining raw materials (e.g. feller and scaler employed by squatters) and all persons engaged in selling and distributing.

Salaries and Wages

Salaries and wages quoted exclude amounts drawn by working proprietors.

Value of Output

The value of output is the selling value "at the factory" i.e., the value at the point of origin less all selling and distribution costs of all goods made or processed during the year and includes the amount received for order work done, such as repair work, assembling and making up for customers. Any bonus or subsidy received on finished products is included.

Net Production

Net Production is the value added in the course of manufacture and is the sum available for payment of wages, rent, depreciation, other sundry expenses and for interest and profit. It is obtained by deducting from the value of output the sum of costs consumed in the process of production. The costs deducted are those of materials used, fuel, power and light, lubricating oil and grease, repairs to plant and buildings, tools replaced, and consumables and materials used for packing.

Confidential Information

The basis under which these statistics are collected requires that information supplied by any individual firm must be treated as confidential. For this reason it has not been possible to publish some items and in other cases it has been necessary to combine details for publication. As these confidential provisions apply throughout Australia separate details have, in some instances, been withheld in order to prevent disclosure of confidential information as to part of individual States. The tables affected carry appropriate footnotes.

HISTORICAL REVIEW

While secondary industry in Western Australia has grown considerably since 1900 the greatest increase 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 cheap rate power in the north-western portion of the State by the expansion of electricity supplies provided by generating stations linked in a grid system.

In 1900 there were 622 factories operating in Western Australia. By 1910 the number had risen to 815 and to 956, 1920 to 956. 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 industries and considerable success was achieved during the latter years of this period, the number of factories increasing from 1,179 in 1926 to 1,466 in 1930. Although some decline occurred in the depression years of 1930 to 1933, there were 1,436 factories in operation in 1935 and by 1940 the number had reached 2,125.

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 1941 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 been 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. However, secondary industry as a whole benefited greatly from the engineering skills and equipment acquired in wartime activities and their transfer to civilian use 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 motors and farm machinery.

Such advances enlarged the scope of Western Australian secondary industry and by 1963-64 the number of factories had increased to 4,509. However, net production per head of population still remains higher in all the other States except Queensland. This applies particularly to New South Wales and Victoria which have consistently increased their lead in industrial production. Manufacturing net production per head of population in each of the States during the year ended 30th June, 1964, was as follows:—New South Wales, £277 6s.; Victoria, £283 3s., Queensland, £146 3s., South Australia, £209 3s., Western Australia, £147 7s.; and Tasmania, £208 6s.

The average number of persons employed in Western Australian factories from 1900 to 1960 was as follows:—1900, 11,166 persons; 1905, 13,481; 1910, 14,894; 1915, 15,882; 1920, 16,942; 1925, 26,20,667; 1929-30, 19,643; 1931-32, 17,769; 1939-40, 22,067; 1944-45, 29,146; 1949-50, 40,733; 1954-55, 48,314 and 1959-60, 49,651. These figures indicate the moderate increase which occurred in factory employment between 1900 and 1929, the continued expansion in the 1930's, the decline in the early 1930's and the accelerated development during and after the second World War. They do not show the levels to which it fell during the first World War and during the depression years but these movements can be seen from the annual averages appearing in the *Statistical Summary*, 1957 preceding the Appendix.

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 48,314. In 1954-55 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 four years and by 1963-64 employment in factories had risen to 55,705.

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-mechanized works. Increases in net production and the enhanced values of land and buildings 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 1948 a blast furnace, using charcoal made in an associated wood distillation plant, began producing high-grade charcoal-iron. Additions have since been made to the plant and its original capacity of 10,000 tons per annum has been expanded to approximately 50,000 tons. Major developments have included the establishment in 1955 of an oil refinery (expanded in 1963 to produce lubricating oils) and a second portland cement factory and a steel rolling mill in 1958. In 1960 the State Parliament passed legislation to ratify agreements made by the Government with the Broken Hill Proprietary Company Limited relating to the establishment of an integrated iron and steel works in Western Australia and with Australian Paper Manufacturers Limited for the establishment and operation of a mill to produce paper and paper board. Reference is made to this legislation on pages 82 and 95 of the *Official Year Book of Western Australia*, No. 8 (New Series). In 1963, a factory near Bunbury commenced extraction of titanium oxide pigment from ilmenite, a refinery at Ravenhall commenced production of alumina from bauxite

mined in the Darling Range, and a cotton ginners at Kunzea, in the Kimberley Statistical Division, commenced processing seed cotton grown in the Ord Irrigation Area. In 1924, the factories in the metropolitan area commenced manufacture of rubber tyres.

A summary of selected items of factory activity from 1920 is given in the following table.

SELECTED ITEMS OF FACTORY ACTIVITY

Year	Number of Factories	Persons Employed (a)			Book Value of		Engines and Motors used to drive Machinery (b)	Net Production
		Males	Females	Total	Land and Buildings	Plant and Machinery		
1920	402	10,246	961	11,207	1,294,754	1,342,361	1,270	—
1921	777	13,829	1,602	15,431	1,797,112	1,699,734	15,181	—
1922	822	15,409	2,400	17,809	1,925,798	1,898,251	15,579	1,738,000
1923	865	15,443	2,425	17,868	1,977,114	1,793,082	21,007	2,223,200
1924	868	14,111	2,311	16,422	1,968,177	1,431,243	25,481	4,634,071
1925-26 (a)	1,776	77,395	12,714	90,109	4,549,111	1,490,000	37,431	9,611,111
1926-27	1,466	51,321	7,721	59,042	5,571,111	1,600,000	37,754	7,434,000
1927-28	1,654	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1928-29	2,125	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1929-30	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1930-31	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1931-32	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1932-33	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1933-34	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1934-35	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1935-36	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1936-37	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1937-38	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1938-39	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1939-40	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1940-41	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1941-42	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1942-43	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1943-44	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1944-45	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1945-46	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1946-47	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1947-48	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1948-49	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1949-50	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1950-51	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1951-52	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1952-53	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1953-54	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1954-55	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1955-56	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1956-57	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1957-58	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1958-59	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1959-60	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1960-61	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1961-62	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1962-63	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1963-64	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1964-65	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1965-66	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1966-67	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1967-68	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1968-69	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1969-70	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1970-71	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1971-72	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1972-73	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1973-74	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1974-75	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1975-76	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1976-77	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1977-78	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1978-79	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1979-80	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1980-81	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1981-82	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1982-83	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1983-84	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1984-85	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1985-86	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1986-87	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1987-88	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1988-89	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1989-90	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1990-91	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1991-92	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1992-93	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1993-94	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1994-95	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1995-96	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1996-97	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1997-98	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1998-99	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
1999-00	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2000-01	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2001-02	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2002-03	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2003-04	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2004-05	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2005-06	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2006-07	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2007-08	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2008-09	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2009-10	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2010-11	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2011-12	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2012-13	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2013-14	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2014-15	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2015-16	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2016-17	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2017-18	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2018-19	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2019-20	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2020-21	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2021-22	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2022-23	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2023-24	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2024-25	1,921	51,344	7,721	59,065	5,571,111	1,600,000	37,754	7,434,000
2025-26	1,921	51,344	7,721					

These three Divisions together contain approximately three-quarters of the total population of the State and 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 in the Metropolitan and Swan Divisions by the State Electricity Commission and a grid system established by the Commission now distributes power over a large part of the South-West Division. The only coal deposits at present being worked are in the South-West Division near Collier, 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 Rossmore.

Reference to manufacturing activity in the several Statistical Divisions of the State is also made in the section *Geographical Distribution of Industry* which appears at the beginning of this Chapter. The Divisions are shown on the map at the back of the Year Book.

PRINCIPAL ITEMS ACCORDING TO STATISTICAL DIVISIONS, 1963-64

Statistical Division	Number of Factories	Book Values of—		Persons Employed (including Working Proprietors)		Salaries and Wages (excluding Amounts drawn by Working Proprietors)	
		Land and Buildings	Plant and Machinery	Males	Females	Males	Females
		£	£			£	£
Metropolitan	8,748	17,739,726	22,680,630	34,617	9,369	25,060,726	2,611,069
Percentage of State Total	59.62	63.50	62.26	71.51	84.45	71.15	84.62
Other Divisions—							
Swan	297	9,405,284	29,430,357	4,189	296	5,640,274	190,628
South-West	608	5,801,247	15,345,390	4,174	249	4,977,429	132,223
Southern Agricultural	240	1,773,131	1,350,553	1,474	284	1,471,179	131,761
Central Agricultural	239	1,311,088	1,261,414	1,619	59	1,399,149	16,433
Northern Agricultural	227	1,405,796	1,205,965	955	94	1,226,166	18,712
Eastern Goldfields	111	862,176	2,066,869	739	99	792,281	33,873
Central	19	37,660	132,708	42	5	45,472	972
North-West	22	205,081	484,569	111	62	112,376	34,119
Pilbara	13	53,576	264,423	61	2	90,177	689
Kimberley	42	1,611,579	1,545,575	395	23	680,741	16,924
Total, Other Divisions	1,661	21,668,715	22,878,227	13,628	1,175	14,441,348	566,077
Percentage of State Total	40.38	36.50	37.74	28.49	15.55	28.85	15.38
STATE TOTAL	4,609	59,408,441	71,757,137	48,183	7,842	49,502,074	4,298,143

Cont. of—

Statistical Division	Value of Output	Power, Fuel and Light (including Water and Telephone)	Repairs to Structures, Plant and Machinery	Materials Used (including Outlaying)	Total	Net Production (A)
	£	£	£	£	£	£
Metropolitan	126,661,709	3,114,879	4,497,417	23,166,327	157,439,932	70,518,789
Percentage of State Total	50.22	28.17	40.22	68.62	54.46	41.13
Other Divisions—						
Swan	66,547,673	4,114,546	1,073,364	33,601,849	105,337,432	22,600,783
South-West	21,524,064	2,030,740	684,798	8,230,374	32,470,006	10,791,564
Southern Agricultural	9,469,793	1,791,811	145,304	4,637,195	16,694,003	3,184,243
Central Agricultural	7,507,041	790,277	135,114	3,944,346	12,376,778	2,977,893
Northern Agricultural	6,501,544	174,514	100,220	4,139,369	11,815,647	2,172,288
Eastern Goldfields	3,261,949	796,191	121,409	765,651	5,945,200	1,009,294
Central	129,450	48,747	16,443	54,336	248,976	104,584
North-West	826,538	42,420	33,203	158,670	1,060,831	231,550
Pilbara	129,115	112,218	17,108	97,734	456,275	203,557
Kimberley	5,369,714	118,901	79,458	1,641,195	7,208,068	1,321,193
Total, Other Divisions	115,727,126	8,779,295	3,286,572	63,775,444	192,568,437	44,716,867
Percentage of State Total	49.78	71.83	59.78	43.38	45.54	58.87
STATE TOTAL	242,388,835	11,894,174	7,783,989	86,941,771	350,008,369	115,235,656

(A) Average over whole year.

(B) See *Explanatory Notes and Definitions* on page 305.

FACTORIES AND EMPLOYMENT IN EACH STATISTICAL DIVISION

Statistical Division	Year				
	1959-60	1960-61	1961-62	1962-63	1963-64
NUMBER OF FACTORIES					
Metropolitan	2,523	2,561	2,621	2,665	2,748
Swan	199	213	210	219	227
South-West	529	516	513	519	506
Southern Agricultural	279	284	286	282	280
Central Agricultural	326	319	324	324	336
Northern Agricultural	180	193	208	222	227
Eastern Goldfields	152	161	167	173	171
Central	19	18	19	17	18
North-West	19	18	17	22	22
Pilbara	16	18	17	14	16
Kimberley	32	33	34	35	49
Whole State	4,279	4,334	4,418	4,492	4,609
PERSONS EMPLOYED (a)					
Metropolitan	36,204	36,750	37,073	39,165	40,906
Swan	3,559	3,735	3,836	4,049	4,495
South-West	4,662	4,596	4,472	4,374	4,414
Southern Agricultural	1,703	1,697	1,687	1,710	1,753
Central Agricultural	1,535	1,560	1,571	1,593	1,628
Northern Agricultural	758	884	955	1,022	999
Eastern Goldfields	814	855	857	872	808
Central	43	45	46	48	45
North-West	112	124	121	170	175
Pilbara	55	69	70	58	69
Kimberley	306	342	345	365	408
Whole State	49,651	50,666	51,033	53,435	55,705

(a) Average over the whole year and inclusive of working proprietors.

Employment and Wages

For statistical purposes, secondary industry is divided into the 16 classes shown in the table on page 313. The largest volume of employment is provided in Class IV—Industrial Metals, Machines, Implements and Conveyances. In 1963-64 the industries which comprise this class employed an average over the whole year of 24,924 persons, including 3,239 in government workshops engaged in constructing and repairing railway rolling stock. Another large employer of labour is the class Sawmilling. Wood-working and Basketware. Mills sawing logs employed 2,832 persons, and those engaged only in resawing and dressing of rough-sawn timber, 591. In the class Food, Drink and Tobacco, there were 1,236 persons engaged in bakeries and 2,222 in meat and fish preserving factories. In chemical fertilizer works, within the class Chemicals, Dyes, Explosives, Paints, Oils and Grease, employees numbered 977 and in brick, tile and pottery works, in the class Bricks, Pottery, Glass, etc., 1,139 persons were employed.

The first table on page 313 gives detailed employment data in each class for June, 1964, and as a total for June in each year from 1960 to 1964. For the purpose of this table, figures for June have been chosen in order to show the incidence of junior employment, particulars of which are collected for that month only.

In 1945, towards the end of the war, the ratio of male to female employment was 3·3 : 1. Within the next five years it increased to 4·6 : 1 and by 1954-55 it had risen to 6·1 : 1. It then rose slowly to 6·3 : 1 in 1956-57 and has since shown little variation, the ratio in 1963-64 being slightly under 6·2 : 1.

The proportion of male employees aged under 21 years to total male employment fell consistently between 1945 and 1952. Since then it has shown a gradual increase and in 1964 reached 16·8 per cent., only slightly less than in 1947. The trend in junior female employment followed a somewhat similar pattern apart from the abrupt increase which occurred in the proportion in 1946, immediately after the war. However, this was due to a considerable decrease in the number of adult female employees and not to an increase in the number of juniors. The proportion then fell substantially until 1955 but has since shown a fairly consistent increase until, in 1964, it exceeded the 1951 level. The changes which have occurred during the five years from 1960 to 1964 in the age grouping of workers in secondary industry are illustrated in the second table on page 313 where the numbers of males and females in each age group are expressed as a percentage of total factory employment for each sex.

FACTORY EMPLOYMENT FOR THE MONTH OF JUNE, 1964

(Excluding Working Proprietors)

Class of Industry	Number of Factories	Employees			Age Group					
		Male	Female	Total	Under 16 years		16 years and under 21		21 years and over	
					M.	F.	M.	F.	M.	F.
I Treatment of Non-metalliferous Mine and Quarry Products	149	1,090	95	1,785	10		141	23	1,630	72
II Bricks, Pottery, Glass, etc.	49	1,425	108	1,533	12	1	124	18	1,289	89
III Chemicals, Dyes, Explosives, Paints, Oils, Grease	76	2,574	232	2,806	15	6	166	99	2,393	127
IV Industrial Metals, Machines, Conveyances	2,160	22,717	1,269	23,986	486	27	3,919	478	18,312	764
V Precious Metals, Jewellery, Plate	86	138	18	156	6	1	28	12	104	5
VI Textiles and Textile Goods (inclusive of Knitted Goods)	42	435	428	863	12	23	50	136	373	269
VII Skins and Leather (not Clothing or Footwear)	23	456	100	556	20	8	73	31	363	61
VIII Clothing (except Knitted)	368	603	2,044	2,647	18	174	198	692	459	1,178
IX Food, Drink and Tobacco	621	5,334	1,761	7,115	88	71	610	592	4,636	1,118
X Sawmilling, Woodworking and Basketware	454	4,997	130	5,127	100	4	619	39	4,278	87
XI Furniture of Wood, Bedding, etc.	181	1,024	211	1,235	65	15	219	51	740	147
XII Paper, Stationery, Printing, Bookbinding, etc.	148	2,333	682	3,015	53	45	438	302	1,844	335
XIII Rubber	58	439	90	489	6	5	76	31	367	14
XIV Musical Instruments	7	30		30	2		6		22	
XV Miscellaneous Products	90	400	226	626	11	19	102	101	287	106
Total, Classes I to XV	4,612	44,595	7,374	51,969	918	397	6,695	2,605	36,987	4,372
XVI Heat, Light and Power	97	1,118	13	1,131	6		51	8	1,061	5
TOTAL, ALL CLASSES—June, 1964	4,809	45,713	7,387	53,100	919	397	6,746	2,613	38,048	4,377
June, 1963	4,492	43,844	7,034	50,878	1,016	432	6,187	2,404	36,641	4,196
June, 1962	4,418	42,082	6,584	48,666	1,031	411	5,562	2,242	35,489	3,931
June, 1961	4,334	40,344	6,297	46,641	947	350	5,318	2,067	34,079	3,860
June, 1960	4,279	40,448	6,382	46,830	863	332	5,190	2,185	34,395	3,885

PERCENTAGE OF FACTORY EMPLOYEES IN CERTAIN AGE GROUPS

Month of June	Under 16 years	16 years and under 21	Total under 21 years	21 years and over	All Ages
MALES					
1960	2-13	12-83	14-96	85-04	100-00
1961	2-35	13-18	15-83	84-47	100-00
1962	2-46	13-22	15-67	84-33	100-00
1963	2-32	14-11	16-43	83-57	100-00
1964	2-01	14-76	16-77	83-23	100-00
FEMALES					
1960	5-20	33-93	39-13	60-87	100-00
1961	5-56	33-30	38-86	61-14	100-00
1962	6-24	34-05	40-29	59-71	100-00
1963	6-14	34-18	40-32	59-68	100-00
1964	5-38	35-37	40-75	59-25	100-00

The average amount of salary and wages paid to both male and female employees in secondary industry has increased each year since 1954-55. In the following table details are shown for each class of industry in each of the ten years from 1954-55 to 1963-64, together with comparative totals for the whole of Australia.

AVERAGE ANNUAL AMOUNT OF SALARY (ND) WAGES PAID PER EMPLOYEE (a)

(b)

Class of Industry	1960-61 to 1964-65										
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
MALCO											
I Treatment of Non-metallic Minerals and Quarry Products	514	501	570	574	592	555	1,003	1,040	1,107	1,174	
II Bricks, Pottery, Glass, etc.	587	580	571	526	513	551	904	937	1,070	1,140	
III Chemicals, Dyestuffs, Explosives, Paints, Oils, Greases	532	1,053	1,001	1,001	1,055	1,111	1,174	1,210	1,260	1,323	
IV Industrial Metals, Machines, Implements, and Conveyances	701	603	580	558	570	513	571	591	1,033	1,070	
V Precious Metals, Jewellery, Plate	797	620	585	580	560	541	1,070	1,082	1,233	1,221	
VI Textiles and Textile Goods (Inclusive of Knitted Goods)	515	571	511	504	593	1,050	1,020	910	1,055	1,103	
VII Hides and Leather (not Clothing or Footwear)	790	505	514	513	550	1,040	1,050	970	1,030	1,065	
VIII Clothing (except Knitted)	753	771	734	504	425	563	511	597	513	529	
IX Food, Drink and Tobacco	535	593	580	557	552	1,005	1,050	1,080	1,111	1,145	
X Sawmilling, Woodworking and Basketware	751	751	777	708	515	551	515	531	549	1,003	
XI Furniture of Wood, Building, etc.	589	727	730	750	531	505	505	505	533	541	
XII Paper, Stationery, Printing, Bookbinding, etc.	573	510	514	509	1,020	1,005	1,100	1,111	1,155	1,110	
XIII Rubber	527	539	544	571	500	515	1,030	1,077	1,030	1,027	
XIV Musical Instruments	573	730	510	730	757	771	545	510	530	561	
XV Miscellaneous Products	705	799	780	500	514	545	507	510	530	1,000	
XVI Heat, Light and Power	594	1,004	1,077	1,040	1,070	1,150	1,204	1,260	1,290	1,335	
ALL CLASSES—											
Western Australia	798	540	517	555	590	501	1,003	1,070	1,030	1,107	
Australia	578	534	571	1,000	1,031	1,110	1,160	1,170	1,215	1,271	

PER 1,000

VI Textiles and Textile Goods (Inclusive of Knitted Goods)	441	499	481	491	507	537	575	570	577	537	
VII Hides and Leather (not Clothing or Footwear)	421	460	495	507	488	594	485	520	551	480	
VIII Clothing (except Knitted)	410	440	494	479	475	505	505	530	551	530	
IX Food, Drink and Tobacco	431	425	437	430	492	517	501	560	580	510	
XII Paper, Stationery, Printing, Bookbinding, etc.	420	427	437	470	507	531	545	577	570	530	
XV Miscellaneous Products	381	404	420	384	427	457	425	401	507	501	
Of other Classes	447	371	430	430	430	510	577	530	530	401	
ALL CLASSES—											
Western Australia	431	450	407	470	495	517	550	540	571	540	
Australia	110	120	101	170	180	180	181	181	181	181	

TOTAL EMPLOYED—

I Treatment of Non-metallic Minerals and Quarry Products	500	500	500	500	500	500	1,000	1,000	1,000	1,000	
II Bricks, Pottery, Glass, etc.	514	501	570	574	592	555	904	937	1,070	1,140	
III Chemicals, Dyestuffs, Explosives, Paints, Oils, Greases	532	977	950	1,014	1,015	1,050	1,100	1,107	1,215	1,241	
IV Industrial Metals, Machines, Implements, and Conveyances	700	603	580	558	570	513	571	591	1,033	1,070	
V Precious Metals, Jewellery, Plate	750	730	587	558	545	571	570	1,000	1,000	500	
VI Textiles and Textile Goods (Inclusive of Knitted Goods)	574	585	730	545	751	521	811	511	527	445	
VII Hides and Leather (not Clothing or Footwear)	715	791	577	545	561	551	740	570	540	571	
VIII Clothing (except Knitted)	515	515	574	570	511	500	520	530	527	570	
IX Food, Drink and Tobacco	715	700	700	500	700	700	500	570	570	570	
X Sawmilling, Woodworking and Basketware	721	714	714	700	510	550	570	570	570	570	
XI Furniture of Wood, Building, etc.	581	714	700	700	770	500	570	570	570	570	
XII Paper, Stationery, Printing, Bookbinding, etc.	700	700	500	500	500	571	1,000	1,000	1,000	1,000	
XIII Rubber	700	500	500	500	571	571	570	570	570	570	
XIV Musical Instruments	504	711	717	740	700	711	540	570	570	570	
XV Miscellaneous Products	590	570	520	570	594	711	711	700	570	570	
XVI Heat, Light and Power	567	1,000	1,070	1,000	1,000	1,150	1,200	1,200	1,200	1,200	
ALL CLASSES—											
Western Australia	744	710	500	520	540	500	540	500	500	1,000	
Australia	700	800	570	500	500	500	1,000	1,000	1,000	1,000	

(a) Includes working proprietors and partners shown as owner

Source

Capital Employed

BOOK VALUES AND RENTALS OF LAND AND BUILDINGS, PLANT AND MACHINERY

Year	Land and Buildings				Plant and Machinery			
	Owned by User (a)	Rented		Total Value	Owned by User (a)	Rented		Total Value
		Annual Rental	Estimated Capital Value			Annual Rental	Estimated Capital Value	
	£	£	£	£	£	£	£	£
1954-55	23,776,928	430,199	6,452,985	30,229,913	54,368,005	59,014	590,140	54,958,205
1955-56	25,780,151	471,020	7,078,500	32,858,651	55,927,885	60,579	605,790	56,533,675
1956-57	27,818,004	513,442	7,701,630	35,519,634	62,664,615	60,757	607,570	63,272,185
1957-58	28,897,709	529,860	7,947,900	36,845,609	63,238,535	60,154	601,540	63,840,075
1958-59	32,291,961	559,851	8,397,765	40,689,726	65,336,165	76,162	761,620	66,097,785
1959-60	34,449,177	608,239	9,123,585	43,572,762	63,462,520	76,243	762,430	64,224,950
1960-61	35,923,241	645,792	9,686,880	45,610,121	63,185,352	112,051	1,120,510	64,305,862
1961-62	38,414,848	716,598	10,753,470	49,168,318	60,637,374	107,901	1,079,010	61,716,384
1962-63	40,199,992	748,547	11,228,265	51,428,197	65,017,897	129,961	1,299,610	66,317,507
1963-64	46,878,846	835,173	12,527,595	59,406,441	76,370,537	138,662	1,386,620	77,757,157

(a) As at end of year.

Motive Power and Fuel Consumed

RATED HORSEPOWER OF ENGINES(†) EMPLOYED TO DRIVE MACHINERY

Year	Steam		Internal Combustion			Motors driven by—		Total (a)
	Reciprocating	Turbine	Gas	Light Oil	Heavy Oil	Electricity Purchased	Electricity of own Generation	
1954-55	11,010	10,613	1,499	10,712	12,068	158,946	6,470	204,848
1955-56	12,122	10,609	1,462	15,601	11,867	172,099	6,309	223,670
1956-57	11,167	10,038	1,393	15,785	9,973	190,000	5,170	238,959
1957-58	11,318	11,002	1,302	13,362	9,707	196,028	4,981	242,719
1958-59	10,912	11,640	1,495	15,736	9,203	203,409	5,282	254,395
1959-60	10,070	11,665	1,505	19,292	6,145	210,983	5,553	261,660
1960-61	10,226	11,665	2,401	17,251	7,846	218,568	6,526	268,955
1961-62	9,430	11,615	3,395	17,269	7,271	227,206	6,235	276,186
1962-63	9,645	13,444	3,395	21,674	5,699	238,563	5,957	292,425
1963-64	9,734	13,559	3,396	23,088	4,205	273,444	7,470	327,425

(†) Excludes engines held in reserve or idle and engines used in electricity generating stations. (a) Excludes particulars shown under "Electricity of own Generation."

POWER, FUEL AND LIGHT USED IN FACTORIES (a)

Year	Coal		Coke		Wood		Fuel Oil		Electricity	Other (Gas, Tar, Fuel, etc.)
	tons	£	tons	£	tons	£	'000 gal.	£	£	£
1954-55	602,871	3,225,276	18,115	144,288	345,326	429,094	31,748	1,961,263	1,710,143	207,197
1955-56	586,312	2,955,651	21,743	178,359	330,459	420,252	62,342	2,920,077	1,920,364	248,003
1956-57	537,404	2,046,366	23,460	216,703	322,222	420,764	32,209	3,321,370	1,933,825	209,546
1957-58	562,466	2,555,154	20,101	196,429	312,532	415,930	63,579	3,497,146	1,991,402	339,280
1958-59	581,979	2,537,071	18,464	212,759	281,341	375,227	64,861	3,533,000	2,052,931	384,169
1959-60	606,566	2,568,443	17,920	222,018	271,083	380,983	70,738	3,591,644	2,243,709	550,371
1960-61	493,993	2,105,938	17,975	222,787	306,982	440,276	97,195	4,412,037	2,283,408	576,382
1961-62	621,322	2,352,288	18,319	222,010	249,847	383,361	92,953	3,924,229	2,289,954	580,817
1962-63	673,726	2,589,267	17,463	219,084	238,927	384,177	99,177	3,978,519	2,504,837	568,128
1963-64	670,025	2,586,280	13,390	179,438	226,337	372,374	118,139	4,529,707	2,829,213	726,080

(a) Includes amounts used in electricity generating stations.

Electricity is the most economical and convenient source of power in the principal manufacturing areas of the State and most factories have plants designed for its use. This position has become more pronounced as the installation of new major generating stations has extended the area in which adequate

electric power is available. Electric motors are consequently the main source of motive power in factories. IC engines are used in cases of total horsepower produced and are still used in those country districts which are not yet supplied with power from the central generating stations.

The table on page 115 shows the various uses of motive power used during the ten years from 1924-25 to 1953-54 and the quantities and tons of fuel used. The fuel consumed are used for such heating purposes as brick and pottery firing, lime burning and the heating of "coking" ovens, as well as for steam generation and the operation of engines.

Value of Output and Net Production

The basis on which each of these values is computed is defined in the section *Explanatory Notes and Definitions* on page 505. The annual values of output and net production and of net production per person employed are shown in the following table for the years 1924-25 to 1953-54.

VALUE OF OUTPUT AND NET PRODUCTION

Year	Value of Output	Net Production		Year	Value of Output	Net Production	
		Total	Average per Person Employed			Total	Average per Person Employed
1924-25	183,334,445	85,895,878	1,238	1951-52	315,587,475	88,771,017	1,747
1925-26	178,148,435	84,797,807	1,202	1952-53	340,370,914	89,891,801	1,807
1926-27	191,826,974	71,447,449	1,107	1953-54	343,493,581	95,641,611	1,971
1927-28	186,767,651	74,812,556	1,154				
1928-29	186,333,688	76,742,118	1,221				

(a) Based on average employment (including working population over the whole year)

In the following table net production per employee is shown for each class of industry for the years 1928-29 to 1953-54.

NET PRODUCTION PER PERSON EMPLOYED (a)

Class of Industry	1928-29 : 1953-54				
	1928-29	1930-31	1931-32	1943-44	1953-54
I Manufacture of Non-metallic mineral Stone and Glass Products	7,088	5,781	5,435	5,082	1,054
II Textiles, Clothing, Hosiery, etc.	1,794	1,788	1,841	1,849	1,127
III Chemicals, Dyestuffs, Explosives, Paints, Oils, Greases	4,507	4,805	5,276	5,192	1,046
IV Industrial Metals, Machinery, Implements and Engineering	1,555	1,478	1,551	1,866	1,674
V Precious Metals, Jewellery, Plims	1,085	1,467	1,473	1,352	1,041
VI Textiles and Textile Goods (exclusive of Knitted Goods)	1,752	1,689	1,417	1,317	1,084
VII Hides and Leather (not Clothing or Footwear)	1,545	1,554	1,571	1,853	1,179
VIII Clothing (except Knitted)	802	809	842	944	985
IX Food, Drink and Tobacco	1,654	1,554	1,586	1,140	1,226
X Sawmilling, Woodworking and Basket-making	1,431	1,115	1,097	1,075	1,105
XI Furniture of Wood, Building, etc.	1,076	1,114	1,401	1,434	1,107
XII Paper, Stationery, Printing, Bookbinding, etc.	1,508	1,505	1,601	1,551	1,117
XIII Rubber	1,656	1,149	1,471	2,028	1,039
XIV Mineral Instruments	1,171	1,231	1,235	1,093	1,121
XV Miscellaneous Products	1,371	1,088	1,311	1,443	1,431
Class I to XV					
XVI Coal, Lignite and Power	1,808	1,682	1,871	1,979	1,015
	5,404	5,719	5,975	4,957	4,000
ALL CLASSES	1,742	1,567	1,621	1,610	1,099

(a) Based on average employment (including working population over the whole year)

Summary According to Industry

The table on pages 217-21 gives number of factories, employment and summarized financial data for 1953-54 for each of the 16 classes of industry and for the sub-classes of which they are comprised.

Class VI—Textiles and Textile Goods

(Inclusive of Knitted Goods)												
Wool—Carding, Spinning, Weaving	...	5	285	180	410,289	3,404,199	40,347	45,007	22,622	2,776,360	2,884,036	609,263
Rope and Cordage	...	4	21	120	97,699	402,357	3,791	1,807	2,933	228,795	237,826	165,031
Leather and other Knitted Goods
Flax Mills	...	9	56	16	67,644	352,714	4,370	2,553	3,787	224,186	235,301	117,413
Grass Goods (Tents, Tarpaulins, etc.)	...	10	88	85	123,305	647,661	2,786	4,569	1,710	393,265	402,330	245,631
Other	...	5	21	1	26,049	248,712	3,016	4,203	336	148,778	156,327	92,385
Total	...	42	471	411	734,076	5,145,943	54,304	59,144	31,388	3,771,384	3,916,220	1,220,723

Class VII—Skins and Leather (not Clothing or Footwear)

Furs, Skins and Leather—											
Furriers and Fur Dressing	5	106	17	114,623	499,234	9,257	10,159	1,396	252,845	273,637	225,577
Tanning, Currying and Leather Dressing	5	293	31	354,835	909,730	58,725	32,491	3,067	294,245	389,128	520,602
Woolscouring and Falmungery											
Saddlery, Harness, Bags, Trunks and other goods of Leather and Leather Substitutes (not Clothing or Footwear)	5	17	2	11,910	40,408	195	238	59	18,544	19,036	21,872
Saddlery, Harness and Whips	8	70	54	82,651	323,339	1,344	1,843	458	156,358	159,293	164,136
Boys, Trunks and other Goods of Leather and Leather Substitutes...	23	430	104	503,919	1,772,711	69,721	44,731	5,580	720,092	841,024	931,087
Total											

Class VIII—Clothing (except Knitted)

Tailoring and Ready-made Clothing	101	180	381	286,775	958,882	8,034	4,056	1,335	437,516	451,841	507,041
Dressmaking, Hemstitching											
Handkerchiefs, Ties and Scarves	65	40	639	347,918	871,994	7,194	5,362	3,479	348,040	364,075	507,019
Gloves											
Boat and Shoe Accessories	6	2	20	16,268	57,101	588	115	12,368	24,085	25,088	31,413
Umbrellas and Walking Sticks	13	44	466	290,761	797,272	4,380	3,991	12,868	376,485	397,414	390,858
Millinery											
Shirts, Collars, Underclothing	17	230	208	303,865	1,186,469	8,851	17,142	13,007	504,026	633,020	563,443
Hats and Caps	83	160	4	68,070	310,049	3,651	1,615	921	89,177	89,364	220,685
Boots and Shoes (not Rubber)											
Foot and Shoe Repairing	83	239	295	310,648	840,141	50,388	18,399	9,526	102,168	180,481	659,660
Dyeing and Cleaning (including Renovating and Repairing)	368	861	2,103	1,084,305	5,021,908	83,286	51,580	40,026	1,967,297	2,142,789	2,879,119
Total											

Class IX—Food, Drink and Tobacco

Flour Milling	15	335	18	368,246	5,968,069	87,439	40,040	385,673	4,654,427	5,173,579	794,520
Cereal Foods and Starch											
Margarine											
Breweries	19	682	70	873,250	7,707,352	223,343	73,032	1,327,940	2,427,921	4,051,936	3,655,916
Wineries											
Tobacco, Cigars and Cigarettes											
Sausage Casings	22	166	15	173,483	2,314,152	26,319	28,476	123,928	1,717,617	1,890,540	417,612
Animal and Bird Foods	276	630	297	897,804	5,635,461	166,243	77,334	128,469	2,914,234	3,286,775	2,348,686
Bakeries (including Cakes and Pastry)											
Ice Cream	7	282	321	554,103	5,060,429	110,009	50,585	516,710	3,276,461	3,958,765	1,101,664
Sugar Refining											
Confectionery (including Chocolate and Icing)	6	120	157	222,994	916,079	21,120	10,023	108,256	453,043	588,448	328,231
Jams, Fruit and Vegetable Canning	5	35	41	36,618	556,137	7,872	10,622	118,491	247,928	364,913	171,224
Pickles, Sauces, Vinegar	12	12	16	19,894	96,434	3,126	907	17,337	83,947	63,607	40,887
Bacon Curing	4	239	90	332,032	3,730,283	42,038	20,259	152,752	2,893,268	3,117,637	652,696

For footnotes see page 321.

SUMMARY OF FACTORIES ACCORDING TO INDUSTRY, 1963-64—continued

Nature of Industry	Number of Factories	Persons Employed (a)		Value of Output	Power, Vol. and Lights, and Lubricants Used	Repairs to Buildings, Plant and Machinery	Remains, Materials, etc.	Materials Used	Totals	Non-Production (%)
		Males	Females							
Class IX—Food, Drink and Tobacco—continued										
Biscuit Factories	11	207	62	1,217,004	75,101	54,419	140,300	5,145,000	3,627,200	672,200
Confectioneries	78	1,064	308	3,517,202	205,786	221,274	920,399	6,339,400	9,150,770	4,665,600
Canning and Preserving	81	302	277	2,484,000	25,562	14,814	605,102	1,666,110	4,823,200	640,200
Meat and Poultry Processing	54	101	87	1,252,236	134,521	75,117	330,200	79,000	1,655,100	1,043,100
Baking and Pastry-making	20	205	5	1,705,364	35,278	28,000	820,200	999,000	1,102,700	512,000
Food and Drink Processing	34	66	11	44,207	5,114	5,545	10,000	1,602,100	1,617,100	1,000,000
Wine Making	11	74	9	74,307	3,117	2,000	1,000,000	1,000,000	1,000,000	1,000,000
Brewing	11	74	9	74,307	3,117	2,000	1,000,000	1,000,000	1,000,000	1,000,000
Total	673	1,702	1,200	16,656,000	1,226,000	1,226,000	1,226,000	16,656,000	16,656,000	16,656,000
Class X—Sawmilling, Woodwork and Basketry										
Sawmills	27	1,000	100	1,000,000	100,000	100,000	100,000	1,000,000	1,000,000	1,000,000
Woodwork	10	100	10	100,000	10,000	10,000	10,000	100,000	100,000	100,000
Basketry	1	1	1	1,000	100	100	100	1,000	1,000	1,000
Total	38	1,101	111	1,101,000	110,100	110,100	110,100	1,101,000	1,101,000	1,101,000
Class XI—Furniture, Wood, Bricks, etc.										
Furniture	10	100	10	100,000	10,000	10,000	10,000	100,000	100,000	100,000
Bricks	1	1	1	1,000	100	100	100	1,000	1,000	1,000
Wood	1	1	1	1,000	100	100	100	1,000	1,000	1,000
Total	12	102	21	102,000	10,100	10,100	10,100	102,000	102,000	102,000

Class XII—Paper, Stationery, Printing,

	18	832	46	1,140,786	4,307,507	52,554	34,494	134	1,731,100	1,818,411	2,540,186
Newspapers and Periodicals	18	832	46	1,140,786	4,307,507	52,554	34,494	134	1,731,100	1,818,411	2,540,186
Printing, Government	5	271	95	364,534	989,911	32,309	17,821	3,249	361,140	414,525	675,386
Stationery	103	921	404	1,133,718	3,786,602	34,359	53,304	22,308	1,407,438	1,517,430	2,269,223
Printing, General (including Bookbinding)	7	145	49	187,478	1,249,417	6,079	9,496	5,708	722,836	711,200	505,208
Stationery and Paper Products	5	177	18	263,464	510,508	8,822	3,749	1,000	64,056	77,627	432,971
Cardboard Boxes, Carbons and Containers	10	74	70	109,779	927,945	4,529	9,136	5,399	563,038	582,102	345,541
Process and Photo-engraving	148	2,423	682	3,205,759	11,831,830	138,682	128,000	37,048	4,850,583	5,154,313	6,677,517
Paper Bags	6	108	40	121,632	412,378	12,572	6,877	6,163	182,671	208,283	294,096
Total	32	249	16	261,635	1,194,476	30,444	29,625	538	497,370	557,983	636,493

Class XIII—Rubber

	68	337	56	383,207 <td>1,606,855</td> <td>43,016</td> <td>36,502</td> <td>6,701</td> <td>680,047</td> <td>706,266</td> <td>840,480</td>	1,606,855	43,016	36,502	6,701	680,047	706,266	840,480
Rubber Goods (including Tyre Making)	68 <td>337</td> <td>56</td> <td>383,207</td> <td>1,606,855</td> <td>43,016</td> <td>36,502</td> <td>6,701</td> <td>680,047</td> <td>706,266</td> <td>840,480</td>	337	56	383,207	1,606,855	43,016	36,502	6,701	680,047	706,266	840,480
Tyre Retreading and Reclaiming	7	34	...	26,098	47,705	427	37	10	8,836	9,310	38,455
Total	7	34	...	26,098	47,705	427	37	10	8,836	9,310	38,455

Class XIV—Musical Instruments

Class XIV—Musical Instruments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</
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Class XV—Miscellaneous Products

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Class XVI—Heat, Light and Power

Total, Classes I to XV	4,512	47,012	7,528	52,740,455	267,105,484	7,786,313	4,312,860	7,207,045	137,091,201	157,287,529	169,907,955
Class XVI.—Heat, Light and Power											
Electric Light and Power—											
Government	13	666	9	924,332	6,773,462	2,811,271	272,904	...	28,052	3,072,827	3,700,625
Local Authority	38	117	1	137,251	631,265	254,665	35,736	...	686	261,085	362,180
Other	43	225	4	275,316	2,002,865	934,617	1,534,366	...	13,188	1,121,471	881,394
Gas Works—											
Government	3	145		176,053	903,741	97,127	48,013	1,533	383,576	530,249	373,492
Other											
Total	97	1,151	14	1,516,962	10,333,333	4,087,908	470,089	1,533	426,102	4,985,632	5,347,701
GRAND TOTAL	4,609	48,163	7,542	54,257,417	277,528,817	11,874,241	4,782,949	7,208,578	138,407,393	162,273,161	115,255,656

(a) Average over the whole year and inclusive of working proprietors. (b) Excludes amounts drawn by working proprietors. (c) See Explanatory Notes and Definitions on page 308. † Separate particulars not available for publication. See note (c).

Government Factories

The activities of factories operated by the Commonwealth and State Governments and by government instrumentalities, which are included in all tables appearing elsewhere in this Part, are shown in summary form in the following table. Factories operated by local government authorities are not regarded as "Government" factories for the purpose of this table and are therefore excluded. They are, however, included in all other tables.

The figures shown relate to work done in the repair and maintenance of government plant and equipment; other factory activities, associated with meat treatment, charcoal-iron production, printing and sawmilling; and the operations of the principal electricity and gas undertakings, which are conducted by the State Government. The activities of the trading concerns formerly known as State Building Supplies, which produced bricks, sawn timber and joinery, and the Western Australian Government Railways sawmill at Banksiadale are included in the table for the years 1954-55 to 1960-61. These undertakings were sold to private interests on the 30th June, 1961.

SUMMARY OF GOVERNMENT FACTORY ACTIVITY

Year	Number of Factories	Persons Employed (Average over whole year)			Salaries and Wages Paid		
		Males	Females	Total	Males	Females	Total
					£	£	£
1954-55	109	7,700	763	7,998	6,172,891	79,342	6,252,233
1955-56	111	8,124	774	8,279	6,324,408	78,698	6,403,106
1956-57	118	8,124	764	8,289	6,631,587	78,957	6,710,544
1957-58	119	8,298	770	8,468	7,091,855	84,825	7,176,680
1958-59	141	8,674	778	8,850	7,203,669	87,955	7,291,624
1959-60	142	8,878	775	8,653	7,884,870	97,045	7,981,915
1960-61	154	8,229	772	8,400	8,164,514	14,999	8,179,513
1961-62	156	7,167	777	7,344	7,377,819	109,023	7,486,842
1962-63	159	7,260	771	7,471	7,964,772	103,815	8,068,587
1963-64	162	7,290	765	7,492	7,724,184	11,701	7,735,885

Year	Value of Output	Cost of—			Book Value of—		
		Power, Fuel, Lights, Water and Lubricants Used	Materials Used and Repairs to Buildings and Plant, etc. (a)	Total	Net Production (b)	Land and Buildings	Plant and Machinery
	£	£	£	£	£	£	£
1954-55	17,323,790	2,505,111	3,206,244	4,707,295	4,261,445	4,578,694	11,912,216
1955-56	19,121,175	2,514,829	3,625,963	4,821,792	10,239,343	5,383,860	12,211,916
1956-57	19,910,434	2,997,474	4,006,161	7,003,635	10,324,280	5,994,531	17,149,151
1957-58	19,515,090	2,676,930	3,843,179	6,520,115	10,791,986	9,810,999	16,771,395
1958-59	21,698,464	3,025,478	5,376,899	8,402,297	11,694,567	7,641,322	19,282,449
1959-60	22,508,795	3,261,417	6,732,868	9,994,272	11,614,453	3,132,149	19,320,611
1960-61	23,165,144	3,415,445	6,777,130	10,192,565	13,042,187	5,445,124	18,551,022
1961-62	23,097,124	3,165,444	6,065,275	9,230,719	11,369,416	8,494,798	17,385,349
1962-63	22,071,711	3,111,299	6,200,619	9,312,917	12,359,114	8,153,375	17,799,121
1963-64	22,676,657	3,051,309	5,950,816	9,002,125	12,980,716	7,954,132	16,115,395

(a) Including non-returnable containers.

(b) See Explanatory Notes and Definitions on page 323.

Articles Produced and Materials Used

The following table lists some of the principal products of secondary industry in the State and shows the quantities produced in most of the five years from 1959-60 to 1963-64. As the list does not include all items manufactured, it should not be regarded as a complete assessment of factory development as a whole. However, as production is expressed in terms of physical units, individual items may be compared over the years reviewed without considering price changes.

Items in which production increased during these years include aerated waters, which rose by 56 per cent.; bricks, standard size (all types), 41 per cent.; cordials and syrups, 45 per cent.; electricity, 41 per cent.; ready-mixed paints and enamels (excluding water paints), 42 per cent.; sulphuric acid, 36 per cent.; superphosphate, 37 per cent.; raw and refined tallow (including dripping), 45 per cent.; men's and youths' sports trousers, 68 per cent.; fabricated structural steel, 87 per cent.; and tyre retreads, 54 per cent. However, there have been many fluctuations over the period reviewed and there are numerous examples

INDIVIDUAL INDUSTRIES LIME, PLASTER AND PLASTER SHEETS

Year	Value of Production (a)	Engines and Electric Motors (b)	Furnaces (c)	Subsidiary and other (d)	Power (e)	Capital, and other (f)	Value of Output (g)	Net Production (h)	Materials Used		Production (i)	
									Feed (j)	Substitution (k)	Plaster (l)	Lime (m)
									Feed (j)	Substitution (k)	Plaster (l)	Lime (m)
1934-35	44	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1935-36	55	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1936-37	64	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1937-38	73	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1938-39	82	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1939-40	91	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1940-41	100	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1941-42	109	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1942-43	118	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1943-44	127	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1944-45	136	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1945-46	145	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1946-47	154	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1947-48	163	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1948-49	172	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1949-50	181	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1950-51	190	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1951-52	200	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1952-53	210	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1953-54	220	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

(a) Net Value at end of year.
(b) Includes electricity and other fuels.

(c) Includes machinery and other equipment.

(d) Includes water and other materials.

(e) Includes production of other products.

CEMENT AND CEMENT COOKIES (INCLUDING ASBESTOS CEMENT SHEETS)

Year	Value of Production (a)	Engines and Electric Motors (b)	Furnaces (c)	Subsidiary and other (d)	Power (e)	Capital, and other (f)	Value of Output (g)	Net Production (h)	Materials Used		Production (i)	
									Feed (j)	Substitution (k)	Plaster (l)	Lime (m)
									Feed (j)	Substitution (k)	Plaster (l)	Lime (m)
1934-35	44	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1935-36	55	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1936-37	64	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1937-38	73	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1938-39	82	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1939-40	91	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1940-41	100	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1941-42	109	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1942-43	118	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1943-44	127	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1944-45	136	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1945-46	145	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1946-47	154	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1947-48	163	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1948-49	172	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1949-50	181	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1950-51	190	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1951-52	200	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1952-53	210	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1953-54	220	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

(a) Net Value at end of year.
(b) Includes electricity and other fuels.

(c) Includes machinery and other equipment.

(d) Includes water and other materials.

(e) Includes production of other products.

BRICKS, TILES, BATHENWARE, PORCELAIN, ETC. (a)

Year	Number of Factories	Land, Buildings, Plant and Machinery Used (b)	Kiln Gas, Electric Motors Used (c)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (d)	Repairs, Containers and Materials Used	Value of Output	Net Production	Bricks (Standard Clay) Produced (e)
		£	rated h.p.	£	£	£	£	£	£	No.
1904-05	32	2,009,124	5,170	2,012,242	495,459	294,272	1,084,518	5,578,340	1,084,518	138,070,000
1905-06	32	2,084,205	5,425	2,132,442	485,420	403,187	1,084,518	5,433,212	1,084,518	1,380,200
1906-07	34	2,014,488	5,450	2,089,583	388,308	355,314	1,084,518	5,191,450	1,084,518	1,380,200
1907-08	32	1,975,485	5,037	2,171,773	398,422	360,076	1,084,518	5,158,270	1,084,518	1,380,200
1908-09	31	1,884,432	5,551	2,054,408	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200
1909-10	30	1,742,475	5,037	1,988,506	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200
1910-11	30	1,702,480	5,037	1,988,506	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200
1911-12	31	1,702,480	5,037	1,988,506	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200
1912-13	31	1,702,480	5,037	1,988,506	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200
1913-14	31	1,702,480	5,037	1,988,506	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200
1914-15	31	1,702,480	5,037	1,988,506	366,567	306,567	1,084,518	5,158,270	1,084,518	1,380,200

(a) Excludes output bricks and - output in clay tiles.

(b) Excludes dry bricks.

(c) Excludes dry bricks.

(d) Excludes dry bricks.

(e) Excludes dry bricks.

CHEMICAL FERTILIZERS

Year	Number of Factories	Land, Buildings, Plant and Machinery Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Production	Phosphate Rock	Sulphur	Superphosphate Produced
		£	rated h.p.	£	£	£	£	£	tons	tons	tons
1904-05	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1905-06	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1906-07	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1907-08	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1908-09	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1909-10	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1910-11	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1911-12	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1912-13	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1913-14	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787
1914-15	10	4,070,028	7,583	1,004,210	141,381	4,002,210	1,004,210	1,447,780	31,470	617,903	478,787

(a) Excludes output bricks and - output in clay tiles.

(b) Excludes dry bricks.

(c) Excludes dry bricks.

(d) Excludes dry bricks.

(e) Excludes dry bricks.

(a) Excludes output bricks and - output in clay tiles.

(b) Excludes dry bricks.

(c) Excludes dry bricks.

(d) Excludes dry bricks.

(e) Excludes dry bricks.

ENGINEERING, METAL WORKING, CONSTRUCTION AND REPAIR OF VEHICLES AND MACHINES

Year	Number of Factories	Land, Buildings, Plant and Machinery (a)	Engines and Electric Motors Used (b)	Personnel Employed	Salaries and Wages (c)	Power, Fuel and Light Used (d)	Value of Output (e)	Capital Employed (f)	Fixed Capital (g)	Value of Capital Employed (h)	Value of Output (i)	Net Production (j)
1934-35	7,381	13,713,254	48,013	15,729	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1935-36	7,454	13,405,010	47,787	15,410	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1936-37	7,544	14,001,070	48,387	15,480	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1937-38	7,654	14,795,037	49,117	15,516	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1938-39	7,754	15,100,016	49,616	15,546	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1939-40	7,854	15,405,016	50,116	15,576	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1940-41	7,954	15,710,016	50,616	15,606	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1941-42	8,054	16,015,016	51,116	15,636	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1942-43	8,154	16,320,016	51,616	15,666	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312
1943-44	8,254	16,625,016	52,116	15,696	13,408,072	104,480	32,202,312	27,208,132	32,202,312	32,202,312	32,202,312	32,202,312

(a) Book values at end of year. (b) Estimates made by schedule of own questionnaire. (c) Includes water and lubricants.

BOOTS AND SHOES

Year	Number of Factories	Land, Buildings, Plant and Machinery (a)	Engines and Electric Motors Used (b)	Personnel Employed	Salaries and Wages (c)	Power, Fuel and Light Used (d)	Value of Output (e)	Capital Employed (f)	Fixed Capital (g)	Value of Capital Employed (h)	Value of Output (i)	Net Production (j)
1934-35	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1935-36	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1936-37	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1937-38	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1938-39	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1939-40	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1940-41	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1941-42	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1942-43	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114
1943-44	1,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114	1,114,114

(a) Book values at end of year. (b) Estimates made by schedule of own questionnaire. (c) Includes water and lubricants.

(d) Includes water and lubricants. (e) Includes quantities produced.

JAMS, PICKLES, SAUCES AND VINEGAR

Year	Num- ber of Fac- to- ries	Land, Build- ings, and Fruit Ma- chinery (a)	Engines and Electric Motors Used (b)	Persons Em- ployed	Salaries and Wages	Power, Fuel, and Light Used (c)	Repairs, Con- tainers and Ma- terials Used	Value of Output		Net Pro- duction	Materials Used				Production (c)					
								£	£		cwt.	£	£	cwt.	£	£	pints	£	gal.	£
1954-55	12	172,733	283	126	76,216	5,322	219,569	335,532	133,641	133,641	6,737	13,318	13,027	32,693	693,607	72,028	654,560	57,961	218,274	29,082
1955-56	9	177,560	278	139	85,566	6,245	205,896	465,348	173,206	173,206	23,143	25,097	27,108	33,517	454,458	64,020	760,127	77,749	29,983	20,983
1956-57	9	185,493	337	151	98,289	7,575	298,795	614,490	298,096	298,096	15,901	19,534	22,005	63,648	475,822	69,700	779,701	78,719	191,418	28,678
1957-58	9	212,515	343	124	83,423	6,700	335,059	490,583	185,824	185,824	31,783	33,292	12,098	33,968	500,802	66,075	753,172	90,576	106,808	28,238
1958-59	9	213,538	373	118	85,139	6,635	286,682	491,015	195,701	195,701	21,982	25,365	4,039	33,121	460,781	64,903	730,498	88,161	115,264	34,173
1959-60	9	221,778	370	129	94,032	8,474	319,813	540,742	212,455	212,455	23,330	28,086	8,030	17,750	474,799	68,839	802,436	100,532	189,971	33,202
1960-61	9	228,134	437	147	116,519	10,127	445,042	751,825	212,825	212,825	23,407	26,704	13,243	38,106	493,040	76,354	906,626	70,174	105,513	37,320
1961-62	9	266,880	437	154	119,946	9,290	485,694	751,825	212,831	212,831	23,411	41,951	14,235	37,052	590,593	51,663	829,127	60,404	131,819	27,136
1962-63	9	256,900	429	150	117,276	10,705	472,486	735,204	212,040	212,040	43,591	51,456	25,088	29,088	677,157	50,903	677,157	50,903	132,973	33,054
1963-64	9	179,179	754	122	100,512	10,905	429,522	652,631	212,111	212,111	43,895	60,129	15,913	39,804	271,432	40,793	488,720	51,290	132,920	35,015

(a) Book values at end of year.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Excludes tomatoes.

(e) Pro-

BACON CURING

Year	Num- ber of Fac- to- ries	Land, Build- ings, Plant and Ma- chinery (a)	Engines and Electric Motors Used (b)	Persons Em- ployed	Salaries and Wages	Power, Fuel, and Light Used (c)	Repairs, Con- tainers and Ma- terials Used	Value of Output	Net Pro- duction	Pigs Killed (d)		On Commission		Bacon and Ham Produced (e)	
										On own Account	Total	Quantity	Cost at Works	No.	£
		£	rated h.p.		£	£	£	£	£	No.	No.	No.	£	No.	£
1954-55	4	144,934	029	254	189,145	37,350	1,535,133	2,298,546	430,063	89,681	118,348	1,852,293	841	7,427,758	1,294,813
1955-56	4	171,982	878	267	183,819	42,330	2,103,980	2,540,817	299,098	88,036	117,275	1,530,501	807	7,257,217	1,319,746
1956-57	4	170,466	841	254	185,056	35,114	2,142,740	2,611,731	337,506	84,686	111,599	1,796,753	299	6,830,375	1,478,325
1957-58	4	192,692	1,333	268	220,793	35,171	2,505,548	3,094,163	397,844	121,893	24,987	1,823,453	510	6,612,477	1,355,246
1958-59	4	234,174	1,125	301	231,855	39,280	2,444,889	2,793,304	334,138	101,893	121,544	1,582,234	276	6,619,106	1,338,024
1959-60	5	278,728	1,238	288	241,881	36,312	2,728,757	3,154,540	389,471	29,776	107,220	1,825,333	102	7,117,467	1,694,447
1960-61	4	244,280	1,314	320	296,822	37,498	3,021,012	3,579,384	520,864	66,216	49,894	1,897,186	133	7,084,789	1,590,137
1961-62	4	290,279	1,303	339	319,412	41,330	3,028,091	3,703,706	633,775	70,013	71,859	1,664,729	172	7,839,387	1,554,031
1962-63	4	334,269	1,339	332	321,033	41,737	3,005,090	3,781,957	734,006	63,991	51,041	1,615,918	94	8,604,473	2,002,108
1963-64	4	348,461	1,416	329	332,032	42,438	3,075,549	3,750,283	622,696	+	+	+	+	8,468,073	2,154,568

(a) Book values at end of year.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Excludes pigs condemned.

(e) Pro-

(f) Includes quantities produced in factories classified to other industries.

; Not available for publication.

ELECTRICITY AND TOWN GAS UNDERTAKINGS

Electricity Generation and Transmission

Prior to the establishment of the State Electricity Commission in 1944, 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 Katgorrie. With other small exceptions the country areas were dependent on isolated combustion equipment, owned privately or by local government authorities and supplying either alternating or direct current at various voltages. Since 1944 a number of power stations have been absorbed into the Commission's network and, although there are still more than 50 independent operators generating electricity for sale or for their own industrial requirements, the Commission now supplies most of the electricity used in the south western portion of the State and exclusively sold in the metropolitan area. The Commission consists under the State Electricity Commission Act, 1945-1959 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 1937-38 steam power stations accounted for 14 per cent of installed generating capacity. In 1953-54 the proportion was almost 80 per cent, operated mainly by the Commission. Low cost by far the most important source of energy in electricity generation, but significant quantities of fuel oil are also used.

In the metropolitan area the Commission has modernized the 11,000 kilowatt plant at the East Perth power station and, in 1954, completed a new station at South Fremantle, with a capacity of 100,000 kilowatts. These are linked with a power station at Bunbury, consisting of four units, each of 30,000 kilowatt capacity.

One of the responsibilities undertaken by the State Electricity Commission was the administration of the South West State Power Scheme Act, 1946, designed to develop river schemes in the south western portion of the State. As a first stage in the development, it acquired the Collier power station and increased its capacity from 3,000 to 12,000 kilowatts. In 1950 it installed at Wellington Dam, near Collier, a hydro turbine which is connected to the Collier power station and operated from it by remote control. Completion of the raising of the wall of the dam in 1950 has made it possible to operate also out at the head of water for which it was designed. A new power station is being constructed at Maja near Collier, adjacent to a source of open run-off. The first main structure for this station was let in 1951, and the first unit of 60,000 kilowatts was installed July, 1954. Work is well advanced on a second similar unit. Contracts for a further two 60,000 kilowatt units were let in 1954, and the station is planned to be on full load in 1959, increasing the installed capacity of the interconnected system by 240,000 kilowatts.

The main interconnections are two 131,000 volt transmission lines from the Bunbury power station to the Cannington substation in the metropolitan area, a single 132,000 volt line from the Maja power station to the Cannington substation and a single 132,000 volt line from Maja to the Bunbury power station. Another 132,000 volt interconnection from Maja to the metropolitan area is planned.

From Cannington a 66,000 volt line extends westwards to Merreman, and a further extension eastwards to supply the Bonaparte industry at Koolyanahung is under construction. From Bunbury a 66,000 volt line extends to Capel and a similar line to Cougle is under construction. From Collier, 55,000 volt lines extend to Bridgetown, Wagin, Narrogin, Katanning and Albany. Lines operating at 22,000 volts supply Russellton, Margaret River, Manjimup, Pemberton, Boreup Brook, Bunnup, Brownlie, Pingelly, Wakepan, Koorup, Gnowangerup, Tambellup, Mervin Barker, Denmark, York, Toodyay, Goomalling, Dowerin, Wickepin and Concedin.

In the Geraldton area it is the intention of the Commission to purchase capacity in bulk from the Geraldton Town Council to supply its surrounding districts, and a 22,000 volt line is under construction between Geraldton and Northampton.

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. Some 1,500 consumers have been connected in country and metropolitan areas under this provision.

ELECTRICITY GENERATING (a)

Year	Gen-erating sta-tions	Land, buildings, plant and ma-chinery (a)	Engines con-nected to gen-erators	Persons em-ployed	Horse-power	Power, fuel and labor (c)	Repairs and materials (c)	Value of Output	Net Pro-duction	Fuel Used				Electricity (d)		
										Coal		Fuel Oil		Gener-ated	Distributed	
										tons	£	gal.	£		'000 kwh.	'000 kwh.
1951-52	34	14,695,435	265,119	945	151,264	4,333,550	306,157	6,262,257	3,022,110	411,251	3,277,107	11,672,711	932,352	702,272	552,668	7,035,281
1952-53	30	12,303,546	219,781	949	160,090	3,922,705	358,885	6,314,393	2,965,381	470,060	3,908,310	9,688,197	852,188	702,791	629,825	6,071,003
1953-54	37	12,184,775	416,432	971	169,440	3,438,612	291,544	6,045,192	3,075,546	464,243	5,258,453	11,044,402	1,000,156	791,620	652,438	6,345,563
1954-55	37	14,456,060	412,906	1,070	179,361	3,432,305	357,115	7,037,640	3,376,169	501,171	5,217,811	10,415,735	1,006,519	805,765	689,500	6,090,802
1955-56	38	20,276,179	452,473	1,108	179,178	3,229,518	339,710	7,354,401	3,490,215	624,575	5,255,421	11,960,167	1,102,079	876,169	731,546	6,420,849
1956-57	41	25,733,479	506,899	1,080	192,575	3,519,478	357,656	7,554,357	3,370,373	551,458	5,304,620	12,178,145	1,114,787	935,078	781,147	7,127,042
1957-58	40	25,787,569	504,582	1,065	190,533	3,770,013	459,470	8,409,740	3,270,175	415,068	5,651,371	10,449,419	1,224,000	1,035,455	875,075	7,111,617
1958-59	39	25,012,777	507,075	1,072	191,760	3,612,466	401,733	8,491,138	3,399,809	372,591	5,399,222	10,727,100	1,280,464	1,119,407	921,941	7,116,867
1959-60	42	13,641,823	505,187	1,060	194,500	3,761,235	370,892	9,111,872	3,395,304	625,732	5,551,740	10,710,238	1,246,857	1,219,792	1,016,378	7,136,120
1960-61	43	26,525,022	544,116	1,029	194,520	3,990,751	464,912	9,329,202	3,775,319	632,397	5,370,401	11,151,206	1,406,820	1,119,729	1,111,910	7,139,542

(a) Excluding particulars of transmission and distribution.
(b) Includes quantities used in other industries.

(c) From values at end of year.

(d) Includes water and lubricants.

(e) Includes quantities produced in other.

GAS WORKS (a)

Year	Gas Works	Land, Buildings, Plant and Machinery (a)	Engines and Electric Motors (a)	Persons em- ployed	Salaries and Wages	Power, Fuel and Liquor (a)	Repairs, Con- sumables and Ma- terials (a)	Value of Output	Net Pro- duction	Materials Used				Gas Distributed	Coke (including Coke breeze) Produced (a)		
										Coal (including lignite)		Oil			Coke (including Coke breeze)		
										tons	£	gal.	£		tons	£	
1951-52	4	1,591,285	1,345	990	187,067	104,906	613,200	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1952-53	4	1,722,775	1,212	191	172,652	104,786	610,092	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1953-54	4	1,734,257	1,312	172	161,379	174,929	560,169	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1954-55	4	1,744,856	1,204	184	161,371	103,741	617,847	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1955-56	4	1,850,702	1,204	182	170,625	103,022	602,082	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1956-57	4	1,796,334	1,316	176	190,372	103,422	580,575	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1957-58	4	1,710,991	1,216	177	192,435	103,502	584,807	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1958-59	4	1,693,907	1,305	169	189,188	102,137	560,003	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1959-60	4	1,740,441	1,447	160	187,065	113,299	498,312	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190
1960-61	4	1,667,049	1,432	145	178,015	17,127	431,122	304,771	2,000,000	25,187	442,171	1,016,041	149,208	1,260,000	1,200,788	22,008	101,190

(a) Excluding particulars of distribution.
(b) Includes quantities used in own works.

(c) From values at end of year.

(d) Excludes materials from use in electricity of own generation.

(e) Includes water and lubricants.

Minor systems which are privately-owned or controlled by local government authorities are being absorbed as the grid system's 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.

Of the generating stations not under the control of the Commission, only one is powered by water. The remainder are all powered by internal combustion engines.

Town Gas Production

Town gas production in Western Australia is now limited to three establishments. Two works, situated at Perth and Albany, are operated by the State Electricity Commission and the third, at Fremantle, is operated privately.

DEPARTMENT OF INDUSTRIAL DEVELOPMENT

At the end of the first World War the State Government, with the object of fostering secondary industry, established a Council of Industrial Development which has since been succeeded by the Department of Industrial Development.

The functions of this Department are to assist the expansion of existing industry, foster the establishment of new industries, encourage exports, organize exhibitions and publicize Western Australian trade and industry. It also conducts investigations and research into the commercial possibilities of using indigenous raw materials for industrial purposes. In carrying out these functions the Department establishes and maintains liaison with industry and with Government Departments responsible for the provision of necessary services, information and finance.

CHAPTER IX - TRADE, TRANSPORT AND COMMUNICATION

PART 1 - TRADE

TRADE FROM 1829 TO FEDERATION IN 1901

Statistics concerning the external trade of the Colony of Western Australia during the early years of settlement were obtained from the reports of Harbour Masters and are recorded in the colonial Blue Books. Records of trade activity in the early period are not detailed and although they show that in 1829, the year of establishment of the Colony, the total value of imports was about £20,000, they give no particulars of the type of goods nor of their precise origin. From 1846 more comprehensive details are available and in that year imports consisting principally of apparel and haberdashery, flour, biscuits, grain, tea, coffee and sugar amounted in value to £26,355.

Western Australia depended at first upon the United Kingdom for most of its imports. The first specific record of trade with the other Australian Colonies relates to the year 1857 when the value of goods received from South Australia, New South Wales and Victoria was £9,473, compared with £97,135 from the United Kingdom and a total of £14,532 from all sources. Purchases from the other Australian Colonies gradually increased in importance and in 1877 exceeded in value those from Britain and comprised nearly half the total.

In the decade before Federation, the other Australian Colonies provided on per cent. of Western Australia's purchases and the United Kingdom 46 per cent. The total value of imports was still well below £1 million in 1896 but in the next ten years, principally as a result of the population increase and the expansion of public works following the rich gold discoveries of 1892 and later, imports increased greatly both in range and in quantity. The importation of mining machinery, railway stores and rolling stock, iron and steel products, added to a larger volume of commodities necessary to meet growing consumer requirements, raised in 1900 the value of imports to £5.96 million in 1900. Of this amount £2.98 million was spent on goods from the other Australian Colonies and £2.73 million on imports from the United Kingdom.

Almost from the inception of the Colony until the gold finds of the 1890's wool was Western Australia's most valuable export, although the Blue Books show that in some of the early years whale oil and whale bone were more important. The first known record of consignment of any commodity is for the year 1834, when 7,385 lb. of wool valued at £758 was sent to England. In 1892 almost 9 million lb. worth £326,703 was shipped from the Colony, representing nearly two fifths of a total value of exports of £862,144. Other items, in order of importance, were gold, £226,282; pearl shell and pearls, £119,239; timber, £75,419; sandalwood, £67,410; and hides and skins, £36,867. In the following year, the value of gold exported almost doubled and was nearly twice as great as the return from wool. Shipments of gold continued to increase and in 1900 exports of gold and bullion worth £3.55 million accounted for more than four fifths of a total export income of £5.85 million, while timber with an export value of £0.46 million had displaced wool as the commodity second in importance to gold.

In all but a few of the seventy years before Federation, Western Australia's principal market was the United Kingdom which in the ten years from 1861 to 1900 took 40 per cent. of all exports, compared with 44 per cent. consigned to the other Australian Colonies and 16 per cent. to all other destinations.

TRADE FROM 1901 to 1953-54

After Federation, export trade continued to develop steadily with some contraction during the first World War, the economic depression of the 1930's and again during the second World War.

The value of imports rose from £5.45 million at the beginning of the century to £125.2 million in 1953-54. Detailed statistics of imports in this period are indicative of the growth of the State and the changing direction of its development. In the early part of the period, notable imports were materials for ore treatment and gold extraction, mining machinery and railway stores but in the 1920's such items as agricultural implements and machinery, tractors and processing plant became more significant. After the second World War, another change in the pattern of import trade had become apparent, with metals and metal manufactures, machines and machinery, motor vehicles and parts, petroleum products, electrical appliances and equipment assuming increasing importance and accounting for more than half the value of all imports in 1953-54.

During the period from 1901 to 1953-54 the value of exports rose from £8.52 million to £31.7 million; staple commodities being gold, wheat and flour, wool and timber. Export income from gold fluctuated widely. In the ten years before Federation it had been by far the most valuable item of export. In 1908, the peak year of production, gold shipments earned £8.02 million compared with £9.64 million from timber and £0.44 million from wool. Despite a consistent decline in output since that year and the development of wheat growing as a major industry, gold continued to be the principal item until 1919-20, when revenue from its exports, £3.40 million, was exceeded for the first time by that from wheat and flour, £5.07 million, wool being next in order with export earnings of £1.94 million.

Between 1921 and 1930 the area given to wheat, timber and wheat and flour comprised the principal source of export income throughout this decade except for two years, 1922-23 and 1923-24, when wool exports were more important. In 1927-28 the value of gold shipped, £0.66 million, was the lowest recorded for 35 years. In the same year wheat and flour earned £8.00 million and wool £4.96 million of a total export income of £13.2 million.

Prices of wheat and wool fell sharply in the early years of the next decade, and were at their lowest level in 1930-31 with an average f.o.b. value for wheat of 2s. 3½d. per bushel and for wool of 5.04 pence per lb. Despite substantial increases in shipments in that year, earnings from the export of these commodities declined. The depreciation of Australian currency in terms of sterling during 1930 and 1931 led to increased activity in the gold mining industry. With greater production and enhanced prices gold again became a major source of income and for ten years from 1933-34 was once more the principal item of export.

After the second World War, export income from wool and from wheat and flour showed substantial increases. In the ten years to the 30th June, 1954 export earnings from wool, greasy and scoured, were £259.2 million, and from wheat and flour £183.7 million, these items together accounting for more than two-thirds of the total export revenue.

CLASSIFICATION AND VALUATION OF IMPORTS AND EXPORTS

Particulars of Western Australian trade are classified in accordance with a Statistical Classification of Imports and Exports based on the tariff schedule used for Customs purposes. The classification comprises some 3,000 items of imports and about 1,000 items of exports, the items being grouped into a number of classes and sub-classes, which are shown in the table on page 340. The detailed classification and an accompanying index appear in Part IV of the *Statistical Register of Western Australia*.

From the 1st July, 1963, when a new Australian Customs Tariff was introduced, imports have been classified in accordance with a classification based on the *United Nations Standard International Trade Classification, Revised*. From the 1st July, 1966, exports will be classified similarly.

Prior to an amendment to the Customs Act 1901-1936, effective from the 15th November, 1947, imports direct from overseas were recorded in "British currency values." These British currency values were the values used for Customs duty purposes, namely the f.o.b. value in sterling at the port of shipment plus an addition of 10 per cent. The 1947 amendments, in prescribing a new procedure for valuation, provided that the basis should be Australian currency f.o.b. at the port of shipment without the 10 per cent addition. Statistics of the value of exports from overseas countries have continued to be recorded on this basis.

Statistics of imports from other Australian States are recorded in terms of landed cost.

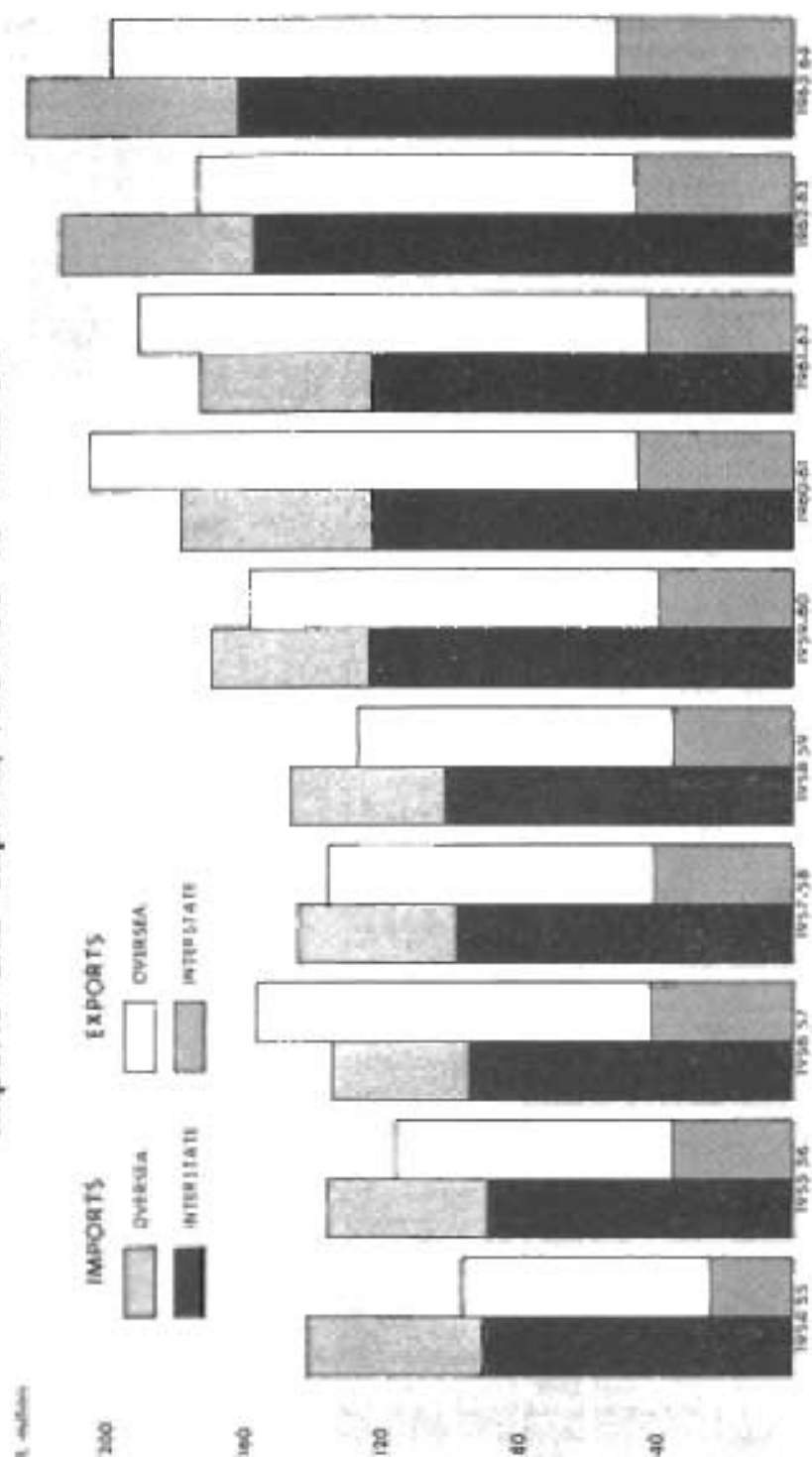
The value of goods exported, both overseas and interstate, is recorded in Australian currency. The basis of valuation is f.o.b., or its equivalent, at the port of shipment or other point of consignment.

GENERAL SUMMARY OF TRADE, 1954-55 TO 1963-64

Statistics during the ten-year period ended 30th June, 1964 reveal an irregular pattern of fluctuating trading balances, as shown in the next table. In each of the years under review overseas trade resulted in a favourable balance ranging between £21.4 million (in 1954-55) and £104.3 million (in 1960-61). Interstate trade showed a deficit in each year, the largest being £111.0 million in 1962-63, and the smallest, £53.1 million in 1956-57.

In 1954-55 the value of imports rose by £18.5 million and, while export revenue had begun to increase, total trade for the year showed an adverse balance of £43.6 million, some £12 million greater than that of the previous year. Although a deficit was recorded again in 1955-56, there was a considerable improvement. Expenditure on imports was £6.24 million lower than in 1954-55 and export income increased by £19.6 million, mainly as a result of larger shipments of refined petroleum to the other Australian States

Imports and Exports, 1954-55 to 1963-64



VALUE OF PRINCIPAL IMPORTS FROM AUSTRALIAN STATES (a)

COMMODITY	Year ended 30th June, 1961	Year ended 30th June, 1964				
	All States	New South Wales	Victoria	South Australia	Queensland, Northern Territory	All States
Apparel—						
Footwear	8,022,037	1,009,063	1,431,002	158,510	55,428	3,554,043
Other	10,010,176	4,144,153	9,807,170	246,936	541,210	18,262,600
Buildings and structures' materials	2,178,609	714,541	1,528,056	177,569	191,012	2,811,219
Books and press materials	1,865,364	555,915	507,150	37,227	240	1,994,551
Foodstuffs	908,173	304,470	148			304,924
Furniture						
Breakfast table	142,394	100,697	26,999	9,558		169,354
Chair	88,191	149,154	16,901	14,114		262,360
Office desk and chairs	177,179	206,258	116,839	5,935	137	467,399
Furniture	1,751,209	414,510	720,089	55,432	485,232	1,976,500
Fruit, vegetable	791,582	10,174	101,990	1,853,314	305,775	871,776
Furniture and household goods	158,546	154,739	274,094		47,323	477,756
Furniture and household goods	167,115	55,287	143,114	47,907	57,657	333,064
Mattresses	147,146	130,034	34,832	16,044	97,137	379,251
Sofa, armchair	1,039,611	4,456	541,147	23,830		885,189
Tables and chairs	117,195	116,082	279,214	25,619	4,853	413,969
Vegetables, canned	177,195	177,195	169,723	7,411	79,371	591,990
Other furniture	1,111,111	1,000,000	2,000,000	2,000,000	7,700,000	7,700,000
Flax	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Flaxseed	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Foodstuffs	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Iron and steel						
Crude steel	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Pipes, tubes and fittings	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Other	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Iron and steel manufactures						
Live animals	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Machinery and equipment						
Agricultural	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Dynamics electrical machinery and electrical equipment	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Electrical and electronic machinery	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Industrial machinery and equipment	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Transportation	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Tractors and parts	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Other machinery	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Metals and metal manufactures						
Aluminium	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Copper	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Iron and steel	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Lead	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Nickel	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Zinc	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Non-metallic mineral products						
Asbestos	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Cement	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Glass	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Other	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textile manufactures						
Textiles and textile manufactures	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Other	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textile preparations						
Textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111
Textiles and textiles	1,111,111	1,111,111	1,111,111	1,111,111	1,111,111	

(c) Figures relate to the basin from which the seaweed-dried was imported, which is not in all cases the basin in which it was produced. 11 imports Greenland, 14,300 t; 12 imports, 22,321,384; Northern Persia, 221,161.

Western Australia's imports consist predominantly of manufactured goods and equipment. During the ten years ended 30th June, 1964 more than three quarters (78.8 per cent.) of the total of £1,618 million spent on imports from all sources represented commodities in two of the main classes shown in the following table. Class XII—*Metals, metal manufactures and machinery* accounted for 46.5 per cent., Class IX—*Textiles, furs and wools*, for 13.1 per cent., Class VIII—*Iron and metal manufactures other than textiles and apparel*, for 11.9 per cent.; Class I—*Foodstuffs of agricultural origin*, for 5.1 per cent., and Class XIX—*Chemicals, metals and products, mineral oils and fertilisers*, for 4.6 per cent.

VALUE OF IMPORTS ACCORDING TO STATISTICAL CLASS
-1964-

		Year ended 30th June—				
Statistical Class		1960	1961	1962	1963	1964
I	Foodstuffs of animal origin	1,781	5,069	3,545	3,899	1,490
II	Foodstuffs of vegetable origin	2,038	5,722	8,495	9,099	5,977
III	Agricultural and stockable liquors	455	547	97	591	612
IV	Tobacco, opium, gums and resin	1,064	2,577	1,397	2,779	1,361
V	Live animals	615	560	589	1,000	775
VI	Animal substances other than foodstuffs	201	120	1,261	891	385
VII	Vegetable substances and oils	711	140	725	892	520
VIII (A)	Yams and manufactured fibres	3,024	1,471	1,995	1,071	1,662
VIII (B)	Textiles	1,983	6,597	3,211	4,462	4,313
VIII (C)	Apparel	11,741	10,225	11,515	11,172	11,505
IX	Other hats and wear	11,075	15,956	15,759	17,771	20,480
X	Payments, paints and varnishes	1,467	1,497	1,467	1,499	1,414
XI	Books and minerals, including ores and concentrates	695	1,447	1,497	1,421	1,221
XII (A)	Metal and metal manufactures	27,220	26,959	26,392	1,311	26,976
XII (B)	Dynamo electrical machinery and appliances	6,879	6,722	5,477	1,711	5,870
XII (C)	Machinery and machinery, except dynamo electrical	71,128	1,299	14,110	11,608	14,432
XIII (A)	Rubber and rubber manufactures	1,756	1,955	1,465	1,445	2,756
XIII (B)	Leather and leather manufactures	406	564	564	564	564
XIV	Wood and wicker, cane and manufactured	615	540	621	674	619
XV	Furniture, carpets, china, glass, etc.	1,756	1,756	1,756	1,756	1,660
XVI (A)	Paint, paper and board	1,469	1,469	1,469	1,469	1,730
XVI (B)	Paper manufactures and stationery	1,021	1,021	1,021	1,021	1,070
XVII	Printing materials, type, paper, plates, etc.	1,400	1,412	1,402	1,400	1,401
XVIII	Optical, musical and scientific instruments and appliances	910	973	974	1,003	1,346
XIX	Chemicals, medicinal products, essential oils and perfumes	6,730	6,730	1,412	1,511	5,499
XX	Medicaments	1,137	5,841	1,412	1,412	1,412
XXI	Gold and silver, precious stones	191	191			
TOTAL IMPORTS		161,760	155,868	156,321	142,479	146,301

Year ended 30th June

		1960	1961	1962	1963	1964
I	Foodstuffs of animal origin	1,781	5,069	3,545	3,899	1,490
II	Foodstuffs of vegetable origin	2,038	5,722	8,495	9,099	5,977
III	Agricultural and stockable liquors	455	547	97	591	612
IV	Tobacco, opium, gums and resin	1,064	2,577	1,397	2,779	1,361
V	Live animals	615	560	589	1,000	775
VI	Animal substances other than foodstuffs	201	120	1,261	891	385
VII	Vegetable substances and oils	711	140	725	892	520
VIII (A)	Yams and manufactured fibres	3,024	1,471	1,995	1,071	1,662
VIII (B)	Textiles	1,983	6,597	3,211	4,462	4,313
VIII (C)	Apparel	11,741	10,225	11,515	11,172	11,505
IX	Other hats and wear	11,075	15,956	15,759	17,771	20,480
X	Payments, paints and varnishes	1,467	1,497	1,467	1,499	1,414
XI	Books and minerals, including ores and concentrates	695	1,447	1,497	1,421	1,221
XII (A)	Metal and metal manufactures	27,220	26,959	26,392	1,311	26,976
XII (B)	Dynamo electrical machinery and appliances	6,879	6,722	5,477	1,711	5,870
XII (C)	Machinery and machinery, except dynamo electrical	71,128	1,299	14,110	11,608	14,432
XIII (A)	Rubber and rubber manufactures	1,756	1,955	1,465	1,445	2,756
XIII (B)	Leather and leather manufactures	406	564	564	564	564
XIV	Wood and wicker, cane and manufactured	615	540	621	674	619
XV	Furniture, carpets, china, glass, etc.	1,756	1,756	1,756	1,756	1,660
XVI (A)	Paint, paper and board	1,469	1,469	1,469	1,469	1,730
XVI (B)	Paper manufactures and stationery	1,021	1,021	1,021	1,021	1,070
XVII	Printing materials, type, paper, plates, etc.	1,400	1,412	1,402	1,400	1,401
XVIII	Optical, musical and scientific instruments and appliances	910	973	974	1,003	1,346
XIX	Chemicals, medicinal products, essential oils and perfumes	6,730	6,730	1,412	1,511	5,499
XX	Medicaments	1,137	5,841	1,412	1,412	1,412
XXI	Gold and silver, precious stones	191	191			
TOTAL IMPORTS		161,760	155,868	156,321	142,479	146,301

100 Less 1000 1000

In 1963-64 the value of imports of commodities in the five main statistical classes was 11% below or 74.5 per cent. of all imports aggregating £222 million.

1. Class XII, which accounted for 193.7 million, principal items were motor vehicles and motorcycles £79.1 million, iron and steel £15.4 million, tractors and parts £4.84 million, agricultural machinery £4.41 million, radio, television and communication equipment £3.57 million, builders' and engineers' hardware £1.82 million, non ferrous metals £2.44 million, internal combustion engines £2.21 million, refrigerating appliances £2.24 million, earthworking and road-making machinery £1.42 million, cooking and heating appliances £1.33 million, maps and wire manufactures £1.23 million, covered electrical cables and wire £1.16 million, office and recording instruments £0.98 million, washing machines £0.85 million, and ball-bearings and accumulators £0.54 million.

Class VIII showed total imports of £75.1 million, the main commodities being apparel other than footwear £14.6 million, piece goods £4.62 million, footwear £3.15 million, carpets and carpeting £1.14 million, bags, sacks and overpacks £1.05 million, bed linen and bedspreads £0.56 million, towels and towel bag £0.36 million, knitting wool £0.33 million, mittens and rug £0.33 million, hose-socks £0.31 million, and cordage, ropes and twine £0.22 million.

Class IX recorded a total of £26.4 million, the predominant items being crude petroleum £18.4 million and refined petroleum oils and spirits £8.11 million. (See *Interpress Petroleum Products* on page 335.)

In Class XIX, with a total of £13.6 million, imports consisted largely of medicinal preparations and drugs £4.18 million, chemical substances £2.08 million, toilet preparations £1.79 million, and soap and soap substitutes £1.40 million.

In Class II, imports aggregating £17.6 million were accounted for mainly by confectionery £1.21 million, dried and canned fruits (including juices and syrups) £1.58 million, tea £0.97 million, canned and dried vegetables £0.96 million, jam, pickles, marmalade and sauces £0.18 million, coffee £0.51 million, prepared soups £0.46 million, cereals £0.45 million, breakfast foods £0.34 million, and biscuits £0.26 million.

EXPORTS

It will be apparent from an examination of the table on page 331 that Western Australia continues to be dependent for a very large part of its export income on the products of the primary industries and, for example, wool in the grease, wheat, oats and barley, skins and hides, fresh fruit and vegetables, mineral oils, or commodities derived from these by the first stages of processing such as wool scouring, flour milling, goat tanning, sawmilling, and meat and fish freezing.

During the two years ended 30th June, 1964 the aggregate value of Western Australia's exports (excluding the value of ships' stores) was £1,576 million. Of this total more than two-thirds (£9.5 per cent.) was accounted for by fourteen commodities or groups of commodities, namely wool, grease and scoured (£396 million or 25.1 per cent.), wheat and wheat straw (£311 million, 20.3 per cent.), good bullion (£105 million, 6.64 per cent.), frozen and chilled meats (including offal, poultry and rabbits) (£84 million, 5.33 per cent.), timber (£84.5 million, 5.39 per cent.), machine tools (£79.2 million, 5.03 per cent.), oats (£78.1 million, 4.96 per cent.), skins and hides (£70.2 million, 4.46 per cent.), fresh fruit (£19.5 million, 1.24 per cent.), barley (£16.1 million, 1.02 per cent.), fresh vegetables (£17.49 million, 1.11 per cent.), sheep, cattle and pigs (£15.14 million, 0.96 per cent.), eggs (£14.54 million, 0.92 per cent.), and the principal minerals (other than gold) (£39.7 million, 2.49 per cent.).

A new oil refinery began production early in 1955 and, during the first nine full years of operation, refined liquid petroleum products valued at more than £440 million were exported as commercial cargo, or in the form of supplies to ships and aircraft (see *Interpress Petroleum Products* on page 345). The addition of this group to the other groups in 1964 increased the total value of exports of liquid commodities or groups of commodities to £1,223 million or 78.1 per cent. of that of all exports.

In the following tables and accompanying letterpress these commodities are dealt with separately for each year of the period from 1945 to 1965-66. The figures shown in the tables exclude details of exports in the form of ships' stores, to which some reference is made on page 350.

Wool, Skins and Hides

Wool

Wool is exported predominantly in greasy form but scoured wool is nevertheless an important item of external trade, its total export value during the 66-year period under review being almost one-quarter of that of wool in the grease.

It will be seen from the following table that export income from greasy wool fluctuated widely during the period because of large variations both in quantity shipped and in price.

The lowest average price realized during the period, 50·01 pence per lb., was recorded in 1958-59, when 111 million lb. returned £23·7 million, and the highest, 78·74 pence per lb., in 1960-61. In 1963-64, when the record quantity of 159 million lb. was exported, earnings amounted to £48·5 million, or 10·32 million more than the previous highest annual return of £48·2 million in 1950-51.

EXPORTS OF GREASY WOOL

Item	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity 1000 lb.	96,654	113,229	138,682	166,561	111,131	111,104	181,068	199,894	151,422	169,282
Value £'000	29,648	28,947	35,620	25,612	23,168	22,988	29,842	34,989	31,591	48,191
Average value (a) pence	73·70	61·32	78·74	71·26	50·01	42·79	53·64	59·78	66·65	73·79

(a) Each value per lb.

The principal market during the ten-year period was the United Kingdom which received shipments totalling 388 million lb. worth £102 million, equivalent to 31·7 per cent. of the value of all greasy wool exported. The purchasing country next in importance was Japan which took 192 million lb. valued at £93·5 million, followed by France which bought 143 million lb. worth £36·6 million. Other valuable markets were Italy, the Federal Republic of Germany, the United States of America, Belgium-Luxembourg and Poland. A significant feature of exports during this period was the decline in each year except 1956-57 and 1963-64 of the value of purchases by the United Kingdom and the gradual increase in sales to Japan. In 1963-64 Japan, which purchased 43·4 million lb. worth £13·7 million, was the most important market, while the United Kingdom bought 31·9 million lb. valued at £8·95 million.

EXPORTS OF SCOURED WOOL

Item	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity 1000 lb.	25,391	18,746	18,740	18,587	21,763	27,430	26,194	26,121	25,278	22,091
Value £'000	6,633	4,210	5,129	7,731	6,112	9,910	7,779	7,844	7,508	5,723

The principal market for scouring wool during the ten-year period was the Republic of China (Mainland), which purchased 39·2 million lb. valued at £11·6 million, or 19·3 per cent. of the total. The customer next in importance was the United States of America, which took consignments worth £13·0 million (17·2 per cent.), followed by the United Kingdom and the Federal Republic of Germany. In 1963-64 the largest purchases were made by the United States of America, which bought 5·72 million lb. worth £2·19 million, and the United Kingdom, which took 4·34 million lb. valued at £1·41 million.

Skins and Hides

EXPORTS OF SKINS AND HIDES

Type	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
QUANTITY ('000 lb.)										
Sheep and Lamb	7,610	4,169	17,802	2,676	12,940	12,795	11,866	12,841	10,279	9,703
Cattle and Calf	2,181	1,850	10,067	1,024	4,339	4,437	4,080	4,704	7,184	8,651
VALUE (£'000)										
Sheep and Lamb	1,242	1,391	2,088	1,708	1,318	1,347	1,508	1,774	1,582	1,914
Cattle and Calf	135	145	230	210	409	507	385	476	542	571
Other	85	105	68	20	17	29	21	41	43	83
Total	1,462	1,641	2,386	1,938	1,744	1,883	1,914	2,291	2,169	2,568

(a) Figures for 1959-60 incorporate an adjustment to exclude, and those for 1961-62 to include, an amount of £11,508, representing the value of a consignment of 204,387 lb. of cattle hides exported overseas in 1959-60 but not recorded until 1961-62.

Skins exported from Western Australia consist largely of sheep and lamb skins, mainly with wool. France was by far the most important customer in each of the years under review, taking consignments valued at £9.72 million, equivalent to 59.7 per cent. of the total for the ten year period. The next most valuable market was the United Kingdom, followed by Italy and Belgium-Luxembourg. Significant purchases were made by Yugoslavia, the Federal Republic of Germany and the Netherlands.

Other export items are cat skins and certain furred skins, notably kangaroo and rabbit, for which the other Australian States provided a regular market throughout the period. The United States of America was an important buyer until 1956-57.

The export trade in hides, which consist principally of cattle hides, was mainly with the other Australian States, their purchases amounting to nearly three-quarters of the total value of exports during the ten year period. Among overseas customers Japan and the United Kingdom were predominant.

Wheat and Wheaten Flour, Oats and Barley

Wheat and Wheaten Flour

The annual export income from wheat varied considerably during the ten years under review, from £11.7 million in 1944-45 to £42.2 million in 1961-62 when shipments, both in quantity and in value, were the greatest ever recorded and earnings from this source amounted to more than one third of the aggregate value of all exports. Exports commenced in 1944-45. Returns in each of the two succeeding years, although considerably less than in 1961-62, were at an unusually high level.

In 1955-56 the F.O.B. value of wheat declined to 12s. 8d. per bushel, the lowest since 1945, at which time the value was 8s. 4d. It increased in 1956-57 and reached a maximum for the period of 15s. 4d. in 1957-58. In the next three years wheat prices fluctuated, but were stable in the last three years of the period, ranging between 14s. 1d. and 14s. 2½d.

EXPORTS OF WHEAT

Units	Year ended 30th June									
	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Quantity	000 bush.	16,330	21,773	46,796	26,344	21,305	26,773	22,680	23,882	22,729
Value	£'000	11,720	14,420	20,660	20,451	15,595	24,721	22,690	22,176	20,000
Average value per	s. d.	14 2½	12 8	13 1½	13 4	13 1	13 5½	13 7	14 1½	14 1½

1st F.O.B. value per bushel.

Although the United Kingdom was the principal market for wheat during the ten year period, its purchases in the last three years, valued at £17.5 million, were exceeded by those of the Republic of China (Mainland) which were worth 145.9 million, and Japan which spent £29.5 million. Other important markets throughout the period were India, the Federal Republic of Germany, Pakistan and Hong Kong. In 1961-62 Spain took consignments worth £4.71 million.

EXPORTS OF WHEATEN FLOUR

Units	Year ended 30th June									
	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Quantity	short tons (50	125,342	129,421	127,491	111,827	104,059	87,760	132,771	87,914	74,397
Value	£'000	1,616	1,883	1,737	1,454	1,180	1,045	1,976	1,944	1,320

(a) Short ton = 2,000 lb.

Exports of wheaten flour during the ten years were mainly to the Arabian States, Singapore, Malaya and Indonesia. Singapore was the largest customer in 1954-55 and 1957-58, and Indonesia in 1955-56 and 1956-57. In the last six years the Arabian States provided the principal market. Other important buyers throughout the ten-year period were Ceylon and Aden.

Oats

Exports of oats showed wide fluctuations during the ten year period, the annual income varying between 10.49 million in 1954-55 and 14.56 million in 1960-61. In the last three years exports showed a consistent decline in both quantity and value, and earnings of £1.16 million in 1963-64 were less than one half of the figure for 1960-61.

EXPORTS OF CATS

Item		Year ended 30th June—									
		1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity	'000 bush	1,050	4,810	4,138	1,368	9,544	6,896	11,306	9,559	7,744	1,270
Value	£'000	480	1,936	1,954	265	3,863	2,850	4,309	3,807	3,340	1,127

The Federal Republic of Germany was the most important market during the period, its purchases accounting for more than half the total value of exports. Other large buyers were the Netherlands, the Republic of China (Mainland) and the United Kingdom. In 1963-64 the Republic of China (Mainland) took consignments worth £1·31 million, or more than three fifths of the total value of cats shipped in that year.

Barley

Apart from a decline in the years 1957-58 and 1960-61, annual export income rose rapidly from £9·64 million in 1964-65 to £2·62 million in 1961-62. After a sharp decrease in 1962-63 there was some improvement in 1963-64, when exports were valued at £1·64 million.

EXPORTS OF BARLEY

Item		Year ended 30th June—									
		1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity	'000 bush	1,137	2,514	2,120	1,154	2,599	4,912	4,756	5,411	4,006	1,217
Value	£'000	641	983	1,008	654	1,380	2,490	2,417	2,805	2,111	701

The United Kingdom purchased 11·9 million bushels worth £1·69 million, representing almost half the total value of exports during the period, and was the principal buyer in each of the first two years and again in 1961-62 and 1963-64. Japan was the most valuable market in 1959-61, the Federal Republic of Germany in 1957-58, Denmark in 1958-59 and Italy in 1959-60, 1960-61 and 1962-63.

Minerals and Mineral Products

Gold

The quantity of gold shipped annually during the ten years was extremely variable, although production was well maintained at a level of more than 800,000 fine ounces in each year except 1954-55, when it fell to 713,841 fine ounces. Export earnings ranged from £7·06 million in 1954-55 to the record figure of £30·75 million in 1960-61. In all, 61·32 million fine ounces were exported during the period for an aggregate value of £102·1 million.

EXPORTS OF GOLD BULLION

Item		Year ended 30th June—									
		1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity	Bullion	818,403	110,273	770,093	307,503	141,631	109,871	7,327,438	147,814	116,867	102,380
Value	£'000	2,660	8,471	12,060	2,916	2,030	1,960	94,816	1,097	4,534	4,001

More than three fifths of the gold exported was sent to New South Wales for shipment overseas. The remainder went to the United Kingdom and Switzerland. The United Kingdom took very small quantities in 1964-65 and 1963-64, and consignments worth £9·1 million in 1959-60 and £3·0 million in 1960-61. Switzerland purchased 11,303 fine ounces valued at D. 15 million in 1960-61.

Minerals other than Gold

The principal minerals, other than gold, exported during the ten years from 1954-55 to 1963-64 were asbestos, iron ore and concentrates, manganese ore, and limestone concentrates. Significant returns were obtained from exports of ores and concentrates of tin, copper, and lead (including silver-lead).

EXPORTS OF PRINCIPAL MINERALS OTHER THAN GOLD

Commodity	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
	QUANTITY ('000 tons)									
Asbestos	4	7	11	11	11	11	11	15	12	8
Thermal Concentrates			64.15	88	83	88	130	156	195	259
Iron Ore ore	160	472	320	430	560	704	1,095	1,132	1,400	1,279
Manganese Ore	28	34	34	23	30	19	47	106	62	27
	VALUE (£'000)									
Asbestos	34	720	1,070	1,400	1,083	1,556	1,152	1,773	1,360	884
Limestone Concentrates			64, 63	906	324	337	599	720	850	1,280
Iron Ore ore	375	488	325	435	664	991	1,214	1,244	1,900	1,408
Manganese Ore	80	615	776	1,251	814	1,112	634	1,473	685	348

(a) Overseas exports only. (b) Inland exports of all asbestos and asbestos ore and concentrates amounted to 12,139 tons valued at £64,000.

The principal market for asbestos during the period under review was the United States of America, which took shipments worth almost two fifths of the total value of asbestos exported. Consignments to the other Australian States accounted for more than one quarter, and other important customers were Italy, Japan, and Singapore.

Five types of asbestos, including purple asbestos, exported during the period totalled 6.79 million tons valued at £8.61 million. Shipments to Japan, consisting mostly of purple asbestos, amounted to 0.64 million tons worth £0.51 million. Apart from insignificant consignments to the United Kingdom and the Federal Republic of Germany, the remainder went to New South Wales.

Exports of manganese ore during the period amounted to 0.59 million tons valued at £8.14 million. Shipments worth almost half the total value went to other Australian States. Japan, the United States of America and Finland were other important customers. Japan was the principal market in each of the last five years, and was the sole purchaser in 1963-64.

In the eight years from 1956-57, when the first shipments of limestone concentrates were made, purchases by the United Kingdom amounted to almost two fifths of the total value of exports. Other important markets were Tasmania, the United States of America and Japan. In 1963-64 the United Kingdom took consignments valued at £9.37 million.

Exports of copper and concentrates, mostly to other Australian States, were valued at £2.07 million during the ten year period. Japan was the principal buyer of copper ores and concentrates, which had a total export value of £1.91 million, the other Australian States providing the next most important market. Japan was also the largest customer for lead ores and concentrates, its purchases amounting for more than three quarters of the total value of exports worth £1.56 million during the ten years.

Petroleum Products

Although Western Australia still relies very largely for its export revenue on the products of its primary industries, an important development has been the establishment of a major oil refinery which began production in January, 1965. The total value of exports of refined liquid petroleum products, including quantities shipped as fuel to ships and aircraft, was £21.0 million in 1955-56, the first full year of operation, £31.5 million in 1960-61 and £31.1 million in 1963-64, the latest year under review.

For the ten years ended 1963-64 the aggregate income from the export of crayfish tails was £29.3 million, of which £28.4 million came from purchases by the United States of America. Small consignments went to other Australian States and to Singapore throughout the period and, in some years, to Canada, France, Malaya, Saudi Arabia and a number of other countries.

During the four years to 1963-64, exports of whole crayfish amounting to 3.37 million lb. valued at £1.21 million went mainly to France, other purchasers being the United States of America, Singapore and the Federal Republic of Germany.

Eggs

Eggs are exported in shell and in liquid form, those in shell comprising almost four fifths of the total export market during the ten year period to 1963-64. Until 1959-60, when exports were discontinued, there was a small trade in powdered eggs.

EXPORTS OF EGGS

Item	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
QUANTITY										
In Shell '000 doz.	2,602	2,211	2,085	2,331	1,894	1,460	1,271	1,356	1,384	958
Not in Shell '000 lb.	1,375	971	1,490	1,410	1,196	452	457	69	45	51
VALUE (£'000)										
In Shell	612	492	501	489	379	337	355	340	264	132
Not in Shell	748	479	989	207	119	65	59	11	4	4
Total	760	569	1,490	756	498	402	414	351	268	136

The Arabian States, predominantly Saudi Arabia, provided the largest market for eggs in shell, taking consignments worth £1.62 million during the ten years. Singapore, with purchases valued at £1.41 million, was next in importance. From 1954-55 to 1960-61 the United Kingdom, with purchases amounting to £0.85 million, was the principal buyer of eggs shipped in liquid form. In the last three years of the period the Arabian States became the most important customer.

Fruit and Vegetables

Apples are the most important of the fresh fruits exported from Western Australia, the total value of shipments during the ten years to 1963-64 representing more than four fifths of that of all fruits exported. The United Kingdom was the principal market, with purchases amounting to more than half the value of all apples exported. Sweden and Singapore were other important customers.

Grapes, most of which were sent to Singapore, Ceylon and Malaya, predominated among the other fresh fruits exported. Exports of pears were worth £0.53 million during the period, versus £0.44 million and citrus fruits £0.22 million. Singapore was the largest buyer of both pears and citrus fruits, and was also the principal market for pears in some years, although greater quantities were bought by the United Kingdom in most years of the period.

EXPORTS OF FRESH FRUIT

Item	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
QUANTITY										
Apples '000 bush.	1,369	1,407	1,284	871	942	826	1,284	466	1,124	475
Grapes (a) '000 cases	23,200	21,495	17,817	22,696	22,111	10,090	17,321	11,177	14,734	17,363
VALUE (£'000)										
Apples	1,599	1,428	1,056	1,554	1,477	951	1,973	1,102	1,190	1,590
Grapes (a)	299	215	216	234	102	179	563	167	131	158
Other (b)	85	54	128	154	135	85	105	114	170	160
Total	1,983	1,697	1,399	1,942	1,714	1,215	2,641	1,383	1,491	1,908

* Revised.

(a) Overseas exports only; (b) home use.

(a) Includes inter-State exports of grapes, which are not recorded separately.

Potatoes constituted the principal form of exports of fresh vegetables and were sent mainly to other Australian States, whose purchases amounted to £2.05 million, representing 77 per cent. of the total earnings for the period. Among overseas buyers Singapore was predominant, while Mauritius, Malaya and South Arabia took significant quantities.

Tomatoes were next in importance to potatoes and were marketed largely in other Australian States, Singapore being the chief overseas customer.

The other Australian States also provided the most important market for onions, taking consignments worth more than half the total value of exports. Singapore, the principal overseas buyer, made purchases equivalent to almost two fifths of the total.

A notable development during the period was the increase in interstate exports of beans.

Singapore was by far the most valuable market for other fresh vegetables, accounting for more than half the export income from these items. In 1959-61, separate particulars of exports of mushrooms and lettuce first became available. In the first year to the 30th June, 1964 consignments valued at £0.36 million were shipped, mainly to Singapore.

EXPORTS OF FRESH VEGETABLES

Item	Year ended 30th June									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
	QUANTITY (TONS)									
Potatoes	177,546	84,775	155,119	175,594	198,245	194,790	151,803	165,398	164,984	156,107
Tomatoes	26,009	51,627	51,996	55,197	65,749	65,896	87,107	94,277	111,997	119,391
Onions	37,143	26,877	44,233	66,122	65,895	45,494	66,667	56,311	63,101	61,371
Beans - all	8,336	1,339	1,639	11,563	18,327	15,898	34,171	23,799	18,424	24,264
	VALUE (£'000)									
Potatoes	156	89	160	215	184	218	158	165	166	177
Tomatoes	179	167	186	240	194	179	179	149	220	271
Onions	10	44	71	89	64	112	77	109	100	131
Beans - all	28	40	91	74	209	93	138	127	85	138
Other - all	110	107	144	134	132	140	148	149	143	160
Total	540	570	656	764	692	729	760	699	694	776

(a) Intermediate figures only. (b) Overseas receipts not recorded separately.

(c) Domestic market only. (d) Not available.

Meats

The items of export of frozen and chilled meats of ovine or caprine origin during the ten years to 1964-65 were beef and veal, lamb and mutton, and pork. With the exception of pork, almost the whole of Western Australia's trade in these commodities was with overseas countries.

EXPORTS OF FROZEN AND CHILLED MEATS

Item	Year ended 30th June									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
	QUANTITY (TONS)									
Beef and Veal	14,909	15,767	14,116,871	161,755	51,226	29,897	21,392	21,614	18,999	24,214
Lamb	4,567	7,481	7,114	7,965	9,623	8,695	11,109	8,229	9,239	11,311
Mutton	2,967	7,995	9,397	9,392	11,399	11,694	13,213	8,439	11,117	11,399
Pork	7,511	1,637	1,615	9,334	4,172	2,818	4,176	8,948	4,544	1,894
Other - all	(-)	1,011	(-)	7,967	(-)	1,694	8,126	8,591	5,777	6,544
	VALUE (£'000)									
Beef and Veal	1,019	1,172	1,001,097	1,011,206	1,119	8,171	2,271	3,130	4,091	5,797
Lamb	549	789	822	892	892	445	1,099	895	643	491
Mutton	116	790	989	1,000	1,077	744	897	617	713	471
Pork	294	741	794	781	599	478	760	1,075	799	311
Other - all	222	991	(-)	1,004	499	499	1,491	1,491	1,171	771
Total	1,871	2,774	1,002,097	1,023,190	3,847	1,179	5,432	6,394	7,121	7,771

(a) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, 8,778,000 lb. of beef valued at £148,531 and 490,790 lb. of beef offal valued at £20,969 exported overseas in 1956-57 but not recorded until 1957-58. (b) Pongelbat facility - offals, poultry and rabbits. (c) Not available.

The United Kingdom was the most important market for beef in each of the first six years of the period under review and the United States of America in each of the last four years. Purchases made by the United States of America during the ten years amounted to £11.5 million, or about half the aggregate value of beef exported, while those of the United Kingdom totalled £19.95 million.

The principal market for mutton was the United Kingdom which took consignments worth £1.23 million compared with total exports valued at £5.68 million during the period. Other significant markets were Canada, Singapore, and the other Australian States. Mutton, at a total export value of £4.98 million, went mainly to the United Kingdom (£1.34 million), the United States of America (£1.13 million) and Singapore, Canada and Japan.

The other Australian States provided by far the most important markets for pork, with purchases worth £8.38 million, or more than five-fifths of the total value of exports during the period. Singapore and the United Kingdom were the next most important customers.

For other meats, comprising mainly offals, poultry and rabbits, the principal market was the United Kingdom, whose purchases accounted for more than half the export earnings from this source. Other important customers were Singapore, and the other Australian States.

Sheep, Cattle and Pigs

Earnings from exports of sheep, oxen and pigs amounted in total to more than £6 million during the ten years under review. Almost one million sheep, over thirty seven thousand head of cattle and more than five thousand pigs were exported during the period, mainly to overseas countries.

EXPORTS OF SHEEP, CATTLE AND PIGS

1955	Year ended 30th June—									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
	NUMBER									
Sheep	95,982	101,346	117,737	129,754	135,714	147,544	147,335	166,206	222,602	187,127
Cattle	1,226	2,294	1,072	1,236	4,113	3,561	1,411	888	662	4,272
Pigs	889	870	720	880	882	802	220	120	70	244
	VALUE (£'000)									
Sheep	308	313	490	452	471	553	585	627	648	710
Cattle	54	89	121	144	138	182	139	25	80	186
Pigs	11	10	7	24	13	11	1	2	0	6
Total	364	412	618	620	622	746	725	654	728	902

The total value of sheep exported was £5.84 million, of which consignments to Singapore accounted for £1.87 million. Purchases by Kuwait, made during the four years to 1963-64, amounted to £0.63 million. Other overseas customers were Malaya and Mauritius.

Shipments of cattle valued at £1.17 million went principally to Singapore, the Philippines, Hong Kong and Australian States.

Crested Iguana (Indian Ocean) was the most important market for pigs.

Timber

Almost all of the timber exported from Western Australia consists of the hardwoods, jarrah and balsa. Much of it is shipped in the form of railway sleepers, the value of which represented more than two-fifths of total all timber exported during the ten years under review.

Earnings from the export of timber increased in each year from 1954-55 to 1958-59, when consignments of £7.6 million super feet had a total value of £4.21 million, the highest ever recorded. After that year exports showed a general decline, except for a slight improvement in 1961-62. Shipments in 1963-64 amounted to 63.3 million super feet worth £3.41 million. Exports during the ten years totalled 534 million super feet valued at £24.0 million. The average annual value of consignments of all timber was £3.40 million, sales of sleepers accounting, on the average, for £1.53 million and other timber for £1.87 million.

EXPORTS OF TIMBER (a)

Item	Year ended 30th June									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
QUANTITY ('000 super feet)										
Railway sleepers	13,754	22,670	24,727	51,001	42,267	51,095	51,009	51,007	28,212	28,141
Other (a)	25,404	52,061	51,471	30,207	27,304	28,308	40,843	35,526	27,205	21,130
Total (a)	41,248	74,731	76,198	81,208	77,571	79,403	91,852	86,533	55,417	49,271
VALUE (£'000)										
Railway sleepers	650	1,347	1,511	1,099	1,059	1,091	1,209	1,799	1,011	1,423
Other (a)	1,228	1,891	1,897	1,771	1,699	1,677	1,390	1,034	1,097	1,093
Total (a)	1,878	3,238	3,408	2,870	2,758	2,768	2,599	2,833	2,108	2,516

(a) Excludes plywood and veneers and small quantities of timber for which super footage is not recorded.

The other Australian States provided by far the most important markets, taking quantities worth almost half the value of all timber exported during the ten years. Intermediate sales accounted for about one-quarter of the total income from sleepers and more than two-thirds of that from other timber. New Zealand was the principal overseas buyer of sleepers, and significant sales were made to the United Kingdom, India, the Republic of South Africa, Pakistan and Iraq. Exports of other timber to overseas destinations were mainly to the United Kingdom, New Zealand and the Republic of South Africa.

SUMMARY OF EXPORTS DURING 1962-63 AND 1963-64

Principal Exports during 1962-63 and 1963-64

The table on page 351 gives details of Western Australia's principal exports during each of the years 1962-63 and 1963-64.

Of the amounts shown in the table under the heading of Ship's Stores, approximately three-quarters represented bunker oil. Details of this and other commodities supplied to ships during each of the years 1962-63 and 1963-64 are given in the following table.

EXPORTS IN THE FORM OF SHIP'S STORES

Commodity	Units of Quantity	Year ended 30th June			
		1963		1964	
		Quantity	Value	Quantity	Value
Artificial fertilizers (a)	tonnes	101,470	40,180	177,917	50,914
Foodstuffs for animals (a)	tonnes	5,785	31,842	4,306	24,222
Foodstuffs (a)	tonnes	78,468	41,130	27,297	29,551
Lignin (a)	tonnes	175,844	12,047	206,100	41,440
Fish (a)	tonnes	27,000	11,400	21,100	46,401
Fruit (a)	tonnes	0.0	0.0	0.0	8,501.4
Meat (a)	tonnes	1,175,971	213,430	1,051,200	280,502
Vegetables (a)	tonnes	0.0	0.0	0.0	156,200
Petroleum oils and spirits (a)	tonnes	61,184,158	7,036,459	65,424,724	8,624,322
Bunker oil (a)	tonnes	59,100	49,274	1,011,400	172,501
Other ship's stores (a)	tonnes	0.0	0.0	0.0	429,827
Total (a)	tonnes	0.0	0.0	0.0	4,664,481

(a) denotes "not applicable" or "not available." (b) includes fish in aerials. (c) Where the value of ship's stores recorded in any one entry is less than £50, the stores concerned are not allocated according to commodity. This item includes amounts of £202,094 in 1962-63 and £298,630 in 1963-64 not so allocated. (d) Composite average and intermediate ship's stores valued at £1,841,080 and £202,751 respectively in 1962-63, and £4,046,377 and £277,404 in 1963-64.

PRINCIPAL EXPORTS, QUANTITY AND VALUE

Commodity	Unit of Quantity	Year ended 30th June—			
		1963		1964	
		Quantity	Value	Quantity	Value
Animals—			£		£
Cattle	number	689	89,190	8,829	185,611
Sheep	number	222,669	747,741	197,127	736,476
Apparel—					
Footwear	n.a.	n.a.	161,674	n.a.	361,346
Other	n.a.	n.a.	544,785	n.a.	290,509
Foodstuffs—					
Barley	hushls	3,006,391	1,514,565	3,407,479	1,445,835
Confectionery	lb	1,594,026	294,140	1,341,330	240,263
Fish					
Crayfish tails	lb	1,691,000	1,455,138	7,392,191	4,900,592
Other	lb	3,467,186	799,695	3,704,627	1,605,855
Flour, plain white	short ton (a)	74,397	2,355,337	69,039	1,185,373
Fruit, fresh—					
Apples	bushls	1,124,254	3,48,997	871,743	1,380,178
Other	n.a.	n.a.	396,699	n.a.	427,625
Fruit, dried—citrus	lb	1,375,849	726,127	3,096,400	1,061,131
Other	lb	5,387,751	293,997	5,318,841	374,699
Meats—					
Preserved by cold process					
Beef and veal	lb	55,099,939	4,691,231	43,257,699	3,748,399
Other	lb	3,258,439	143,010	3,375,167	169,387
Mutton	lb	11,116,974	735,119	8,568,379	479,458
Pork	lb	4,545,561	709,315	1,998,325	308,794
Other	lb	4,991,551	798,271	4,511,904	600,997
Otherwise prepared	lb	1,148,184	174,059	2,698,300	314,245
Sausages (except chicken)	n.a.	n.a.	101,962	n.a.	97,920
Other	n.a.	n.a.	170,934	n.a.	181,382
Oats					
Prepared (hacked)	ton	10,967	369,107	14,450	437,098
Unprepared	bushls	7,745,759	1,345,636	3,300,151	1,129,390
Vegetables, fresh—					
Onions	cwt	n.a.	108,359	92,371	152,662
Potatoes	cwt	34,344	105,364	195,359	179,547
Other	cental	75,810	374,775	96,379	459,620
Wheat	bushls	20,780,459	29,098,684	53,021,794	28,340,496
Other foodstuffs	n.a.	n.a.	1,196,815	n.a.	1,229,111
Gold bullion	fine ounces	45,691	6,524,932	64,595	9,022,344
Iron and steel	ton	181,759	7,835,549	184,374	7,524,085
Leather	n.a.	n.a.	252,939	n.a.	291,794
Machines and machinery—					
Agricultural	n.a.	n.a.	302,054	n.a.	327,125
Machine tool and metal	n.a.	n.a.	495,559	n.a.	584,699
Tractors and parts	n.a.	n.a.	2,283,329	n.a.	2,145,816
Other (b)	n.a.	n.a.	2,395,313	n.a.	2,557,380
Other concentrates and mineral products					
Metals—					
Copper	ton	705,107	290,155	716,197	341,197
Alumina	ton	180,107	878,739	258,393	1,045,599
Iron (including pig iron castings)	ton	1,197,227	1,205,095	1,375,969	1,698,377
Manganese	ton	51,152	694,399	21,129	747,565
Tin	cwt	8,699	251,397	14,716	349,121
Other	n.a.	n.a.	785,374	n.a.	578,214
Non-metallic					
Asbestos fibre	cental	277,995	1,398,140	173,478	585,579
Other	n.a.	n.a.	148,645	n.a.	139,494
Petroleum oils and spirit					
Crude and various	square ft	5,38,118,498	24,809,031	378,397,590	27,375,722
Skates and hides	lb	8,245,843	367,998	1,267,294	299,178
Tallow and tallow	cwt	17,098,210	7,109,415	14,744,067	2,482,090
Tanning substances	cwt	191,139	146,856	208,329	679,445
Timber—					
Logskins	super ft	25,219,154	1,521,815	29,151,082	1,423,451
Other	super ft	27,291,549	2,099,083	28,179,693	1,982,960
Wool—					
Grease	lb	131,412,439	21,290,528	139,965,699	48,569,063
Scoured and carded	lb	25,928,347	7,457,998	22,401,087	5,559,391
Wool, tops and waste	lb	3,384,120	1,576,981	1,526,759	2,761,547
All other commodities	n.a.	n.a.	4,612,697	n.a.	5,445,519
TOTAL	n.a.	n.a.	169,259,639	n.a.	192,271,519
Ship stores					
Bunker oil	gallos	83,494,139	2,816,499	85,924,794	3,054,922
Other ship stores (c)	n.a.	n.a.	1,115,476	n.a.	1,141,059
TOTAL	n.a.	n.a.	3,931,975	n.a.	4,195,981
TOTAL EXPORTS	n.a.	n.a.	173,191,614	n.a.	196,467,500

n.a. denotes "not applicable" or "not available." (a) Short ton, 2,000 lb. (b) Excludes dynamo electrical machinery. (c) For further details see table on page 359.

OVERSEA AND INTERSTATE TRADE OF PORTS

The Port of Fremantle, Western Australia's principal port, covers an area of 180 square miles. The inner harbour, which has 18 deep-water and landlocked berths, occupies around 704,000 square feet of covered storage space and 1,148 feet of wharf berth accommodation. The outer harbour has three main anchorages, Sage Roads, Green Anchorage and Uppelburn Sound. Deep water berths at Uppelburn Sound serve an oil refinery, a steelworks and an alumina refinery, while berths in Green Anchorage provide for the unloading of cattle and the handling of explosives. A system of smaller ports extends along the entire coastline from Esperance in the south to Wyndham in the north. The performance of the Port of Fremantle in the State's trade is clearly shown in the following table.

In 1963-64 the total value of Albany's overseas imports and exports was £11.6 million. Much phosphate and sulphur, for use in the manufacture of superphosphate fertilisers, were the largest import items, while commodities exported included wheat, oats, barley, wool, whale oil, apples and tinned fruit. Overseas trade at Bunbury had a total value of £7.45 million. Imports consisted mainly of rock phosphate and sulphur, and among the exports were mineral salts, wheat, barley and oats. Perth's total overseas trade was valued at £11.88 million. Rock phosphate and sulphur were the principal imports, and wheat, barley and oats the main items of export. At Esperance, imports and exports comprised mainly petroleum products and sulphur, and exports included gypsum, copper concentrates, oats and wheat. Timber was the principal item of export from Bevelton.

Along the ports of the south west and northern coasts, seaports from Yampi, consisting almost entirely of wharves assigned to New South Wales, were gazetted. Port Hedland exported minerals, iron, mainly manganese, cattle, and wool. Antimony, tin, copper, nickel and wool were shipped from Port Samson. Exports from Wyndham were predominantly frozen and chilled meats, skins, hides and tallow, and from Carnarvon, whale oil and wool. Consignments of wool, frozen and chilled meats and pearl shell were sent from Broome, while Derby exported cattle and wool.

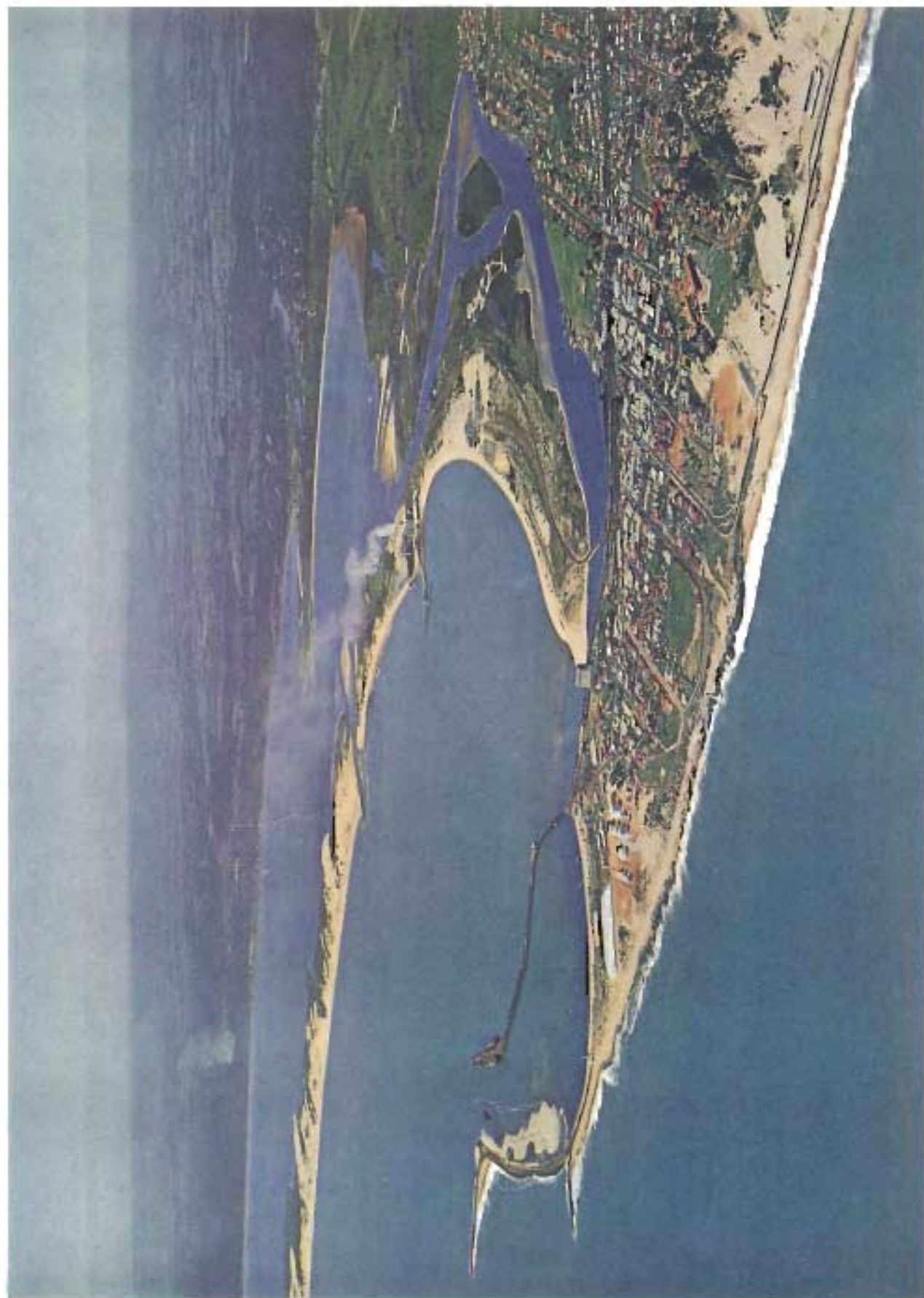
OVERSEA TRADE OF PORTS

Port	Year ended 31st June			
	1963		1964	
	Imports	Exports	Imports	Exports
	£	£	£	£
Port of Fremantle (a)	54,445,372	55,447,144	58,554,589	114,061,160
Other Ports				
Albany	495,148	1,111,485	608,141	12,421,179
Bunbury	2,457	833,254	4,111	1,30,744
Perth	371,622	7,500,141	841,102	6,841,055
Esperance		27,716		2,180
Wyndham		49,144		7,108
Bevelton		11,000	1,747	112,891
Broome		598,000	1,000	826,570
Carnarvon	145,019	1,200,000	300,142	7,577,800
Derby				
Port Hedland	41,054	1,111,111	20,118	219,000
Port Samson	70,000	1,111,111	17,000	115,000
Yampi		1,000,000		810,000
Total	1,111,489	11,111,111	1,001,758	20,177,000
GRAND TOTAL	55,556,861	66,558,255	59,556,347	134,238,160
GRAND TOTAL	55,556,861	66,558,255	59,556,347	134,238,160

(a) Figures "not applicable" (b) For the purpose of this table, the value of goods received from or despatched to each seaport in an outward or inward cargo is included in the figures shown for the Port of Fremantle.

DIRECTION OF TRADE

The greater part of Western Australia's imports comprise purchases from other Australian States, which in 1963-64 amounted to £162 million, or 71 per cent of the value of all imports amounting to £228 million. The United Kingdom ranked next in importance, providing goods worth £14.5 million. Imports from other Commonwealth countries were valued at £10.0 million. Purchases from foreign countries, more than half of which represented crude petroleum from Iran, Kuwait, Qatar and Iraq, amounted to £3 million.



BUNBURY

Aerial View of Town and Harbour

Bunbury is situated on Leschenault Inlet 116 miles by road south of Perth. It is the principal timber port of Western Australia and other exports include mineral sands, wheat and oats. The largest items of import are rock phosphate and sulphur for use in the manufacture of superphosphate fertilizer. Bunbury's industrial establishments include a large chemical factory producing titanium oxide pigments, a superphosphate works and an important electricity generating station.

VALUE OF IMPORTS AND EXPORTS
ACCORDING TO COUNTRY OF ORIGIN OR DESTINATION

Country of Origin or Destination	Imports		Exports	
	Year ended 30th June -		Year ended 30th June -	
	1963	1964	1963	1964
ASIA -				
New South Wales	64,355,115	68,105,421	11,429,224	10,555,142
Victoria	61,703,579	66,652,289	11,242,183	11,754,764
Queensland	4,841,830	4,369,792	1,762,209	2,955,161
South Australia	17,983,296	19,071,482	11,764,510	10,727,139
Tasmania	1,000,010	2,232,964	36,263	1,69,247
Northern Territory	242,990	213,107	7,491,866	1,749,740
TOTAL	156,335,830	161,585,155	42,513,472	36,014,201
UNITED KINGDOM	14,822,436	14,546,228	18,520,475	10,729,369
OTHER COMMONWEALTH COUNTRIES				
Australia (State of)	1,275,236	2,614,932	628,790	771,117
Canada	1,105,223	1,027,754	182,146	1,752,117
Ceylon	539,845	730,009	64,065	27,217
Christmas Island (Indian Ocean)	104,018	551,899	399,030	140,425
Hong Kong	110,572	226,430	1,908,711	1,383,129
India	1,598,585	1,449,184	8,101,347	1,360,658
Malaya	155,360	146,075	1,427,678	1,771,407
Manikrat	2,673	1,471	239,404	272,222
Nauru	593,958	517,844	2,000	81,846
New Zealand	161,531	603,072	5,185,684	6,691,426
North Borneo	35,072	32,688	30,495	7,392
Pakistan	723,879	911,637	1,583,746	1,774,090
Sri Lanka	113,707	335,381	30,981	24,627
Singapore	113,752	340,994	3,869,117	5,126,312
Other	798,582	512,594	611,541	732,620
TOTAL	8,500,580	10,896,414	12,729,602	30,608,746
FOREIGN COUNTRIES -				
Austria	43,128	80,858	24,981	21,214
Belgium-Luxembourg	366,011	578,787	1,310,260	2,174,867
Burma	821	3,642	254,374	63,699
China, Republic of - Hong Kong	9,642	32,056	156,614	248,927
China, Republic of - Mainland	42,406	19,510	18,054,080	19,151,445
Czechoslovakia	77,895	29,583	502,274	1,146,179
Denmark	142,390	17,456	117,791	133,591
France	441,272	432,110	9,261,929	6,665,323
Germany, Federal	81,307	27,107	81,088	81,365
Germany, Federal Republic of	1,478,883	1,445,203	6,645,704	6,463,720
Greece	22,887	14,133	484,242	187,249
Indonesia	458,011	471,750	11,469	205,216
Iran	3,421,456	5,182,007	310,169	943,022
Iraq	690,895	1,275,584	51,143	102,390
Italy	907,192	744,419	3,329,321	3,793,722
Japan	1,978,829	3,690,880	22,541,051	30,773,488
Korea, North		880,302		1,445,264
Korea, Republic of	302	14	70,184	372,590
Kuwait	5,444,949	6,130,251	54,801	441,414
Mexico	269,144	282,191	2,65,504	204,350
Mozambique		4,419	1,094,494	501,018
Netherlands	345,119	279,240	547,971	602,267
Nigeria	205,090	254,724	193,963	178,337
Philippines	25,505	25,383	12,946	75,177
Poland	10,142	6,237	553,453	715,494
Portugal	66,890	90,125	24,293	45,479
Qatar	2,144,951	3,120,920	112,644	79,965
South Africa	102,044	28,058	757,885	237,111
South Africa, Republic of	368,312	287,557	1,048,051	1,879,617
Sri Lanka	10,098	39,074	1,028,604	479,391
Sri Lanka	824,012	837,621	700,784	481,768
Switzerland	20,371	196,159	66,401	91,783
Thailand	26,785	36,265	130,480	321,173
Turkey	4,157	6,051	1,803,685	791,764
Union of Soviet Socialist Republics	1,117	1,888	7,619,778	6,051,597
United States of America	5,193,290	5,316,321	14,547,717	12,866,348
Yugoslavia	11,417	23,755	172,348	109,761
Other	428,720	59,596	7,753,622	2,586,125
TOTAL	23,779,321	25,197,904	81,852,540	121,343,940
NOT STATED	54,680	98,098	616,704	260,978
BRITISH STORES			3,951,341	4,806,451
GRAND TOTAL	23,834,001	25,296,002	86,419,885	126,411,369

Of exports (excluding ships' stores) valued at £194 million in 1963-64, other Australian States took goods worth £50.6 million, the United Kingdom £70.7 million, other Commonwealth countries £20.7 million, and foreign countries £101.3 million.

The table on page 353 shows details of Western Australia's imports and exports during 1962-63 and 1963-64 classified according to State or country of origin or destination.

CUSTOMS AND EXCISE

Under the provisions of the Commonwealth of Australia Constitution Act, the Commonwealth Parliament is empowered to pass laws in respect to trade and commerce with other countries, and the authority for the collection and control of customs and excise duties is thus vested in the Commonwealth Government. The Department of Customs and Excise is administered, subject to the Minister, by the Comptroller-General of Customs, and there is in each State a Collector of Customs responsible to the Comptroller-General.

The following table gives a description of the net amounts of customs and excise duties collected in Western Australia during 1962-63 and 1963-64.

CUSTOMS AND EXCISE—NET COLLECTIONS IN WESTERN AUSTRALIA

Statistical Class		Year ended 30th June—	
		1963	1964
CUSTOMS		£	£
I	Foodstuffs of animal origin	30,343	36,500
II	Foodstuffs of vegetable origin	150,101	112,506
III	Spirits and alcoholic liquors	303,602	325,070
IV	Tobacco, cigars, cigarettes and snuff	171,702	157,639
V	Live animals	—	—
VI	Animal substances other than foodstuffs	—	—
VII	Vegetable substances and fibres	21,548	4,581
VIII (A)	Fur and manufactured skins	10,588	26,121
VIII (B)	Textiles	100,415	155,607
VIII (C)	Apparel	76,020	99,148
IX	Oils, fats and waxes—		
	Aviation spirit	36,510	100,830
	Motor spirit and oil	1,066,445	1,440,572
	Aviation turbine fuel	17,505	14,447
	Diesel fuel	11,701	7,084
	Other oils, fats and waxes	122,495	109,657
X	Pigments, paints and varnishes	12,417	11,528
XI	Becks and minerals, including ores and concentrates	3,383	2,213
XII (A)	Metals and metal manufactures—		
	Motor vehicles	115,647	134,748
	Other	232,002	209,652
XII (B)	Dynamics electrical machinery and appliances	175,072	142,947
XII (C)	Machines and machinery, except dynamics electrical	443,439	447,071
XIII (A)	Rubber and rubber manufactures	61,501	55,075
XIII (B)	Leather and leather manufactures	8,647	5,158
XIV	Wood and wicker, raw and manufactures	40,270	64,151
XV	Earthenware, cement, china, glass, etc.	163,642	142,048
XVI (A)	Pulp, paper and board	10,078	27,569
XVI (B)	Paper manufactures and stationery	52,210	36,512
XVII	Sporting material, toys, fancy goods, etc.	120,142	120,060
XVIII	Optical, surgical and scientific instruments and apparatus	21,776	28,308
XIX	Chemicals, medicinal products, essential oils and fragrances	84,388	53,021
XX	Miscellaneous	204,042	207,146
	Primmage	75,716	94,692
	Sundry undistributed duties	2,081	2,817
	Other miscellaneous receipts	456	944
Total Net Customs Duties		4,286,057	4,800,911
EXCISE			
Beer, tobacco, cigars and cigarettes		13,009,608	13,571,737
Spirits, potable and non potable		688,687	283,379
Petrol		4,346,000	4,402,943
Other excise duty (a)		490,059	532,028
Total Net Excise Duties (a)		17,896,957	18,873,142
TOTAL NET REVENUE		22,223,014	23,794,053

minus sign (-) indicates excess of refunds over collections.

(a) Figures incorporate an adjustment to take account of receipts of Diesel Fuel Tax and rebates of duty on Diesel Fuel under the Diesel Fuel Tax Act of 1957.

The following table shows the rates of excise duty applying to certain commodities, the quantities excised and the gross amounts of duty collected in Western Australia during each of the years 1963-64 and 1964-65.

EXCISE DUTY - WESTERN AUSTRALIA

Commodity	Unit of Quantity	Rate of Duty	Year ended 30th June—			
			1963		1964	
			Quantity	Gross Collections	Quantity	Gross Collections
		a. d. p. l.	(a)	(a)	(a)	(a)
Beer	gal.					
Spirits, proof—						
Brandy	pt. gal.	40 0	47,784	117,065	41,615	101,560
Gin	"	80 0	5,665	35,747	4,694	29,487
Whisky	"	80 0	17,667	71,749	15,600	62,746
Rum	"	80 0	2,398	33,908	5,062	39,661
Liqueurs	"	80 0	1,845	7,439	1,916	7,769
Vodka	"	80 0	1,130	4,595	1,267	5,242
Blended spirituous liquors	"	80 0	174	787	268	1,105
Other	"	80 0	10	57	77	356
Total	"		85,776	270,725	64,775	204,136
Other spirits for						
Private use	"	4 0	61,080	11,419	57,105	11,442
Industrial purposes	"	25 0	4,368	5,012	4,199	5,050
Wholesale trading	"	2 0	7,086	601	15,780	1,674
Manufacture of—						
Liquors	"	4 d. 10 p. l.	1,884	1,053	2,315	1,385
Wines and toilet preparations	"	14 0 to 18 0	210	170	34	27
Tobacco	lb.	6 10 to 18 0	104,577	901,085	804,412	7,153,719
Cigarettes	"	8 d.	81	161	161	161
Other						
Excise	gal.	25 to 112				
Other	"	112	84,694,070	1,445,308	81,265,017	4,487,948
Aviation turbine fuel	"	6	1,785,066	45,428	1,925,719	45,394
Motor fuel	"	1 0	1,340,439	307,318	7,498,178	374,374
Cigarette papers and tubes	50 papers or tubes to	d.				
Coal	ton	18	1,414,086	34,177	1,408,632	46,731
General fuel (d)	down containers	9 3 to 7 0				
Other (c)	ton					
TOTAL COLLECTIONS				£117,402,151		£114,910,100

n.a. denotes "not applicable."

(c) Not available for publication.

(d) Excludes from 30th October, 1963.

(a) Includes excise duty paid on matches and other duty on tobacco.

(b) Includes excise duty paid on beer and cigarettes; see note (a).

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 certain imports from certain Commonwealth countries. Duties are also imposed on some goods, generally of a luxury nature, for revenue purposes.

Reference is made in earlier issues of the *Official Year Book of Western Australia* to the tariff system which was in operation prior to the introduction, on the 1st July, 1955, of a new Australian Customs Tariff, as authorized by the Customs Tariff 1955, an Act repealing earlier legislation and incorporating the Customs Act 1901-1966. The nomenclature used in the new Tariff is that of the Convention on Nomenclature for the Classification of Goods in Customs Tariffs, an international agreement signed at Brussels on the 15th December, 1950. The system of naming established by the Convention has come to be known as the "Brussels Nomenclature".

The Customs Tariff 1955 contains, in addition to the main provisions of the Act, three schedules dealing in detail with its application. The principal schedule is the First Schedule, which prescribes the general and preferential rates of duty and provides interpretative rules for the classification of imported goods among 1,066 items arranged in 21 divisions. The preferential rates specified apply mainly to goods being the product or manufacture of the United Kingdom, Canada, New Zealand, Papua or New Guinea, but

the legislation enables these rates to be extended to other countries declared by order of the Minister to be preference countries for the purposes of the Act. The Second Schedule relates to concessional duties on goods imported for the Commonwealth of Australia, for foreign governments as approved, or for members of diplomatic and similar missions; on reimported goods; and on a range of other goods to which concessional entry provisions apply. The Third Schedule contains a list of goods subject to an ad val. duty, which may be levied at a rate of five per cent, or ten per cent, of the value of the good. A fourth schedule lists the legislation repealed by the Customs Tariff 1960.

The Tariff Board Act 1931-1962 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 connexion 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.

An amendment made to the Tariff Board Act in 1962 establishes a Special Advisory Authority to inquire into cases where urgent action may be necessary to protect an Australian industry against import competition pending receipt and consideration of a full report by the Tariff Board.

CHAPTER IX — continued

PART 2—TRANSPORT

Western Australia's main transport systems are based generally on Perth, the capital, and the principal port, at Fremantle. Secondary systems are centred on a number of outports north and south of Fremantle and on some inland towns.

Fremantle handles by far the greatest proportion of interstate and interstate cargo and a considerable volume of the interstate freight. 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 services to towns in Western Australia and to the capital cities of other States.

SHIPPING

Western Australia's sea borne trade is concentrated on the Port of Fremantle, with a number of outports handling a smaller, though significant, volume of traffic. The outports are Geraldton, Bushbury, Busselton, Albany and Exmouth in the more highly developed coastal western and southern part of the State, and Champion, Onslow, Port Hedland, Port Hedland, Broome, Derby, Vasse and Wyndham, which serve the less closely settled areas of the north-west and the north.

The following table shows the number and net tonnage of vessels, excluding warships, entered at each port, and the tonnage of cargo discharged at and shipped from each port, during the years 1962-63 and 1963-64. The net tonnage of a vessel, expressed in tons of 100 cubic feet, represents the volume of such and 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 40 cubic feet of space. Statistics are compiled accordingly in terms of "ton weight" or "ton measurement." In order to provide a ready comparison, as in the following table, of the volume of cargo handled at the several ports in different years, the amounts recorded in the two categories have been aggregated. In the tables on page 358, details of cargo handled at each port during 1963-64 are presented separately on the basis of "ton weight" and "ton measurement."

VESSELS ENTERED AND CARGO HANDLED AT PORTS

Port	Vessels Entered				Cargo Handled			
	Year ended 30th June				Year ended 30th June			
	1962		1964		1962		1964	
	Number	Net Tonn	Number	Net Tonn	Discharged	Shipped	Discharged	Shipped
		Tons		Tons	Tons	Tons	Tons	Tons
Port of Fremantle	1,425	7,496,381	1,414	7,441,974	4,599,498	5,496,391	4,862,497	5,970,791
Other Ports:								
Albany	180	871,222	185	715,417	179,389	348,998	167,847	540,104
Busselton	88	186,817	88	167,449	5,395	2,110	14,710	3,107
Bushbury	114	871,489	142	905,438	141,447	498,123	168,011	471,838
Champion	20	54,430	21	35,203		14,394		17,107
Exmouth	—	392,272	88	109,871	10,842	8,818	5,078	1,847
Geraldton	141	177,480	111	196,156	23,785	50,134	54,760	30,495
Onslow	38	186,495	38	156,048	52,935	42,156	45,772	25,310
Onslow	110	862,144	111	869,680	116,943	390,490	15,904	277,104
Port Hedland	78	111,944	71	123,070	1,059	91	1,970	545
Port Hedland	192	111,775	193	188,918	11,365	12,060	4,459	1,169
Port Hedland	102	187,394	100	175,170	14,864	35,722	14,110	32,891
Wyndham	12	284,081	28	322,898	14,288	12,342	10,142	10,371
Vasse	110	808,171	112	978,683	1,412	1,170,307	11,417	389,811
Total	1,119	7,476,399	1,987	8,774,447	5,000,402	6,871,008	666,518	7,990,091
All Ports	2,238	11,123,798	3,084	12,418,774	1,100,105	6,087,396	1,519,145	8,490,184

TONNAGE OF OVERSEA, INTERSTATE AND INTRASTATE CARGO: 1963-64

(Tons)

Port	Oversea		Interstate		Intrastate		Total	
	Weight	Measurement	Weight	Measurement	Weight	Measurement	Weight	Measurement
DISCHARGED								
Port of Fremantle	1,024,267	148,302	562,144	82,714	25,796	16,764	4,097,227	256,400
Other Ports								
Adelaide	194,091	307	1,496	1,310	64,660		180,161	1,726
Brisbane	32	20	28	26	14,610		14,670	46
Bushbary	111,701		116	83	75,656		198,478	68
Perth								
Canberra	5,386				3,386	250	8,708	250
Darwin	2,281	210	416	7	5,210	13,944	11,253	13,470
Esperance	5,903		38,616		63,941		69,792	
Geraldton	80,348	24			50,190	7	115,578	31
Oslen					3,941	58	1,621	26
Port Thomson	112	61			3,245	5,040	1,368	1,101
Port Hedland	3,712		2		10,326		14,116	
Wyndham	2,248	414		10	8,499	17,563	10,816	12,620
Yampi			4,560		8,868		11,437	
Total	332,765	1,095	44,348	1,490	260,508	34,163	679,307	39,757
All Ports	1,297,067	149,397	606,542	84,203	286,304	50,947	5,876,534	296,157
SHIPPED								
Port of Fremantle	2,181,317	31,321	1,341,580	27,942	234,544	54,407	5,756,956	113,337
Other Ports								
Adelaide	381,005	8,674			3,160	220	381,405	8,699
Brisbane	88	50					1,543	314
Bushbary	303,362	82,875	45,694	2,481		88	308,557	83,361
Perth	492	2,309	4,076	19,463			4,573	12,836
Canberra	97		280		3,330	170	4,877	170
Darwin	1,897	200	30	30	5,417	3,703	17,020	3,966
Esperance	21,068		1,324				22,392	
Geraldton	270,994	2,642	734	3	2,210	381	274,712	2,392
Oslen					240		240	
Port Thomson	1,170		5,729		3,749	600	7,049	600
Port Hedland	29,208		2		8,549		32,956	
Wyndham	1,403	340		80	1,723	4,596	5,130	5,191
Yampi			1,309,791		20		1,309,811	
Total	3,083,456	76,817	1,472,137	38,049	36,364	6,383	5,490,542	92,449
All Ports	3,184,786	108,138	2,765,712	40,308	269,368	64,250	6,277,598	202,768

Apart from general cargo, overseas and interstate consignments discharged were principally petroleum products, iron and steel, rock phosphate 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. Intrastate cargo at south-western and northern ports other than Fremantle comprised mainly refined petroleum. Cargoes discharged at the ports on the north-west and northern coasts are predominantly intrastate, as also are the shipments from some of them. The areas served by these ports are largely dependent for sea transport on the State Shipping Service. The Service was inaugurated by the State Government in 1912 to provide shipping facilities between ports within the State. Although its operations formerly included ports on the south-west and south coasts, as well as those in the north-west and the north, regular services are now confined to the northern routes and extend to Darwin in the Northern Territory. In March, 1964 the State Shipping Service commenced the first of a number of voyages around Australia to be undertaken during a trial period with the object of increasing revenue from the carriage of both passengers and freight. The operations of the Service are subsidised by the State Government to the extent that losses are made good from the Consolidated Revenue Fund. Besides general cargo, the freight discharged by ships of the Service at north-west and northern ports consists mainly of petrol, aviation spirit and other petroleum products, building materials, refrigerated cargo, vehicles and livestock. Regular freights include general household requirements and stores and equipment for the sheep and cattle stations of the pastoral areas of the north-west and the north.

Cargoes carried consist mainly of minerals from Point Samson and Port Hedland, whale products from Carnarvon, meats, skins and hides, blood and bone manures and tallow from Wyndham, Bevon and Derby and wool from a number of ports. In addition, cattle are transported to Fremantle, mainly for slaughter at metropolitan abattoirs.

In the following tables vessels entered at and cleared from each Western Australian port during 1963-64 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.

VESSELS ENTERED AT EACH PORT: 1963-64

Port of Entry	From Overseas Countries						From Other AUSTRALIAN STATES						From Other Western Australian Ports	
	Direct		Via Other AUSTRALIAN STATES		Via Other Western AUSTRALIAN Ports		Direct		Via Other AUSTRALIAN STATES					
	No.	Net Tonn	No.	Net Tonn	No.	Net Tonn	No.	Net Tonn	No.	Net Tonn				
Port of Fremantle	656	4,395,950	51	316,564	67	286,393	465	2,337,098	229	218,714	100	300,393		
Other Ports:														
Albany	49	282,987	4	18,186	5	22,780	57	239,296	7	11,087	32	145,477		
Bremer	7	13,294	1	851			4	5,282	24	46,702	30	50,707		
Bunbury	31	144,008	7	22,471	20	114,381	21	49,311	8	21,501	54	214,774		
Broome											71	32,238		
Carnarvon	5	5,570			4	4,225			17	21,714	44	78,397		
Derby	9	17,040			10	14,687	14	14,854	23	47,669	37	103,232		
Exmouth	5	14,238			7	11,837	4	16,654			13	37,379		
Geelong	41	164,454	1	5,000	8	30,106	1	4,974	9	5,190	39	147,790		
Gravelly									17	27,315	54	97,851		
Port Hedland	4	11,074	1	10,664	9	8,741	2	2,408	40	51,789	39	100,622		
Port Hedland	6	9,969	7	4,712	6	3,208	1	1,144	25	44,923	37	104,510		
Wyndham	3	5,193			1	741	10	12,032			57	138,300		
Tamp	4	9,311			2	1,492	71	173,470	17	186,116	54	40,150		

VESSELS CLEARED FROM EACH PORT: 1963-64

Port of Clearance	To Overseas Countries						To Other Australian States				To Other Western Australian Ports	
	Direct		Via Other Australian States		Via Other Western Australian Ports		Direct		Via Other Western Australian Ports			
No.	Net Tonn	No.	Net Tonn	No.	Net Tonn	No.	Net Tonn	No.	Net Tonn	No.	Net Tonn	
Port of Fremantle	721	4,424,371	50	323,375	24	95,141	454	2,585,929	99	321,781	32	300,324
Other Ports:												
Albany	39	239,002	4	22,821	17	185,590	2	12,900	5	5,802	35	140,853
Bremer									13	75,288	44	44,571
Bunbury	20	105,395	1	8,824	31	278,418	15	39,067	5	7,408	15	35,801
Broome			1	5,392			16	25,891				
Carnarvon	4	5,174			2	2,763	5	4,158	25	61,800	11	14,001
Derby	2	1,703			3	5,344	1	13,314	44	75,066	30	106,711
Exmouth	4	21,107			10	54,940	5	6,872			5	44,517
Geelong	12	70,740			24	125,497	1	5,310	34	70,183	35	117,339
Gravelly							1	2,561	16	80,371	35	41,911
Port Hedland	5	4,511			1	5,151	3	5,185	51	89,775	40	64,126
Port Hedland	8	14,304	1	3,229			5	5,445	44	77,138	40	71,600
Wyndham	5	24,992	1	6,517	2	11,370	52	92,375			36	60,371
Tamp	3	9,031					36	546,375	49	96,165	15	30,705

Administration of Ports

The Port of Fremantle is controlled and operated by the Fremantle Port Authority, which was known as the Fremantle Harbour Trust until the commencement on the 27th November, 1964 of the Fremantle Harbour Trust Act Amendment Act, 1964. The ports at Albany and Bunbury are administered by the Albany Harbour Board and the Bunbury Harbour Board, which are constituted as statutory authorities. The State Government is responsible for all other ports in Western Australia, their operations being under the direction of the Harbour and Light Department.

RAILWAYS

At the 30th June, 1964 there were 1,405 route miles of railway open for general and passenger traffic in Western Australia. Of this total, 3,677 miles were owned and operated by the State Government, 14 miles by the Commonwealth Government and 277 miles by The Midland Railway Company of Western Australia Limited. There were, in addition, 135 miles of privately owned railway used for the haulage of timber.

On the 1st August, 1961 the Midland Railway was officially transferred to the control of the Western Australian Government Railways Commission, in terms of The Midland Railway Company of Western Australia Limited Acquisition Agreement Act, 1961 which authorized the State Government to purchase the assets of the Company.

Origin and Development

The earliest railways in the Colony, built in 1871 from Bunstan into the nearby forest and in 1877 from the Canning River and from Rockingham into the forests of the Darling Range, were private lines constructed for the transport of timber. In 1871 the Colony's first Loan Act was passed to finance, among other things, a survey for a railway in the Champion Bay district. This loan, completed in 1876, was the first government railway and provided transport for lead and copper ores from Northampton to the port of Geraldton. Construction of the Eastern Railway began in 1877 and by March, 1881, Fremantle, Perth, and Guildford had been connected. Extensions of the line were opened in 1884 to Childen, in 1885 to Spencer's Brook and in 1886 to Northam. The first section of what is now the Great Southern Railway was completed in 1885 from Spencer's Brook to York, and in the following year a second section, between York and Beverley, was opened to traffic. Meanwhile work on the Northern Railway system had been continued and Geraldton and Walkaway were connected in 1887. In 1888 a northward extension of the Eastern Railway from Clackline to Goodyear was completed. In 1889 Beverley and Albany were linked by a private railway built by the Western Australian Land Company under an agreement by which the company received a grant of 12,000 acres of Crown land adjacent to the line for every mile of track completed. By the end of 1890 there were 436 miles of railway open for general and passenger traffic, 188 miles being owned by the Government of the Colony and 248 miles by the Western Australian Land Company.

The South Western Railway began operating in 1891 with the completion of a line from Bunbury to Boyanup. Perth was connected with Picton Junction in 1893 and Donnybrook with Boyanup in the same year. The system was extended from Boyanup to Brunstun in 1895 and from Brunswick Junction to Collie and from Donnybrook to Badginowry in 1898. The Eastern Goldfields Railway from Northam to Southern Cross in 1894, Busselton and Raincoast in 1896, and Morley in 1898. Eastward extensions of the Northern Railway were completed between Narrogin and Mullewa in 1894 and between Mullewa and Cue in 1898. The Government enlarged its Great Southern Railway system in 1896 by purchasing the Western Australian Land Company's line from Beverley to Albany, and in 1898 by opening up eastward extensions from York to Greenhills. A second private railway constructed on the broad-gauge principle, between Midland Junction and Walkaway, was completed by the Midland Railway Company in 1894. At the end of 1900, the Colony's railway system comprised 1,355 miles of government line and the 277 miles of the Midland Railway Company's line, representing a total increase of 1,202 miles in the ten years since 1890.

During the succeeding decade there began a greatly expanded programme of State Government railway construction, due partly to the extension of gold mining activity but mainly associated with the spectacular development of Western Australia's wheat growing lands. In 1903 the area sown to wheat, 138 thousand acres, was nearly half again as great as that in the previous year and the production, 1.46 million bushels, was almost double. Ten years later over one million acres were cropped for a harvest of 14.5 million bushels, and in 1915 the area sown was 1.75 million acres and production more than 18 million bushels. This increase had been made possible by the laying of many hundreds of miles of light, narrow gauge railway, which could be built quickly and cheaply, to provide spur and loop lines from the trunk system into the expanding wheat belt. There were 1,612 miles of government line open for traffic in 1906 and 3,332 miles in 1911, the increase of 1,720 miles in nine years being equivalent to an average annual rate of construction of almost 200 miles. In the next 25 years another thousand miles of single track added, bringing the total length of the State Government system to a maximum of 4,381 miles in 1940. Since that time restricted capital has and the closure of some lines have resulted in a general decrease, and by the 30th June, 1964 the total mileage of the system had declined to 3,677.

The Commonwealth Government's Trans-Australian Railway covers a distance of 1,108 miles between Kalgoorlie and Port Pirie (South Australia), 454 miles being in Western Australia. Construction was begun at Port Augusta, the original South Australian terminus of the line, in 1912 and the work was completed in 1917.

The Western Australian Government Railways Commission

The Government Railways Act, 1904-1963 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 is basically the same as for other Departments. Receipts from railway services are paid into the Consolidated Revenue Fund, and finance for railway 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.

Serious difficulties were experienced in the rehabilitation of the railway system during the years immediately following the second World War. Rolling stock had become depleted and much of it was obsolete. A programme of replacement of existing locomotives was necessary and considerable work on permanent way was essential to bring roadbeds to the standard required for heavy haulage at higher speeds. The liabilities imposed by an extensive rail network, constructed primarily to assist the development of the mining, agricultural, pastoral and forestry industries, increased with rising operating costs and growing competition from other forms of transport.

Following an investigation into non-paying lines, a motion was agreed to by the Parliament in December, 1956 giving authority for the suspension, for a trial period, of rail services on 842 miles of line. The Railways (Cue-Big Bell and other Railways) Discontinuance Act was passed in 1960 giving legislative approval of the closure, subject to proclamation, of 670 miles of line on which services had been suspended. Up to the 31st December, 1964, proclamations had been issued in respect of 603 miles, and all closures authorized by the Act were completed on the 21st May, 1965 when the last 67 miles of railway was proclaimed closed. The remaining 172 miles of line on which services were suspended in 1957 are in cereal-growing areas and are now operated on a seasonal basis for the haulage of grain and fertilizers.

The Bellevue-Mount Helena Railway Discontinuance and Land Revestment Act, 1964 and the Bibra Lake-Armadale Railway Discontinuance and Land Revestment Act, 1964, providing for the cessation of services on a total of 25 miles of line, came into operation on the 12th March, 1965.

The Kwinana-Mundijong-Jarrahdale Railway Act, 1961, authorizing the construction of some 24 miles of railway for the haulage of bauxite to an alumina refinery at Kwinana, was assented to in November, 1961 and came into operation by proclamation on the 7th December, 1962. The railway is of 3 ft. 6 in. gauge and was opened in July, 1963.

An agreement on a proposal to construct a standard gauge railway between Kwinana and Kalgoorlie, with a spur line to the iron-ore deposits at Koolyanobbing and connecting lines in the suburban area, was negotiated between the Commonwealth and State Governments and later ratified by the Parliaments in 1961. Further reference to this agreement and the associated legislation will be found later in this Part in the section *Railway Gauges*. An official ceremony to mark the commencement of construction of some 500 miles of standard gauge railway was held on the 5th November, 1962 at a site in the Avon valley 21 miles from Perth.

There has been a significant growth in rail traffic in recent years, resulting from improvements to permanent way, the acquisition of new rolling stock including diesel railcars and heavy diesel electric locomotives, the introduction of modern machinery and improved techniques in the Commission's workshops, the provision of modern handling facilities, the simplification of freighting methods and the installation of new signalling and communications equipment. These developments have effected a marked improvement in the finances of the system and in 1960-61 operating revenues exceeded operating expenses (excluding depreciation and interest charges) for the first time since 1945-46. This excess, including surplus earnings of the Commission's road services (see later section *Road Services*), amounted to £986,551 in 1960-61, £2,040,553 in 1961-62, £1,139,758 in 1962-63, and £1,469,586 in 1963-64. The reduction in 1962-63 was attributable mainly to a decrease in the tonnage of wheat and other grains carried, and the improvement in 1963-64 to increased earnings from the haulage of timber, ores and minerals, wheat, wool and fertilizers.

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 1959-60 to 1963-64. It should be noted that the financial details shown include those relating to road services (see following section *Road Services*).

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
FINANCE (a)					
Capital Investment at 30th June (b)	£'000 \$1,591	£'000 \$4,864	£'000 \$6,791	£'000 \$6,714	£'000 \$5,015
Operating Revenues					
Passenger Fares	1,375	1,371	1,355	1,305	1,312
Parcels and Mails	524	520	580	582	566
Paying Goods and Livestock	12,445	12,698	13,753	14,061	14,936
Miscellaneous	794	781	786	757	721
Total Operating Revenues	15,095	15,509	17,814	16,715	17,535
Operating Expenses	15,408	15,565	15,761	15,571	15,125
Excess of Operating Revenues over Expenses	370	807	2,043	1,140	1,470
Excess of Operating Revenues over Expenses					
Depreciation	1,883	1,815	1,805	1,801	2,025
Interest Charges	2,560	2,421	2,561	2,613	2,760
Total Deficit	4,707	3,749	2,318	3,434	3,315
RAILWAY OPERATIONS					
Route Mileage at 30th June	4,120	4,123	4,331	4,797	5,077
Employees at 30th June	12,097	12,461	12,722	13,079	13,508
Number of—	000	000	000	000	000
Train Miles Run (c)	5,809	4,631	4,000	5,359	5,232
Passengers Carried—					
Suburban	15,171	11,026	11,308	10,816	10,286
Country	706	835	598	650	510
Total	15,877	11,861	11,906	11,466	10,796
Tons of Freight—					
Paying Goods and Livestock	4,510	4,533	5,342	4,790	5,167
Departmental (d)	679	515	622	529	527
Total	5,189	5,048	5,964	5,319	5,694
Ton Mileage—					
Paying Goods and Livestock	705,245	747,580	831,137	761,274	815,319
Departmental	65,391	51,136	61,385	55,665	66,380
Total	770,636	798,716	892,522	816,939	881,699
ROAD SERVICE OPERATIONS					
Route Mileage at 30th June—					
Omnibuses	5,072	5,013	5,266	5,540	5,268
Freighters	785	760	860	970	1,112
Employees at 30th June	124	140	166	188	174
Number of—	000	000	000	000	000
Miles Run—					
Omnibuses	1,328	1,514	1,556	1,649	1,671
Freighters	219	202	377	349	348
Total	1,547	1,716	1,933	1,998	2,019
Passengers Carried	261	286	261	283	261

(a) Includes financial transactions in relation to road services. (b) Including Stores Funds. (c) Revenue and non-revenue train miles. (d) Departmental freight comprises mainly coal, oil, water, ballast, timber and rails.

Road Services

In addition to its normal railway operations the Commission provides road services for the carriage of passengers and freight.

Road services were introduced in November, 1941 when, under the stress of wartime conditions, great difficulty was being experienced in the transport of essential goods, and it was therefore decided to transfer some of the passenger traffic from rail to road. This enabled a greater concentration of locomotive power on goods traffic and the haulage of heavier loads than were possible with mixed passenger and goods trains. Congestion on overcrowded sections of railway was reduced and greater flexibility in train schedules resulted in more effective use of locomotives and wagons.

The road passenger services expanded considerably after the war, reaching a peak in 1952-53, when 676,171 passengers were carried and the mileage travelled was 2,125,564. From that year until 1955-59, when 261,874 passengers were carried, operations showed a continuous decline as country rail services improved with the increased use of diesel electric traction. In the five-year period ended 30th June, 1964 the number of passengers carried varied between 266,233 in 1960-61 and 256,613 in 1963-64.

Some of the machines employed are dual purpose vehicles equipped with a freight compartment. Passenger vehicle trailers are used on some services to carry up to two tons of luggage, small parcels and mail. In addition to passenger-freight vehicles, there are vehicles which carry only freight. They are used to eliminate delays to important trains at sidings and to reduce shunting operations. Freight services also operate from rail-heads to provide services to points previously connected by rail and to areas which are being developed. During the year 1963-64, 50,000 tons of ilmenite concentrates were transported in specially designed vehicles from Capel to the port of Bushy.

Goods and Livestock Carried

The table on page 302 shows that more than four fifths of the operating revenues of the Western Australian Government Railways are derived from the carriage of goods and livestock. As stated earlier, these railways were constructed primarily to assist the development of the agricultural, pastoral, forestry and mining industries. The continuing importance of the system to these industries will be readily appreciated from an examination of the following table, which shows the tonnage of paying goods and livestock carried during each year in the period from 1959-60 to 1963-64. The classification used in the table is that adopted by the Railways Commission in classifying its freight transport statistics.

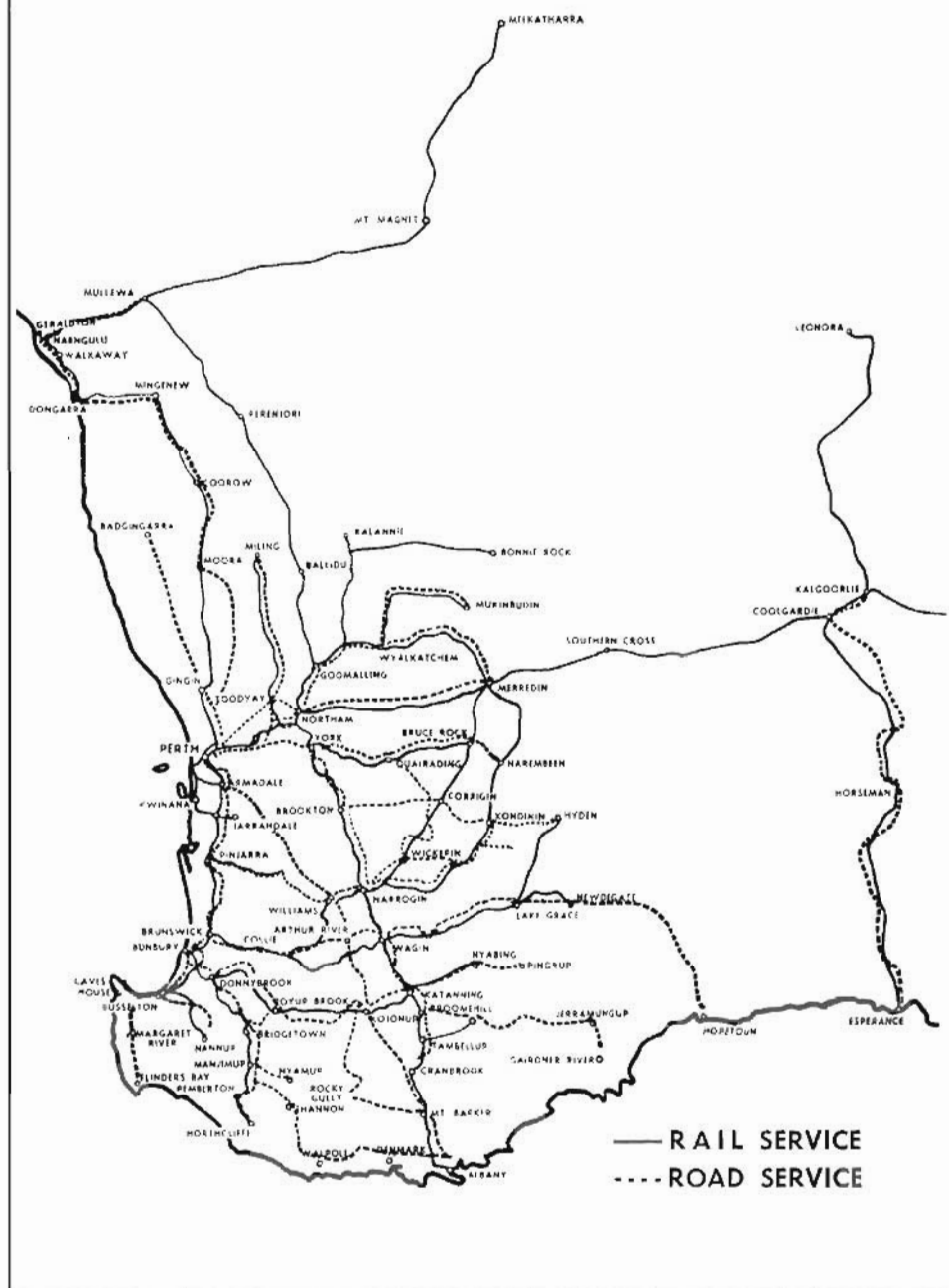
WESTERN AUSTRALIAN GOVERNMENT RAILWAYS
TONNAGE OF PAYING GOODS (1) CARRIED

Freight Classification	Year ended 30th June—				
	1959	1960	1962	1963	1964
Wheat	1,433,383	1,071,113	1,045,768	1,280,803	1,471,081
Other Grains	284,729	354,322	320,202	219,872	194,089
Grain Products	68,902	130,523	63,424	64,293	77,430
Coal	7,226	5,718	9,861	9,472	9,273
Iron Ores	430,638	443,413	442,495	500,407	551,815
Fruit and Vegetables	97,686	114,405	86,594	112,495	98,838
Wool	48,944	79,872	79,091	76,517	82,871
Timber	59,599	540,648	528,109	511,918	553,089
Firewood	5,727	2,814	2,328	2,811	1,691
Clay, Lime, Stone and Chemicals	146,139	488,428	618,173	681,703	704,544
Clay and Minerals	173,070	304,914	405,153	54,801	220,606
Oil in Tank Wagon	178,872	185,864	144,838	170,147	183,781
Other Classifications	661,708	657,823	680,864	687,911	738,953
Livestock (1)	101,079	140,717	130,913	113,808	114,101
Total	4,372,914	4,833,128	6,042,511	5,792,763	6,187,488
(1) Number of Livestock Carried					
Sheep	1,791,088	2,218,320	1,848,117	1,980,764	1,974,827
Cattle	136,083	137,242	94,127	105,871	120,043
Pigs	129,353	156,840	146,038	111,360	101,238
Horses	2,827	2,474	1,953	3,773	1,545

(1) Including Greenstock. (2) Preliminary total 1964.

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS COMMISSION

RAILWAY AND ROAD SERVICE ROUTES OPERATED - 1964



The Midland Railway Company of Western Australia Limited

The Midland Railway Company's line, over a route of 277 miles between Midland Junction and Walli away, was constructed on the land grant principle and opened for general and passenger traffic in 1894. A road passenger service from Perth to Manca and Geraldton was inaugurated by the Company in 1945 and a road freight service for the carriage of urgent parcels, perishables and other goods was introduced in 1948. The railway system and the road service were officially transferred to the Western Australian Government Railways Commission on the 1st August, 1964, in terms of The Midland Railway Company of Western Australia Limited Acquisition Agreement Act, 1963 which authorized the State Government to purchase the assets of the Company.

The following table gives details of the Company's railway and road passenger services for the year ended 30th June, 1963 and for the period 1st July, 1963 to 31st July, 1964. Financial details relating to the road passenger service are not available for publication.

MIDLAND RAILWAY COMPANY—OPERATIONS TO 31st JULY, 1964

Particulars	Railway Service		Omnibus Services	
	Year ended 30th June, 1963	1st July, 1963 to 31st July, 1964	Year ended 30th June, 1963	1st July, 1963 to 31st July, 1964
Number of—				
Route Miles Operated (a)	277	277	515	506
Miles Run	285,112	302,016	263,873	261,760
Passengers Carried	4,305	4,823	16,334	11,251
Employees (a)	427	385	21	74
Tonnage of Paying Goods and Livestock	229,426	329,702	n.a.	n.a.
Operating Revenues	£ 9,431	£ 927,582	£ n.a.	£ n.a.
Operating Expenses	£ 668,791	£ 719,439	£ n.a.	£ n.a.

n.a. denotes "not available." (a) A: end of period.

Timber Railways

At the 30th June, 1964, there were nine railways owned and operated by private companies for the haulage of timber. The following table gives details of timber railways during the period from 1959-60 to 1963-64. The figures shown for the years 1959-60 and 1960-61 include particulars of four lines formerly operated by the State Government in connexion with the sawmill activities of the State Building Supplies and the Western Australian Government Railways. These lines passed to private ownership from the 30th June, 1961.

TIMBER RAILWAYS

Particulars	Year ended 30th June—				
	1959	1960	1961	1962	1964
Number of—					
Lines Open at 30th June	16	23	13	12	9
Route Miles Operated	267	310	287	275	119
Locomotives at 30th June	59	53	59	15	11
Tram. Miles Run	168,150	167,450	121,010	56,324	46,553
Employees at 30th June	113	119	190	37	33
Tonnage of Timber and Other Goods Carried	298,426	229,426	227,467	929,226	154,117

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.

Of the total length of 1,108 miles in the Trans-Australian Railway system 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 30th June, 1964 on each of the railway systems owned by the State and Commonwealth Governments.

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 *Railways Groups*, 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 391 miles. The New South Wales system includes 69 miles of line situated in Queensland.

In 1962, the opening of a new uniform gauge (4 ft. 8½ in.) 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). The section between South Brisbane and Albury is operated by the New South Wales Government Railways, and the remainder of the route by the Victorian Government Railways.

GOVERNMENT RAILWAYS IN AUSTRALIA—SUMMARY OF OPERATIONS, 1962-64

Railway System	Route Miles at 30th June	Revenue Train Miles Run	Passenger Journeys	Goods and Livestock Tons	Gross Receipts	A Valued Number of Employees
			('000)	('000 tons)	(£'000)	(a)
New South Wales	6,555	10,574	245,677	26,811	101,364	47,882
Victoria	4,211	20,213	147,396	32,130	48,309	26,897
Queensland	5,334	9,301	65,804	9,798	42,180	26,130
South Australia	5,319	6,898	10,337	5,379	14,748	6,633
Western Australia	5,677	7,508	10,814	5,147	17,301	15,723
Tasmania	500	1,323	1,425	1,344	2,894	2,281
Commonwealth—						
Trans Australia	1,154	1,810	236	440	4,078	2,800
Central Australia	401	775	44	1,739	2,386	
Northern Territory	117	97	1	10	174	
Australian Capital Territory	3	12	77	147	50	
Australia	29,191	67,211	447,791	87,741	232,543	120,003

(a) Including construction staff

Railway Gauge

The following table shows the route mileage of government railways of each gauge in each of the Australian States and Territories at the 30th June, 1964. 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 30th JUNE, 1964

State or Territory	Route Miles of Gauge—					Total Route Miles
	3 ft. 6 in.	4 ft. 8½ in.	5 ft. 6 in.	5 ft. 6 in.	5 ft. 6 in.	
State Systems in—						
New South Wales	(a) 304	6,250				6,554
Victoria	(b) 3,744	467		4		4,215
Queensland		533	3,861		10	4,404
South Australia		5,319				5,319
Western Australia	1,891		3,786			5,677
Tasmania		500				500
Commonwealth Systems in—						
South Australia		611	542			1,153
Western Australia		611	420			1,031
Northern Territory						117
Australian Capital Territory						3
Total Route Miles	5,996	7,808	4,383	4	10	18,191

(a) Part of the Victorian railway system. (b) Includes 391 miles of 4 ft. 8½ in. gauge line which originally parallels the uniform gauge line between Melbourne and Albury, but is operated as part of the New South Wales railway system.

Standardization of gauge 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 standardization 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 2 ft. 6½ in. gauge was recommended for adoption as 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 concurred with the restoration of the 2 ft. 6 in. system were so designed as to make provision for later conversion to the standard gauge.

In March, 1948, a committee consisting of members of the Federal Parliament was appointed to examine the matter of standardization. Among its recommendations, submitted in October, 1949, 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 1950 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 makes the operation of the agreement contingent upon the passage of legislation by the State and Commonwealth Parliaments to provide for the housing, construction and completion before the 31st December, 1960 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 Standardization 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 the 5th November, 1962.

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, 1930-1961 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 reconstruction 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 of each type of surface, and of unsurfaced public roads, at the 30th June, 1964, classified according to Statistical Division (see map of Western Australia following Index). Included in the total are 2,458 miles of main roads, 5 miles of controlled access road, 7,289 miles of important secondary roads and 41,121 miles of developmental roads. At the 30th June, 1963 the length of developmental roads was 34,412 miles and the increase to 41,121 miles at the 30th June, 1964 is due to the fact that between these dates certain roads which were previously unclassified were allocated by the Main Roads Department to the category "developmental". These were roads on which considerable construction work had been carried out over a number of years.

ROADS OPEN FOR GENERAL TRAFFIC AT 30th JUNE, 1964
MILEAGE CLASSIFIED ACCORDING TO STATISTICAL DIVISION

Statistical Division	Surfaced		Total	Unsurfaced		Total	Grand Total
	Bitumen (a)	Gravel and Other Surfaces		Formed (b)	Unformed (c)		
Metropolitan (d)	1,349	90	1,439	3	80	72	1,511
Swan (d)	1,248	636	1,884	187	517	704	2,587
South West	1,404	5,749	7,153	4,359	3,110	7,469	14,622
South-east agricultural	1,307	3,129	4,436	6,423	2,228	8,651	13,087
Central Agricultural	1,438	5,753	7,191	9,004	4,832	13,836	21,027
Northern Agricultural	1,107	4,150	5,257	8,103	3,398	11,501	16,758
Eastern Goldfields	927	3,879	4,806	4,634	5,230	9,864	14,670
Central	76	752	828	5,385	5,650	11,035	11,863
North-West	149	177	326	2,461	1,325	3,786	4,112
Pilbara	74	475	549	2,087	840	2,927	3,476
Kimberley	35	478	513	2,407	1,933	4,340	4,853
Total	11,284	21,434	32,718	48,298	28,180	76,478	109,196

(a) Includes short lengths of concrete surfaces aggregating 5 miles, 22 chains. (b) Comprises roads, mostly of natural surface, formed but not surfaced or otherwise prepared. (c) Roads unprepared except for certain clearing. (d) The whole of the Shire of Swan-Guildford has been included in the figures shown for the Swan Statistical Division although part of the area, for which separate details are not available, is in the Metropolitan Statistical Division. (e) Particulars are incomplete as information for some shires is not available. (f) See note (c).

Vehicle Registration, Licences and Traffic Control

The Traffic Act, 1919-1964 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, which comprises the whole of the Metropolitan Statistical Division (see map of Western Australia following Index) and that part of the Swan Division consisting of the Shires of Cockburn, Goomalling, Kwinana and Rockingham in their entirety and parts of the Shires of Armadale, Kalamunda, Mundaring and Swan-Guildford. Outside the Metropolitan Traffic Area each local government authority is responsible for the licensing of vehicles in its own district.

The Traffic Act provides that the issue of drivers' and riders' licences and motor car dealers' licences throughout the State shall be the function of the Police Department.

The table on page 398 includes particulars of the number of motor vehicles, classified according to type, on the register at the 30th June in each of the years from 1960 to 1964. It also shows the net amounts collected from motor vehicle registrations and fees in the Metropolitan Traffic Area and in the rest of the State, as well as revenue from drivers', riders' and similar licences and fees throughout the State. Vehicles owned by the Commonwealth Government are not licensed under the Traffic Act and are excluded from the figures shown. At the 30th June, 1964 there were in Western Australia 1,387 Commonwealth Government-owned vehicles (other than those of the defence services) listed with the Commonwealth Registry, Canberra. They comprised 273 motor cars and station wagons, 1,135 trailers, vans and trucks, 14 omnibuses and 2 motor cycles.

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 conferred on the Perth City Council by the City of Perth Parking Facilities Act, 1956-1961. Outside the Metropolitan Traffic Area, 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.

MOTOR VEHICLES ON REGISTER (1) AND NET FEES RECEIVED

Particulars	Year ended 30th June				
	1960	1961	1962	1963	1964
METROPOLITAN TRAFFIC AREA (a)					
Number on Register at end of Year (a) —					
Motor Cars and Station Wagons	84,323	92,370	101,850	114,430	127,360
Cycles, Vans, Trucks and Omnibuses	26,752	26,574	27,198	28,388	29,319
Motor Cycles (including Motor Scooters)	8,638	8,771	8,712	8,200	7,400
Total	119,713	127,715	137,760	151,018	164,079
Revenue from Registrations and Fees	£ 1,281,691	1,407,141	1,584,440	1,862,550	2,108,464
REST OF STATE					
Number on Register at end of Year (a) —					
Motor Cars and Station Wagons	46,141	49,114	52,406	56,101	60,580
Cycles, Vans, Trucks and Omnibuses	41,343	41,597	43,378	46,559	47,791
Motor Cycles (including Motor Scooters)	4,367	3,814	3,504	3,437	3,041
Total	91,851	94,525	100,288	106,097	111,412
Revenue from Registrations and Fees	£ 1,180,179	1,243,914	1,314,196	1,440,816	1,627,214
WHOLE STATE					
Number on Register at end of Year (a) —					
Motor Cars and Station Wagons	130,464	141,484	154,256	170,531	187,940
Cycles, Vans, Trucks and Omnibuses	67,895	68,191	70,576	74,947	77,110
Motor Cycles (including Motor Scooters)	12,475	12,585	12,216	11,637	10,441
Total	210,834	222,260	237,048	257,115	275,491
Revenue from —					
Motor Vehicle Registrations and Fees (a)	£ 1,451,870	1,651,055	1,898,636	2,303,366	2,735,678
Driver's, Motorist's, etc., Licences and Fees	180,392	182,445	191,437	205,274	210,965

(1) Figures have been adjusted to conform to the results of the Censuses of Motor Vehicles on 31st December, 1961 and 31st December, 1962. (a) Comprises the Metropolitan Statistical Division and part of the Swan Statistical Division (see *Western Australia Population, Licences and Traffic Census*). (b) Excludes vehicles owned by the Commonwealth Government. Includes also such vehicles as tractors, trawlers and industrial (on site) equipment. (c) For further details see Table of page 206.

Finance for Roads

The principal source of revenue for road works in Western Australia is in the form of Commonwealth financial assistance authorized by a series of Acts, the first of which, the Main Roads Development Act, was passed in 1923.

Reference is made in earlier issues of the *Official Year Book of Western Australia* to the main provisions of the Commonwealth Aid Roads Act 1945, the Commonwealth Aid Roads (Special Assistance) Act 1957 and the Commonwealth Aid Roads Act 1959. The legislation currently in operation for the provision of grants to the States for or in connexion with roads is the Commonwealth Aid Roads Act 1964.

The Commonwealth Aid Roads Act 1964, which was assented to on the 28th May, 1964, became operative on the 23rd June, 1964. It supersedes the Commonwealth Aid Roads Act of 1959 and authorizes the Commonwealth to grant financial assistance to the States in relation to roads during the period of five years commencing on the 1st July, 1964. The assistance takes the form of a basic grant aggregating £330 million for the five year period, with an additional grant of £45 million. The basic grant increases uniformly each year from £62 million in 1964-65 to £70 million in 1968-69. After payment to Tasmania at five per cent. of the basic grant for each year, the balance is to be allocated among the States in the proportion of one third according to population, one third according to area and one third according to the number of motor vehicles registered. The additional grant, which increases uniformly from £3 million in the first year to £15 million in the fifth year, is a conditional one dependent on a State's expenditure on roads from its own resources. Where this expenditure in any year exceeds the corresponding amount

spent in 1963-64 (£2,650,917 in the case of Western Australia), the State is entitled to receive a grant equal to the amount of the excess, or its quota of the additional grant for that year, whichever is the less. A State's quota of the additional grant is determined on the same principles as that used in allocating the basic grant.

The Act continues the requirements of earlier legislation that not less than two-fifths of the moneys paid to a State in respect of any year shall be spent on the construction of rural roads or the purchase of road-making plants for use in connexion with rural roads, which is defined as "roads in rural areas . . . other than highways, trunk roads and main roads".

The receipt and distribution by the State of moneys for roads and associated works are dealt with in a number of accounts, among the more important of which are the Metropolitan Traffic Trust Account, the Central Road Trust Fund and the Main Roads Trust Account.

A Central Road Trust Fund in which was opened at the Treasury on the 1st January, 1960, in accordance with the provisions of the Traffic Act, to record transactions in connexion with the additional grant provided for in the Commonwealth Aid Roads legislation. The Traffic Act, 1919-1964 requires the Treasurer to pay into the Fund from the Metropolitan Traffic Trust Account the amount by which metropolitan collections of vehicle licence fees in any financial year exceed the amount received in 1958-59 (£1,084,895). Other revenues accruing to the Fund are those derived from local government authorities outside the Metropolitan Traffic Area, which are required to contribute the amount of their collections of vehicle licence fees in excess of such receipts in 1958-59, revenue throughout the State from drivers' and riders' licences, and the State's quota of the additional grant from the Commonwealth.

The Central Road Trust Fund is administered by the Commissioner of Main Roads who is directed in terms of the Traffic Act to make payments from the Fund to local authorities by way of monthly instalments. Every local authority outside the Metropolitan Traffic Area receives each year a total payment 75 per cent. greater than the amount of its contribution for the previous financial year. The metropolitan local authorities share, in proportions determined by the Minister, an amount which exceeds by 75 per cent. one-half of the sum paid to the credit of the Fund by the Treasurer from the Metropolitan Traffic Trust Account. It is provided that the total disbursements to local government authorities from the Fund shall be spent on road construction which, for the purposes of the Act, includes the purchase of road-making plant. The balance of the moneys remaining in the Fund for any financial year is to be paid into the Main Roads Trust Account and used solely for road construction and related research.

The revenue of the Metropolitan Traffic Trust Account consists of the amount received from vehicle licence fees in the Metropolitan Traffic Area, except for that portion which is required to be paid to the Central Road Trust Fund. The Act provides that, after payment of an annual charge of £120,000 for the costs of collection and administration, one-half of the net balance shall be shared by local government authorities in the Metropolitan Traffic Area in proportions determined by the Minister. The remaining half is to be paid to the Commissioner of Main Roads to finance the performance of specified works and services associated with road construction and maintenance, and relief projects.

Other State moneys used for road purposes are the contributions paid to the Main Roads Trust Account by the Department of Transport to meet the cost of maintaining and improving roads used by omnibuses and commercial vehicles licensed by the Department.

Local government expenditure on roads is financed from a number of sources. These comprise vehicle licence fees, Commonwealth and State moneys received by way of disbursements made by the Commissioner of Main Roads, amounts levied in the form of general rates, and the proceeds of local government loans raised for road purposes. Under the provisions of the Traffic Act Amendment Act (No. 2), 1964, each local government authority outside the Metropolitan Traffic Area continues to retain the fees collected for motor vehicle licences up to an amount equal to its collections in 1958-59 and is required to spend on road construction at least three-quarters of the amount so retained. The Act provides that the whole of the moneys allocated to metropolitan local authorities from the Metropolitan Traffic Trust Account shall be spent on road construction.

Reference is made on pages 13 and 21 to Commonwealth financial assistance provided under the terms of the Western Australia Grant (Beef Cattle Roads) Acts of 1961 and 1962.

ROAD PASSENGER TRANSPORT SERVICES

Motor omnibus, trolley-bus and passenger ferry services in the metropolitan area are operated by the Metropolitan (Perth) Passenger Transport Trust, constituted under the Metropolitan (Perth) Passenger Transport Trust Act, 1957-1961. For the purposes of the Act, the metropolitan area is defined by a

proclamation of the 1st 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 Trust began transport operations on the 1st September, 1958 after having acquired two privately-owned omnibus services. Three more such services were taken over before the end of 1958 and another early in 1959. From the 1st July, 1959 the Trust assumed control of the trolley-bus, motor omnibus and ferry services formerly operated by the Western Australian Government Tramways and Ferries Department and, from the 1st September, 1960, the omnibus service of the Fremantle Municipal Transport Board. The Trust's planned programme of acquisition of metropolitan road passenger transport services and ferry services was completed on the 29th April, 1962. At the request of the operator, in terms of section 14 of the Act, the Trust acquired another service (Perth Wanneroo) on the 29th June, 1964.

Road transport outside the metropolitan area is provided by the railways road services (see pages 362-4), 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 Town Councils and the Kalgoorlie Shire Council; and by privately owned omnibus services, which operate mainly in and around country centres.

Reference is made on page 146 to the transport of children to and from school in country areas. In 1964 the cost to the Government of school transport services was £1,063,764. The number of omnibuses engaged was 651. They travelled a daily total of 12,064 miles and carried 71,061 children daily.

The figures in the following table include the operations of trolley buses, but exclude school transport services and tourist services.

OMNIBUS SERVICES

Particulars	Year ended 30th June				
	1960	1961	1962	1963	1964
METROPOLITAN SERVICES (a)					
Number of—					
Road Miles Operated	105	105	107	174	211
Omnibuses at 30th June (a)	344	355	365	363	371
Miles Run	77,000,270	78,405,310	78,299,440	11,723,372	15,445,000
Passengers Carried	26,628,320	27,385,287	27,216,264	51,126,757	63,084,909
Employees at 30th June	1,857	1,898	1,919	1,545	1,521
Operating Revenue	£ 1,470,140	£ 1,470,371	£ 1,458,131	£ 1,365,667	£ 1,340,044
Operating Expenses	1,374,113	1,360,704	1,345,941	1,250,344	1,341,792
Depreciation			162,117	140,490	111,517
Interest			147,342	186,943	182,667
OTHER SERVICES (a)					
Number of—					
Road Miles Operated	105	105	107	4,859	4,297
Omnibuses at 30th June	115	120	114	113	113
Miles Run	1,395,390	1,397,798	1,399,347	2,699,130	2,757,351
Passengers Carried	1,867,197	1,899,680	1,857,114	2,678,671	2,322,499
Employees at 30th June	217	229	244	255	280
Operating Revenue	£ 254,512	£ 261,284	£ 251,740	£ 420,825	£ 327,315
Operating Expenses	224,114	203,307	201,663	257,128	265,757
Depreciation			22,314	42,505	48,024
Interest			6,507	9,478	10,069
TOTAL					
Number of—					
Road Miles Operated	105	105	107	1,823	1,008
Omnibuses at 30th June (a)	360	375	377	376	384
Miles Run	78,395,660	79,803,110	79,698,787	14,422,502	17,202,351
Passengers Carried	28,495,517	29,284,967	29,073,378	53,805,428	65,407,408
Employees at 30th June	1,964	1,945	1,965	1,797	1,801
Operating Revenue	£ 1,724,652	£ 1,731,655	£ 1,709,871	£ 1,786,492	£ 1,667,359
Operating Expenses	1,598,227	1,564,011	1,547,604	1,507,472	1,607,549
Depreciation	2,227,220	2,266,321	224,361	222,992	269,547
Interest			174,259	196,423	192,734

(a) Services operating wholly within the Metropolitan Statistical Division and its suburbs. (b) Not applicable. (c) Includes tourist buses. (d) Includes some services having a Metropolitan component. (e) Refined.

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 revenue and operating expenses.

PASSENGER FERRY SERVICE

Particulars	Year ended 30th June -				
	1960	1961	1962	1963	1964
Number of—					
Boats at 30th June	4	4	4	4	4
Mile Traveled	24,887	21,500	22,395	21,144	22,103
Passengers Carried by	242,312	171,951	187,521	192,448	194,568
Employees at 30th June	7	5	6	8	8
Operating Revenue	8	6	2	6	8
Operating Expenses	15,714	9,314	9,389	11,581	11,948
Depreciation	14,488	21,902	11,696	12,810	13,487
Interest	1,014	1,004	724	729	828
Interest	271	(1)	(1)	(3)	165

(a) Excludes private charter operations. (b) Not available.

STATISTICAL SUMMARY OF RAIL, OMNIBUS AND FERRY SERVICES

The following table, which is based on figures some of which are already shown in tables on the preceding pages, is designed to give a convenient summary of the operations of the several services during 1963-64 and to provide some significant totals for the services as a whole.

RAIL, OMNIBUS AND FERRY SERVICES—SUMMARY FOR 1963-64

Service	Route Miles at 30th June	Miles Run	Employees at 30th June	Operating Revenue	Operating Expenses (a)	Passengers Carried	
						Metropolitan	Other
Railways—							
Government (a)	3,677	(a) 2,508	11,528	£100	£100	900	510
Private (b)	272	(b) 850	359	17,595	14,122	20,395	4
Total	3,949	(a) 7,758	11,887	17,695	14,222	21,295	514
Railways Road Services—							
Government	(a) 2,258	(a) 1,671	174	(f)	(f)		251
Private	408	239	14	(g)	(g)		29
Total	2,666	1,910	188	(f)	(g)		280
Metropolitan (Perth) Passenger Transport Trust—							
Omnibuses (a)	654	15,701	1,620	2,571	2,574	49,695	
Ferries	1	22	6	12	14	281	
Total	655	15,723	1,626	2,583	2,588	50,004	
Eastern Goldfields Transport Board (i)	18	175	14	25	27		712
Private Omnibus Services (k)	874	718	18	123	121	108	1,345
GRAND TOTAL	8,591	28,392	13,704	21,214	16,911	61,548	2,745

(a) Excludes depreciation and interest. (b) Includes Western Australian Government Railways road services, except for figures shown under "Operating Revenue" and "Operating Expenses." Excludes also operations in Western Australia of Commonwealth Government Railways. (c) Revenue from miles. (d) Excludes timber railways. (e) Excludes freight railways. (f) Included in figures shown under "Railways, Government." (g) Not available separately for publication; included under "Private Omnibus Services." (h) Not available. See notes (f) and (g). (i) Includes trolley-buses. (j) Motor omnibus service. (k) Excludes tourist and school bus services. Excludes also private railway road services, except for figures shown under "Operating Revenue" and "Operating Expenses."

ROAD TRAFFIC ACCIDENTS

Statistics of road traffic accidents are prepared from information concerning accidents in public thoroughfares, as reported to and investigated by officers of the Police Department in the Metropolitan Traffic Area and, outside that Area, by 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 30 days after the accident, or in which any person suffers bodily injury to an extent requiring treatment by a doctor or at a hospital.

The following table shows, for each year during the period from 1959-60 to 1963-64, the number of accidents involving casualties which occurred in Western Australia and in Australia. The figures given for Australia for the years 1959-60 to 1961-62 do not include particulars for the Northern Territory, which first became available in respect of the year 1962-63. The figures shown for 1962-63 and later include accidents occurring in the Northern Territory. Casualty rates per 100,000 of mean population are also shown. It will be seen that the casualty rates experienced in Western Australia were higher than the corresponding Australian rates in each year, except that the death rate in Western Australia in 1962-63 was lower than that for Australia as a whole.

ROAD TRAFFIC ACCIDENTS AND CASUALTIES WESTERN AUSTRALIA AND AUSTRALIA (a)

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
WESTERN AUSTRALIA					
Accidents involving Casualties	3,636	3,682	3,511	3,928	4,006
Number of Persons Killed—					
Total	180	197	187	194	216
Per 100,000 of Mean Population	25	27	25	21	25
Number of Persons Injured—					
Total	4,788	4,804	4,820	5,200	5,150
Per 100,000 of Mean Population	667	619	611	701	696
AUSTRALIA (a)					
Accidents involving Casualties	14,919	15,752	15,781	16,262	16,118
Number of Persons Killed—					
Total	7,484	7,542	7,501	7,571	7,868
Per 100,000 of Mean Population	14	15	14	14	15
Number of Persons Injured—					
Total	60,104	60,749	60,524	60,267	59,483
Per 100,000 of Mean Population	663	669	653	631	619

(a) For the years 1959-60 to 1961-62, includes particulars for the Northern Territory, see *Interim* preceding table.

In the next table road traffic accident casualties which occurred in Western Australia during the five years ended 30th June, 1964 are classified according to type of road user. The figures shown in the category "Other" refer to such persons as riders of bicycles and drivers of animal drawn vehicles.

ROAD TRAFFIC ACCIDENTS—CASUALTIES ACCORDING TO TYPE OF ROAD USER

Type of Road User	Year ended 30th June—				
	1960	1961	1962	1963	1964
PERSONS KILLED					
Drivers of Motor Vehicles	43	61	66	63	86
Motor Cyclists	21	12	17	12	12
Pedal Cyclists	1	11	5	4	10
Passengers—					
Pilots	7	2	1	1	2
Other	50	47	55	50	56
Pedestrians	47	54	56	60	51
Other	1				
Total	160	197	187	164	216
PERSONS INJURED					
Drivers of Motor Vehicles	1,386	1,381	1,458	1,817	1,690
Motor Cyclists	807	718	642	527	474
Pedal Cyclists	411	365	300	288	417
Passengers—					
Pilots	228	195	53	95	64
Other	1,428	1,648	1,713	1,395	1,371
Pedestrians	621	593	524	600	574
Other		1	4	1	10
Total	4,788	4,804	4,820	5,200	5,150

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 1959-60 to 1963-64.

ROAD TRAFFIC ACCIDENTS—CASUALTIES CLASSIFIED ACCORDING TO AGE

Year ended 30th June	Age last birthday (years)										Total
	0-4	5-9	10-16	17-24	25-34	35-44	45-49	50-59	60 and over	Not stated	
PERSONS KILLED											
1960	4	2	11	22	26	25	25	18	47		180
1961	4	4	14	27	36	26	20	20	49		187
1962	6	4	13	54	76	25	20	24	36	1	187
1963	6	2	12	21	58	18	14	21	40		184
1964	8	2	11	38	56	22	28	30	26	1	228
PERSONS INJURED											
1960	160	115	445	1,912	895	532	431	364	801	325	5,784
1961	120	116	491	1,840	858	570	424	382	341	201	4,904
1962	108	114	504	1,932	915	647	431	349	311	257	4,857
1963	103	122	723	1,996	994	628	559	406	351	328	5,367
1964	103	122	769	1,141	888	637	514	405	367	344	5,449

Road traffic accidents during the years ended 30th June, 1963 and 1964 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, totals cannot be derived by adding the figures in the amount part of the table.

ROAD TRAFFIC ACCIDENTS NATURE OF ACCIDENT AND TYPE OF VEHICLE INVOLVED

Nature of Accident and Type of Vehicle Involved	Year ended 30th June—					
	1963			1964		
	Accidents involving Casualties	Casualties		Accidents involving Casualties	Casualties	
		Persons Killed	Persons Injured		Persons Killed	Persons Injured
NATURE OF ACCIDENT						
Vehicle Colliding with—						
Moving Vehicle	1,991	55	1,957	1,104	70	3,036
Pedestrian	608	40	699	681	48	658
Stationary Vehicle	121	5	181	101	5	135
Other Fixed Object	36		48	79		12
Animal	30		17	28		24
Vehicle Overturning or Leaving Road	1,043	45	1,140	1,121	92	1,521
Passenger Accident	69	4	66	46	2	44
Other Accidents	4		4	9		9
Total	3,826	164	5,380	4,028	218	5,440
TYPE OF VEHICLE INVOLVED (a)						
Motor Vehicle—						
Car other than Taxi	1,924	120	4,263	3,323	193	4,431
Taxi	57	3	115	69	6	120
Van, Utility	637	39	1,106	274	37	1,015
Truck	169	16	369	277	31	574
Semi-trailer	20	2	42	34	2	49
Orchard	45	3	69	65		70
Other	55	3	47	35	1	36
Motor Cycle	206	11	298	236	10	312
Motor Scooter	232	1	371	346	1	354
Pedal Cycle	394	4	405	418	10	423
Animal drawn Vehicle	2		2	1		1

(a) See letterpress immediately preceding table.

Motor Vehicle Third Party Insurance

Motor vehicle third party insurance became compulsory in Western Australia under the provisions of the Motor Vehicle (Third Party Insurance) Act of 1943. All such insurances are now effected through a Motor Vehicle Insurance Trust, a summary of whose operations is given in Chapter VI—Part 2, *Private Finance*.

AIR TRANSPORT

The supervision and control of civil air transport operations throughout Australia is the responsibility of the Department of Civil Aviation. Among its functions are the enforcement of safety regulations; the registration of aircraft and the issue of certificates of airworthiness; the licensing of members of air crews and of ground staffs; the provision, operation and maintenance of aeronautical communication systems and air navigation facilities; the authorization of sites for aerodromes; the design, operation and maintenance of aerodromes; the establishment and operation of air traffic control services; the specification of the requisite meteorological services; the approval of fares, freight rates and time tables; and the licensing of air service operations and co-operation with State Government transport licensing authorities.

An extensive system of air services operates in Western Australia for the transport of passengers, freight and mails. Perth has an international airport which is used by overseas services between Australia and the United Kingdom via Singapore and between Australia and South Africa via Cocos Islands and Mauritius. Perth is also the western terminus of interstate flights connecting the capital cities of Australia and is the base for a comprehensive airline network serving many inland centres as well as coastal towns in the south, the north-west and the north of the State. From some of these towns regular services operate over many hundreds of miles of route to sheep and cattle stations and to native missions. Some stations and towns in the Kimberley are linked with Darwin and Alice Springs in the Northern Territory. (The principal air routes being flown in or through Western Australia at the 1st January, 1964 are shown on the map of the State following the Index). In addition to these regular services there are facilities for charter flights. Some operators engage in work connected with the Royal Flying Doctor Service of Australia.

The principal function of the Royal Flying Doctor Service of Australia is to provide medical aid, dental care and air ambulance transport for residents, including aboriginal natives, 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 first-aid books, as well as standard medicine chests with directions for the use of the drugs and medical supplies which they contain and, where necessary, the doctor gives additional instruction by radio.

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 connexion with flood relief, in searching for lost parties and in co-ordinating movements of livestock.

The Service is financed by grants from the Commonwealth and State Governments and by private donations.

TRANSPORT CO-ORDINATION

The Western Australian Transport Board was established in 1934 under the provisions of the State Transport Co-ordination Act of 1933. The Board as originally constituted was dissolved by an amendment to the Act in 1961 and its powers and functions transferred to a Commissioner of Transport assisted by a Transport Advisory Board. The Transport Advisory Board, to which the first appointments were made by the Governor on the 19th February, 1962, comprises the Commissioner of Transport as chairman and four other members, two of whom are representative of rural industries and two of city interests. The functions of the Commissioner are to investigate and make inquiries into transport matters, including transport generally as related to service to the community, the needs of the State for its economic development, the industrial conditions under which all forms of transport are conducted, and the impartial and equitable treatment of all conflicting interests; to consider and determine all applications for licences in respect of public vehicles and the conditions to be imposed in granting such licences; and to call tenders and invite premiums in regard to the provision of transport, where he considers it desirable to do so after receiving the advice of the Transport Advisory Board.

The public vehicles licensed by the Commissioner are omnibuses, commercial goods vehicles and aircraft. In the licensing of omnibuses the Commissioner is empowered to prescribe the routes to be operated, the fares to be charged, the time tables to be observed and the maximum number of passengers to be carried in an omnibus. The Metropolitan (Perth) Passenger Transport Trust, to which reference is made on pages 226-27, is not subject to the State Transport Co-ordination Act and exercises these powers in relation to its own services. All commercial goods vehicles are required to be licensed, except those which operate solely in the area within a radius of 20 miles from the General Post Office, Perth, or within a radius of 20 miles from the owner's place of business (or, where such place of business is situated more than 40 miles from the General Post Office, Perth, within a radius of 25 miles), or those which are used in certain circumstances for the transport of specified types of goods, mainly primary produce including forest products, materials and livestock. 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, fertilizer distribution, photography, geophysics, surveying, dog hunting or whale or fish spotting.

In regard to railways the Commissioner of Transport may, with the concurrence of the Transport Advisory Board, recommend the closure of lines or the partial suspension of services where it is considered that a district is, or could be, better served by road or air transport. The Commissioner, if so directed by the appropriate Minister, is then required to call tenders for the provision of transport facilities to serve the district. Where the Parliament sanctions the cancellation or suspension of the existing rail service, the Minister may then accept a tender, which becomes subject to conditions imposed by the Commissioner relating to the service to be provided and the period during which it shall operate.

Financial transactions are recorded in a Transport Co-ordination 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, motels 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 carriage of grain and fertilizers, but also on the air transport of perishable goods to places in the northern part of the State and on air travel by students normally resident in that area.

The Taxicabs (Co-ordination and Control) Act, 1963, which came into operation on the 4th September, 1964, constitutes a Taxi Control Board of seven members to co-ordinate and control the operations of taxicabs 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, or his deputy, as chairman; a member of the police force appointed by the Commissioner of Police; and five members, appointed by the Governor, comprising one nominated by the Local Government Association of Western Australia to represent the interests of local authorities, one nominated by the W.A. Taxi Operators' Association; two elected by the taxicab owners and operators who are not members of the Association; 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 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 of the population of the area or be less than one for every 800 of the population.

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 3—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 Freepoint, 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 the 30th June in each year from 1959-60 to 1963-64. Full-time employees are those directly under the control of the Department. The remainder, shown as "Other Employees," provide services, which may be full or part-time, under contract or on return for pay outside appointments 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 received by members of the public but which do not provide other postal facilities. Mails sent by public telephones are not included.

POSTMASTER GENERAL'S DEPARTMENT—NUMBERS OF EMPLOYEES AND OFFICES
WESTERN AUSTRALIA

Particulars	At 30th June				
	1959	1960	1961	1962	1963
Full-time Employees—					
Postmaster General's Department	4,330	4,301	4,330	4,343	4,384
Temporary and Casual Officers (a)	1,059	1,143	1,053	1,143	1,084
Total	5,389	5,444	5,383	5,486	5,468
Other Employees—					
Non-official Postmasters and Staff	596	579	547	539	514
Telephone Office-keepers	221	229	218	204	199
Full-time Contractors (b)	26	26	26	26	26
Part-time Contractors	179	179	220	240	240
Total	1,022	1,013	1,011	1,009	979
Total Employees	6,411	6,457	6,394	6,495	6,447
Post Offices—					
General	140	140	140	140	140
Tele. Offices	486	484	486	473	468
Telephone Offices	312	308	315	315	314
Total Offices	938	932	941	928	922

(a) Except staff are persons exempt from the provisions of the Public Service Act. (b) Includes persons employed on private contracts.

Figures relating to the revenue and expenditure of the Department in Western Australia during each of the financial years from 1959-60 to 1963-64 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.

**POSTMASTER-GENERAL'S DEPARTMENT—REVENUE AND EXPENDITURE
WESTERN AUSTRALIA
(£'000)**

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
REVENUE (a)					
Postal	9,305	1,662	1,778	2,914	3,104
Telegraph	660	625	531	580	494
Telephone	4,004	4,618	4,879	5,820	6,245
Other	270	—	4	28	16
TOTAL	14,239	7,905	8,192	9,342	9,859
EXPENDITURE (b)					
From Ordinary Services Votes—					
Salaries and Payments in the nature of Salary	2,906	5,021	5,138	5,225	5,818
Administration	311	229	241	338	425
Stores and Material (c)	211	163	194	110	95
Mail Services	753	725	740	753	785
Engineering Services, other than New Works (c)	2,703	2,772	2,908	2,289	2,542
Total	6,884	8,810	9,221	8,715	9,665
Rent, Repairs and Maintenance	72	92	69	98	114
Capital Works and Services—					
Telegraph Services	45	55	38	65	52
Telephone Services	2,270	2,564	2,592	3,528	4,170
Other Plant and Equipment and Motor Vehicles (c)	86	100	103	389	547
Buildings	171	301	249	704	830
Sites and Properties	14	73	46	25	24
Total	2,686	3,093	2,938	4,616	5,523
GRAND TOTAL	9,572	11,995	12,159	13,331	15,188

(a) Revenue actually collected during the year, as recorded for Treasury purposes. Figures for 1961-62 and later years are not entirely comparable with those for 1960-61; from 1961-62 "Other Revenue" has been classified mainly to Postal, Telegraph and Telephone revenue. (b) Actual payments made during the year, as recorded for Treasury purposes. (c) Expenditure on motor vehicles, postal plant and certain non-engineering plant, which prior to 1962-63 was recorded against Ordinary Services Votes, is now recorded under Capital Works and Services.

As the figures shown in the preceding table relate to actual collections and payments made, they do not represent the net results of the Department's operations for the year. The net results of the operations throughout Australia of each branch, for the year ended 30th June, 1964 after providing for working expenses (including depreciation, superannuation and (except liability) and interest charges are shown in the following table. The amounts appearing under the heading of *Interest* represent interest on funds provided by the Treasury.

**POSTMASTER-GENERAL'S DEPARTMENT—PROFIT OR LOSS (1) OF BRANCHES
AUSTRALIA, 1963-64
(£'000)**

Particulars	Postal	Telegraph	Telephone	All Branches
Earnings	53,248	3,815	102,549	164,612
Working Expenses	61,900	7,485	51,837	121,222
Net Earnings	1,248	1,330	50,712	53,290
Interest	820	163	21,870	22,853
Profit or Loss	428	1,167	28,842	30,437

(1) Minus sign (—) denotes loss

Posts

In the following table, postal matter handled in Western Australia during each year from 1959-60 to 1963-64 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	Year ended 30th June—				
	1960	1961	1962	1963	1964
Posted for Delivery within Australia—					
Ordinary Postal Articles—					
Letter-form	97,875	105,702	110,089	118,270	130,714
Other	8,676	8,741	8,682	8,857	11,262
Parcels (a)	974	915	926	954	1,018
Registered Articles (b)	558	538	535	531	523
Posted for Delivery Overseas—					
Ordinary Postal Articles—					
Letter-form	5,557	5,248	5,041	5,269	6,455
Other	1,119	1,182	1,238	1,328	1,418
Parcels (a)	25	21	21	22	29
Registered Articles (b)	32	31	49	53	55
Received from Overseas—					
Ordinary Postal Articles—					
Letter-form	5,674	5,045	5,799	5,638	5,451
Other	5,759	5,829	5,078	5,361	6,152
Parcels (a)	48	50	51	67	64
Registered Articles (b)	45	30	29	29	44

(a) Includes registered, cash on delivery and duty parcels.

(b) Includes registered parcels; see note (3).

Telegraphs and Telephones

A brief account of the origin and extension of the telegraph system in Western Australia and of submarine cable installations is given on page 291 of the *Official Year Book of Western Australia, 1957, No. 1 (New Series)*, and the main developments are treated chronologically in Chapter I of the present issue.

Overseas telegraph and telephone services are now the responsibility of the Overseas Telecommunications Commission (Australia), in which reference is made in the next section *Radio-communications*.

The following table relates to telegraph and telephone services in Western Australia in each financial year from 1959-60 to 1963-64. Telephone services include 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.

TELEGRAPHS AND TELEPHONES

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
TELEGRAPHS					
Number of—					
Offices (a)	870	868	940	954	920
Telegrams—					
Within Australia—Dispatches	706	900	700	700	700
	1,798	1,740	1,786	1,892	1,940
Beyond Australia—Dispatches	27	24	27	83	84
Received	73	75	75	90	82
Total	150	149	152	185	166
TELEPHONES (a)					
Number of—					
Exchanges ..	763	767	769	765	767
Services—					
Metropolitan (b)	58,771	501,840	50,005	51,296	73,920
Other ..	29,171	50,202	51,363	54,080	55,600
Total	87,942	552,042	101,368	105,376	129,520
Telephone Instruments in Service—					
Total ..	121,098	125,732	120,731	144,845	154,932
Per 100 of Population	16.5	17.1	17.7	18.7	19.6

(a) At 30th June. (b) Services connected to exchanges located within (a) limits of the General Post Office, Perth. * Revised.

The teleprinter exchange service was introduced at 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

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
Number of					
Subscribers at 30th June	40	65	82	96	117
Local Calls	551	1,098	3,454	5,376	7,947
Trans. Calls	33,605	35,192	59,595	41,731	60,416

At the 30th June, 1964, the single wire mileage of telegraph and telephone cables in Western Australia was 400,751. The single wire mileage of aerial wires was 132,124 and the mileage of pole routes was 16,643. There were 459 tube miles of coaxial cable.

RADIOCOMMUNICATION

The Overseas Telecommunications Commission (Australia) is the authority responsible for the operation of Australia's external telecommunication services by cable and radio.

The Commissioner is constituted under the provisions of the Overseas Telecommunications Act 1946-1963. This Act implemented, in Australia, a recommendation of the 1945 Commonwealth Telecommunications Conference for national ownership of the external telecommunication services of the British Commonwealth countries concerned and for the establishment of a representative advisory board, the Commonwealth Telecommunications Board, to co-ordinate their development.

The Commission also participates with other countries of the British Commonwealth in the development, maintenance and operation of a world-wide network of cable and radio circuits. The whole of Australia's international public telecommunication traffic is handled through this network, traffic being routed over cable or radio circuits, or a combination of them, according to circumstances.

The Commission operates a coastal radio service, telegraph, telex and post-telegraph services and, in conjunction with the Postmaster-General's Department, telephone services with overseas countries and ships at sea.

The coastal radio service provides, as its principal function, essential maritime communications, including distress signals, navigation warnings, all sea rescue service and radio-medical service messages, meteorological messages and time signals, as well as naval traffic as required. It provides also, by radio-telegraph and radiotelephone, commercial communications with ships at sea and, by radiotelephone, message communication with small vessels. Western Australian coastal radio stations at Perth, Broome, Esperance and Geraldton are operated by the Overseas Telecommunications Commission, and at Wyndham by the Department of Civil Aviation as agent for the Commission.

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 the section *Air Transport* in Part 2 of this Chapter, provides general telegraph facilities in remote areas through its extensive radio network.

At the 30th June, 1964 there were 62,426 civil radiocommunication stations authorized throughout Australia. They comprised 3,165 fixed stations, 5,125 land stations, 45,421 mobile stations (including 180 stations which could not be classified according to States), and 4,717 amateur stations.

The numbers of each type of radiocommunication station authorized to operate in Western Australia at the 30th June, 1964 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 (aeromobile), motor vehicles (land mobile services), harbour tugs (harbour mobile services) and ocean going vessels (ship), and mobile equipment of organizations such as the Royal Flying Doctor Service.

CIVIL RADIO COMMUNICATION STATIONS AUTHORIZED AT 30th JUNE, 1964

Type of Station	Number	Type of Station	Number
TRANSMITTING AND RECEIVING—		TRANSMITTING AND RECEIVING—	
Fixed Stations—		Mobile Stations—	
Aeronautical	14	Aeronautical	171
Services with Other Countries	12	Land Mobile Services	2,811
Outpost	100	Harbour Mobile Services	17
Other	10	Outpost	304
Land Stations—		Ship	294
Aeronautical	20	Amateur	351
Base Stations			
Land Mobile Services	231	TOTAL—TRANSMITTING AND RE-	
Harbour Mobile Services	54	CEIVING	4,021
Fixed	20	RECEIVING ONLY (Fixed)	51
Special Experimental	21		
		GRAND TOTAL	4,072

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 1942-1965, 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 no fees to be charged for licences to operate commercial broadcasting and television stations are provided for in the Broadcasting Stations Licence Fee Act 1964 and the Television Stations Licence Fee Act 1964.

The principal functions of the Australian Broadcasting Control Board 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.

The Australian Broadcasting Commission, which is constituted under the Broadcasting and Television Act 1942-1965, controls the operation of, and provides programmes for, the National Broadcasting Service and the National Television Service. 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.

Broadcasting

The following list shows the call sign, the location, the frequency and the aerial power of each of the broadcasting stations operating in Western Australia at the 30th June, 1964.

BROADCASTING STATIONS AT 30th JUNE, 1964

Type and Location	Call Sign	Frequency (kHz)	Aerial Power (Watts)	Type and Location	Call Sign	Frequency (kHz)	Aerial Power (Watts)
NATIONAL STATIONS				COMMERCIAL STATIONS			
High Power—				Perth	6XX	1,000	2,200
Perth	6WF	680	50,000	"	6XA	1,210	2,000
"	6WN	810	10,000	"	6PM	1,000	2,000
Albany	6AL	650	400	"	6PR	880	2,000
Chatterbox	6CA	720	100	Northern	6NM	740	2,000
Geelong	6GL	490	10,000	Bridgetown	6BY	100	2,000
Kalgoorlie	6GF	750	2,000	Collie	6CI	1,110	2,000
Hamilton	6HA	830	2,000	Geraldton	6GV	1,010	2,000
Armadale	6HJ	800	100	Kalgoorlie	6KA	790	2,000
Wagga	6WA	550	50,000	Merredin	6ML	1,100	2,000
				Warren	6WA	900	2,000
High Frequency—				Donkey	6TZ	650	2,000
Perth	6LW	(a)	10,000	Albany	6VA	710	2,000
"	6LX	(a)	10,000	Kalamunda	6WB	1,070	2,000

(a) The frequency on which these stations transmit are subject to change to obtain optimum results.

* Revised.

The following table gives particulars of broadcast licences in force in Western Australia at the 30th June of each of the years from 1960 to 1964. The revenue received from broadcast listeners' licences in the State during each financial year from 1959-60 to 1963-64 is also shown. Licences are granted to certain classes of persons at a reduced fee and are issued free of charge to blind persons and to schools.

BROADCAST LICENCES

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
Broadcasting Station Licences (a)—					
National Stations	9	9	9	9	11
Commercial Stations	14	14	14	14	14
Total	23	23	23	23	25
Broadcast Listeners' Licences (a) —					
Ordinary	155,111	156,800	*144,719	141,357	147,877
Hires' (b)				18	1
Lodging House (c)			10	10	0
Pensioners	20,388	21,754	23,236	23,277	22,492
Blind Persons	305	305	170	147	260
Schools*	240	273	347	879	534
Total	176,053	179,539	168,472	168,627	174,174
Revenue from Broadcast Listeners' Licences	£ 100,419	£ 108,512	£ 97,172	£ 98,730	£ 97,754

(a) Number in force at 30th June.

(b) Operative from July, 1961.

* Revised.

Television

At the 30th June, 1965, television services in Western Australia were provided by two national stations and two commercial stations.

The following table shows the numbers of television viewers' licences current at the 30th June in each year from 1960 to 1964, and the revenue received during each financial year from 1959-60 to 1963-64. As with broadcast listeners' licences, television viewers' licences are available at a reduced fee to certain pensioners and free of charge to blind persons and to schools.

TELEVISION VIEWERS' LICENCES

Particulars	Year ended 30th June—				
	1960	1961	1962	1963	1964
Viewers' Licences (a) —					
Ordinary	13,377	64,186	68,705	78,502	91,523
Hires' (b)			6,857	7,307	19,768
Lodging House (c)				84	140
Pensioners	2,166	6,535	7,250	8,478	12,750
Blind Persons	53	84	126	142	163
Schools*	9	11	12	48	25
Total	15,615	70,816	82,950	96,561	134,270
Revenue from Viewers' Licences	£ 185,004	£ 223,647	£ 172,781	£ 221,812	£ 317,267

(a) Number in force at 30th June.

(b) Operative from July, 1961.

The following table gives details of the four television stations operating in Western Australia at the 30th June, 1965. It shows the call sign and channel number of each station, the area served, the location of the transmitter and the authorized frequencies.

Station ABW (Channel 2) began full-scale transmission on the 7th May, 1960, ABNW (Channel 5) on the 10th May, 1965, TVW (Channel 7) on the 10th October, 1960, and STW (Channel 9) on the 17th June, 1966. A third national station, ABCW (Channel 4) to provide programmes for the central agricultural area, and a fourth, ABAW (Channel 2) to serve the southern agricultural area, are due to be completed in 1966.

TELEVISION STATIONS AT 30th JUNE, 1965 (a)

NATIONAL STATIONS				COMMERCIAL STATIONS			
Call Sign and Channel	Area	Location of Transmitter	Authorized Frequencies (Mc/s)	Call Sign and Channel	Area	Location of Transmitter	Authorized Frequencies (Mc/s)
A 1W 2	Pertch	Bickley	Visual 44-47 Sound 84-87	TVW-7	Pertch	Bickley	Visual 181-184 Sound 187-190
A 1W 5	Pertch	Mt. Leonard	Visual 101-104 Sound 107-110	STW-4	Pertch	Bickley	Visual 185-188 Sound 191-194

(a) The maximum power for all stations is Visual 100 kW e.r.p., effective radiated power; Sound, 20 kW e.r.p. The permission for all stations is temporary.

CHAPTER X—EMPLOYMENT, WAGES AND PRICES

PART 1—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, while Part 3—*Health Services, Hospitals and Homes for the aged* contains details of hospital staffs. In Chapter VII, Part 1—*Primary Production*, gives main employment in each industry, all mines and all fishing, and Part 2—*Secondary Production* includes tables relating wholly, or in part, to employment in factories. Chapter IX, Part 2—*Transport* shows numbers engaged in various types of transport undertakings.

All tables in this Part which contain information compiled from semi-scheduled returns exclude particulars of full-blood aborigines.

The most detailed and comprehensive statistics of employment of the population are those which are derived from the periodic Population Censuses. Among the most useful of the tabulations based on these enumerations are those which show the population according to occupational status and industry.

THE WORK FORCE

It is customary to employ certain practices to distinguish between the economically active and inactive sections 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 who are actively engaged in an industry, business, trade or service, as well as those who are normally engaged in such an activity but are not at work at the time of the investigation. It includes employers, the self-employed, wage and salary earners, persons helping in an activity without receiving wage or salary, and those not at work.

The self-employed category persons working on their own account but not employing others.

Persons not at work include those who stated that they were usually engaged in work, but were not actively seeking a job at the time of the census by reason of sickness or accident, or because they were on strike, changing jobs, or temporarily laid off. It includes also persons able and willing to work but unable to secure employment, as well as casual and seasonal workers not actually on a job at the time of the census. The numbers shown in the category not at work therefore do not represent the number of unemployed persons available for work and unable to obtain it.

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 sub-tabulations tables resulting from the census include detailed analysis of the work force according to such characteristics as age, sex, marital condition, 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.

In 1946, at the time of the first systematic census in Western Australia, about 64 per cent. of the total male population of 2,818 were in the work force, largely engaged in agricultural and pastoral pursuits. This proportion reached a maximum at the Census of 1901 when more than three-quarters of the male population were in the work force. Later censuses show a general decline and in 1961 the proportion stood at 57 per cent.

In 1961 there were 13,665 females in the work force, representing 18.34 per cent. of the female population. In 1961 the number was 61,366, or 17.42 per cent. of the female population. Of this total, 23,483, equivalent to 37 per cent. of females in the work force, were married women, including women married but permanently separated. The proportions of such women in the female work force at each of the three previous Censuses were 32 per cent. in 1954, 17 per cent. in 1947 and 10 per cent. in 1933.

In the following table the numbers and proportions of males, females and persons "in the work force" and "not in the work force" are shown for each census from 1901 to 1961. The table also provides an analysis of the work force according to occupational status.

In the tables on pages 366-7 the population at the Census of 30th June, 1961 is classified according to occupational status in conjunction with conjugal condition and age.

POPULATION CLASSIFIED ACCORDING TO OCCUPATIONAL STATUS

Census Year (a)	In Work Force					Not at Work	Total in Work Force	Not in Work Force	Total Popula- tion
	At Work								
	Em- ployers	Self- employed	Employees (on wage or salary)	Helpers (not on wage or salary)	Total				

MALES									
1901	7,792	10,322	61,848	1,920	81,882	3,195	85,077	27,798	112,875
1911	13,734	12,484	61,206	2,497	109,921	3,647	113,568	47,997	161,565
1921	8,656	20,434	77,589	1,413	108,092	7,752	115,844	61,434	177,278
1933	15,572	25,677	87,561	2,770	131,580	21,478	153,058	80,879	233,937
1947	14,028	24,222	118,501	1,713	158,464	5,473	163,937	94,159	258,076
1954	16,871	26,165	153,413	1,515	202,964	2,077	205,041	125,317	330,358
1961	17,395	25,924	164,241	1,039	208,599	7,919	216,518	158,934	375,452

MALES

1901	7,792	10,322	61,848	1,020	81,882	3,195	85,077	27,798	112,875
1911	13,734	12,484	61,206	2,497	109,921	3,647	113,568	47,997	161,565
1921	8,656	20,434	77,589	1,413	108,092	7,752	115,844	61,434	177,278
1933	15,572	25,677	87,561	2,770	131,580	21,478	153,058	80,879	233,937
1947	14,028	24,222	118,501	1,713	158,464	5,473	163,937	94,189	258,076
1954	16,871	26,165	153,413	1,515	202,964	2,077	205,041	125,317	330,358
1961	17,395	25,924	164,241	1,039	208,599	7,919	216,518	158,934	375,452

Proportion of Male Population (per cent.)

1901	6.90	9.15	54.79	1.70	72.64	2.83	75.37	24.63	100.00
1911	8.50	7.73	50.26	1.54	68.03	2.26	70.29	29.71	100.00
1921	4.88	11.53	43.77	0.80	60.98	4.37	65.35	34.65	100.00
1933	6.66	10.98	37.43	1.18	56.25	9.18	65.43	34.57	100.00
1947	5.43	9.39	45.92	0.66	61.40	2.12	63.52	36.48	100.00
1954	5.11	7.92	47.95	0.46	61.44	0.63	62.07	37.93	100.00
1961	4.63	6.90	43.75	0.28	55.56	2.11	57.67	42.33	100.00

FEMALES

1901	651	1,814	9,173	951	12,589	479	13,068	58,181	71,249
1911	1,004	2,203	15,255	561	19,023	662	19,685	100,884	120,549
1921	661	3,011	19,290	85	23,047	1,405	24,452	131,002	155,454
1933	1,596	3,089	25,727	170	30,582	3,996	34,578	170,337	204,915
1947	1,555	2,733	36,786	228	41,302	1,161	42,463	201,941	244,404
1954	2,246	3,374	46,201	798	52,619	741	53,360	258,053	309,413
1961	3,126	3,860	53,451	585	61,022	2,244	63,266	297,911	361,177

Proportion of Female Population (per cent.)

1901	0.91	2.55	12.87	1.34	17.67	0.67	18.34	81.66	100.00
1911	0.83	1.83	12.05	0.47	15.78	0.55	16.33	83.67	100.00
1921	0.43	1.94	12.41	0.05	14.83	0.90	15.73	84.27	100.00
1933	0.78	1.51	12.66	0.08	14.93	1.95	16.88	83.12	100.00
1947	0.64	1.12	15.05	0.09	16.90	0.47	17.37	82.63	100.00
1954	0.73	1.09	14.93	0.26	17.01	0.24	17.26	82.75	100.00
1961	0.87	1.07	14.80	0.16	16.90	0.62	17.52	82.48	100.00

PERSONS

1901	8,443	12,136	71,021	2,871	94,471	3,674	98,145	85,979	184,124
1911	14,738	14,687	96,461	3,058	128,944	4,309	133,253	148,861	282,114
1921	9,317	23,445	96,879	1,498	131,139	9,157	140,296	192,436	332,732
1933	17,168	28,766	113,288	2,940	162,162	25,474	187,636	251,216	438,852
1947	15,583	26,955	155,287	1,941	199,766	8,634	208,400	296,080	502,480
1954	19,117	29,549	204,614	2,313	255,583	2,818	258,401	381,370	639,771
1961	20,521	29,734	217,692	1,624	269,621	10,163	279,784	456,845	736,629

Proportion of Total Population (per cent.)

1901	4.59	6.50	38.57	1.56	51.31	1.99	53.30	46.70	100.00
1911	5.22	5.21	34.19	1.08	45.70	1.53	47.23	52.77	100.00
1921	2.80	7.05	29.11	0.45	39.41	2.75	42.16	57.84	100.00
1933	3.91	6.56	25.81	0.67	36.95	5.81	42.76	57.24	100.00
1947	3.10	5.37	30.90	0.39	39.76	1.82	41.05	58.92	100.00
1954	2.99	4.62	31.98	0.36	39.95	0.44	40.39	59.61	100.00
1961	2.79	4.04	29.55	0.22	36.60	1.88	37.98	62.02	100.00

(a) For Census dates see the section *Censuses* in Chapter IV, Part 1—Population.

OCCUPATIONAL STATUS, CONJUGAL CONDITION AND AGE—MALES

CENSUS, 30th JUNE, 1961

Occupational status and conjugal condition	Age last birthday (years)							Total (a)
	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	
Employed—								
Never married	54	329	444	228	155	121	49	1,430
Married	1	194	2,724	4,373	4,747	3,052	731	15,413
Married but permanently separated		2	25	38	59	37	74	161
Widowed			5	16	25	20	25	235
Divorced			2	32	25	39	27	159
Total	55	425	1,201	4,633	4,966	3,204	886	17,364
Not employed—								
Never married	417	1,051	1,174	350	201	484	176	3,853
Married	8	358	4,371	1,115	1,305	1,744	1,125	20,413
Married but permanently separated		3	15	48	37	50	27	237
Widowed		1	5	25	24	174	169	336
Divorced			21	40	21	75	9	266
Total	425	1,418	5,526	1,573	1,680	2,437	1,486	45,851
Employers (on wages or salaries)								
Never married	14,254	14,054	5,389	1,704	1,020	1,024	136	31,391
Married	172	1,339	25,234	25,705	23,281	15,584	1,401	108,692
Married but permanently separated		25	327	315	366	135	79	2,324
Widowed		7	28	100	179	139	250	1,607
Divorced		12	235	425	426	401	61	2,964
Total	14,426	15,695	26,425	28,149	25,116	17,183	2,127	194,241
Helpers (not on wages or salaries)								
Never married	200	172	22	11	10	24	22	561
Married		8	19	74	113	79	23	304
Married but permanently separated			2	0	2	2	5	11
Widowed			1	1	1	1	23	28
Divorced			1					1
Total	200	180	45	86	126	106	73	1,074
Total at work	20,626	15,885	26,919	4,830	4,819	2,633	215	64,298
Never married	20,270	15,528	15,919	4,650	4,619	2,633	115	64,298
Married	185	1,572	15,318	25,695	23,429	22,021	1,216	141,997
Married but permanently separated	1	27	378	317	375	170	126	1,334
Widowed		8	60	209	347	1,054	277	2,215
Divorced		12	265	425	426	401	61	2,112
TOTAL AT WORK	20,626	15,885	26,919	4,830	4,819	2,633	215	64,298
Not at work								
Never married	417	1,051	1,174	350	201	484	176	3,853
Married	8	358	4,371	1,115	1,305	1,744	1,125	20,413
Married but permanently separated		3	15	48	37	50	27	237
Widowed		1	5	25	24	174	169	336
Divorced			21	40	21	75	9	266
Total Not at Work	425	1,418	5,526	1,573	1,680	2,437	1,486	45,851
Total in work force	21,051	17,303	32,448	6,403	6,500	5,070	700	110,149
Never married	20,687	16,579	17,098	4,999	4,820	3,117	291	48,151
Married	185	1,572	15,318	25,695	23,429	22,021	1,216	141,997
Married but permanently separated	1	27	378	317	375	170	126	1,334
Widowed		8	60	209	347	1,054	277	2,215
Divorced		12	265	425	426	401	61	2,112
TOTAL IN WORK FORCE	21,051	17,303	32,448	6,403	6,500	5,070	700	110,149
Not in work force								
Never married	417	1,051	1,174	350	201	484	176	3,853
Married	8	358	4,371	1,115	1,305	1,744	1,125	20,413
Married but permanently separated		3	15	48	37	50	27	237
Widowed		1	5	25	24	174	169	336
Divorced			21	40	21	75	9	266
Total Not in Work Force	425	1,418	5,526	1,573	1,680	2,437	1,486	45,851
Total Males	21,051	17,303	32,448	6,403	6,500	5,070	700	110,149
Never married	20,687	16,579	17,098	4,999	4,820	3,117	291	48,151
Married	185	1,572	15,318	25,695	23,429	22,021	1,216	141,997
Married but permanently separated	1	27	378	317	375	170	126	1,334
Widowed		8	60	209	347	1,054	277	2,215
Divorced		12	265	425	426	401	61	2,112
GRAND TOTAL	21,051	17,303	32,448	6,403	6,500	5,070	700	110,149

(a) Includes the following numbers: Never married and aged 15-14 years: Employers, 2; Self-employed, 4; Employees (on wages or salaries), 798; Helpers (not on wages or salaries), 69. Total at work, 871. Not at work, 87; Total in work force, 958.
 (b) Includes 41,963 aged 15-14 years, 11,225 aged 15-24 years and 25,461 aged 25-44 years. (c) Includes 41,963 aged 15-14 years, 41,725 aged 15-24 years and 25,461 aged 25-44 years.

INDUSTRY OF THE POPULATION

The Census

For census purposes, industry may be defined as any single branch of production, mining, trade or service. It is concerned with the activities of persons, firms or businesses considered as a group performing the same function, performing the same process or providing the same service. All persons engaged in any such branch of enterprise, whether or not classified individually 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 all members of shipping companies and agencies, as well as ship's crews. Professional activities such as Medicine, Law and Architecture which include not only qualified professionals but also persons employed by them as, for example, typists, clerks, law clerks and draftsmen.

In the following table, the population of the 30th June, 1961, is classified according to the major industrial groups such as Primary Production, Mining and Quarrying, Manufacturing and so on, and some component sub-groups such as Fishing, Hunting and Trapping, and Agriculture and Allied Farming.

It should be noted that the population listed in under Public Authority Activities (N.F.1) are mostly figures concerning 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 numbers of persons engaged in or attached to all forms of government service. Commonwealth, State or Local. For example, employees of the Railways Commission have been assigned, in accordance with a decision contained in their service conditions, to Railway workshops, in the sub-group Manufacturing, Assembly and Repair of Ships, Vehicles, Parts and Accessories, in Motor bus sections in the sub-group Road Transport, in construction and maintenance of permanent way in the sub-group Construction Work and Maintenance other than Buildings or to Railways under Road and Air Transport. Further examples of this allocation of government workers to industries other than Public Authority Activities (N.F.1) are provided by Departments such as Education, Public Works, Postmaster General's Department, and local government authorities.

At the 1961 Census, there were 4,754 persons in the work force who failed to state their industry or profession (inadequate description) of the 275,330 persons (98.5 per cent. of the work force) who could be allocated to an industry. 18.45 per cent. were recorded as Manufacturing, 18.43 per cent. as Commerce, 14.34 per cent. as Primary Production, 11.25 per cent. as Community and Business Services (including Professionals), 9.55 per cent. as Building and Construction, 7.60 per cent. as Transport and Storage, 6.00 per cent. as Accommodation, Hotels and other Accommodation, Cafes, Personal Services, etc., 4.74 per cent. as Public Authority (not classified elsewhere) and Defence Services, 3.00 per cent. as Finance and Property, 2.80 per cent. as Mining and Quarrying, 2.73 per cent. as Communications, and 1.77 per cent. as Electricity, Gas, Water and Sanitary Services.

The total of 436,845 persons not in the work force at the 30th June, 1961 comprised 21,431 children not attending school and 240 full-time students and children attending schools, 7,443 persons of inadequate capacity, 139,068 engaged in home duties, 49,161 pensioners and invalids, 5,412 inmates of prisons and 2,476 others not engaged in industry.

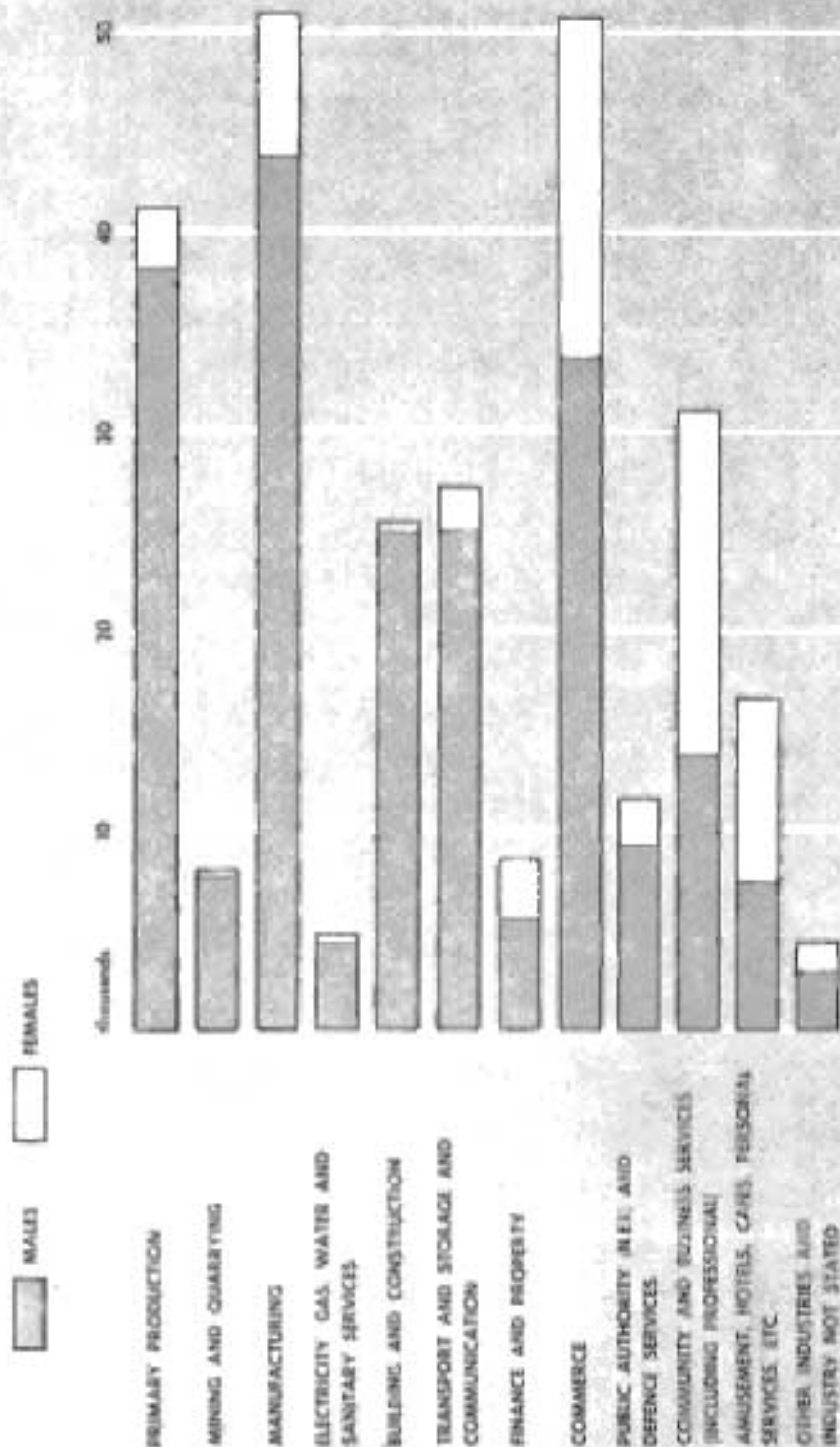
The table on pages 392 and 393 shows the geographical distribution of the work force according to industry. It provides a useful summary of the industrial structure within each of the eleven Statistical Divisions of the State as well as indicating the relative importance of the several Divisions in a particular industry. The migratory population comprises those who, at midnight between the 29th and the 30th June, 1961, were on board of passenger vessels or long-distance trains or aircraft and had not been enumerated elsewhere. Of the total of 2,453 migratory persons in the work force, 1,989 were then miners or Shoppers, 61 were naval personnel, and 61 were engaged in Road and Air Transport.

Information concerning the components of the work force according to industry, as in the table on page 394, furnishes much useful information. It is interesting to note, for example, the preponderance of employers of the self-employed in Primary Production. Of the 41,166 persons engaged in this industry at the 30th June, 1961 more than 60 per cent. were in one or other of those categories.

An analysis of the number of persons appearing in the table as 'Not at Work' shows that, of the total of 10,163 persons, 9,661 were unable to secure employment, 1,367 were absent from work on account of sickness or accident, 861 were changing jobs, 610 were temporarily laid off, and 414 were not at work for other reasons for which reason was not stated.

Industry of the Work Force

CENSUS, 30th JUNE, 1961
MALES AND FEMALES



POPULATION CLASSIFIED ACCORDING TO INDUSTRY GROUP AND SUB-GROUP
CENSUS, 30th JUNE, 1961

Industry Group and Subgroup	Male			Female			Persons			Total of Sexes (a)			Whole Male		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Primary Production															
Mining	600	11	611				1,000		1,000				1,000		1,000
Fishing and Fishing-related activities and aquaculture	1,000	100	1,100				1,100		1,100				1,100		1,100
Agriculture and allied activities	450	11	461				450		450				450		450
Stock raising	11	11	22				11		11				11		11
Dairy farming	100	11	111				100		100				100		100
Poultry farming	100	11	111				100		100				100		100
Other primary production	100	11	111				100		100				100		100
Total Primary Production	1,251	44	1,295				1,251		1,251				1,251		1,251
Manufacturing and Quarrying															
Manufacturing	1,000	100	1,100				1,000		1,000				1,000		1,000
Quarrying	100	11	111				100		100				100		100
Total Manufacturing and Quarrying	1,100	111	1,211				1,100		1,100				1,100		1,100
Construction															
Building and construction	1,000	100	1,100				1,000		1,000				1,000		1,000
Total Construction	1,000	100	1,100				1,000		1,000				1,000		1,000
Wholesale and Retail Trade															
Wholesale trade	1,000	100	1,100				1,000		1,000				1,000		1,000
Retail trade	100	11	111				100		100				100		100
Total Wholesale and Retail Trade	1,100	111	1,211				1,100		1,100				1,100		1,100
Transport and Communications															
Transport	1,000	100	1,100				1,000		1,000				1,000		1,000
Communications	100	11	111				100		100				100		100
Total Transport and Communications	1,100	111	1,211				1,100		1,100				1,100		1,100
Health, Education and Social Services															
Health	1,000	100	1,100				1,000		1,000				1,000		1,000
Education	100	11	111				100		100				100		100
Social services	100	11	111				100		100				100		100
Total Health, Education and Social Services	1,200	122	1,322				1,200		1,200				1,200		1,200
Arts, Recreation and Culture															
Arts	1,000	100	1,100				1,000		1,000				1,000		1,000
Recreation	100	11	111				100		100				100		100
Culture	100	11	111				100		100				100		100
Total Arts, Recreation and Culture	1,200	122	1,322				1,200		1,200				1,200		1,200
Other Industries															
Other industries	1,000	100	1,100				1,000		1,000				1,000		1,000
Total Other Industries	1,000	100	1,100				1,000		1,000				1,000		1,000
Total Population	11,000	11,000	22,000				11,000		11,000				11,000		11,000

QUARTER OF THE POPULATION IN STATISTICAL DIVISIONS
CENSUS, 30th JUNE, 1961

Statistical Division	Persons, Thousands	Male, Thousands	Female, Thousands	Married, Thousands	Single, Thousands	Widow, Thousands	Divorced, Thousands	Remainder, Thousands	Public Administration (N.S.I.) and Business Services	Commerce, Industry and Manufacturing Pro. Business	Armed Forces, Police, Customs, etc.	Other and in domestic areas	Total in Statistical Division	Not in the Statistical Division	Grand Total
Metropolitan	1,071	502	569	2,000	4,207	23,111	6,446	6,319	1,054	1,054	1,054	1,054	115,384	80,343	205,727
Perth	5,011	2,450	2,561	1,441	1,077	278	1,894	932	932	932	932	932	15,211	55,205	70,416
South West	6,744	3,008	3,736	1,412	2,324	2,324	2,324	2,324	2,324	2,324	2,324	2,324	31,040	16,364	47,404
South-eastern Agricultural	6,304	2,900	3,404	1,141	1,822	1,141	1,141	1,141	1,141	1,141	1,141	1,141	14,040	9,040	23,080
Central Agricultural	5,134	2,400	2,734	1,141	1,412	1,141	1,141	1,141	1,141	1,141	1,141	1,141	18,040	11,428	29,468
North-eastern Agricultural	6,198	2,900	3,298	1,141	1,822	1,141	1,141	1,141	1,141	1,141	1,141	1,141	14,040	9,040	23,080
Eastern Goldfields	1,272	600	672	1,016	256	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	7,115	11,578
Central	1,050	500	550	1,171	340	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	7,176	11,620
North West	1,100	500	600	1,171	340	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	7,176	11,620
Western	1,100	500	600	1,171	340	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	7,176	11,620
Kimberley	854	427	427	1,171	340	854	854	854	854	854	854	854	854	7,176	11,620
Regional Totals	37	17	20	34	1,171	340	340	340	340	340	340	340	340	7,176	11,620
TOTAL, WESTERN AUSTRALIA	20,440	9,712	10,728	48,000	5,422	5,422	5,422	5,422	5,422	5,422	5,422	5,422	210,316	136,408	346,724

TABLE 1.2

Metropolitan	1,071	502	569	2,000	4,207	23,111	6,446	6,319	1,054	1,054	1,054	1,054	115,384	80,343	205,727
Perth	5,011	2,450	2,561	1,441	1,077	278	1,894	932	932	932	932	932	15,211	55,205	70,416
South West	6,744	3,008	3,736	1,412	2,324	2,324	2,324	2,324	2,324	2,324	2,324	2,324	31,040	16,364	47,404
South-eastern Agricultural	6,304	2,900	3,404	1,141	1,822	1,141	1,141	1,141	1,141	1,141	1,141	1,141	14,040	9,040	23,080
Central Agricultural	5,134	2,400	2,734	1,141	1,412	1,141	1,141	1,141	1,141	1,141	1,141	1,141	18,040	11,428	29,468
North-eastern Agricultural	6,198	2,900	3,298	1,141	1,822	1,141	1,141	1,141	1,141	1,141	1,141	1,141	14,040	9,040	23,080
Eastern Goldfields	1,272	600	672	1,016	256	1,272	1,272	1,272	1,272	1,272	1,272	1,272	1,272	7,115	11,578
Central	1,050	500	550	1,171	340	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	7,176	11,620
North West	1,100	500	600	1,171	340	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	7,176	11,620
Western	1,100	500	600	1,171	340	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	7,176	11,620
Kimberley	854	427	427	1,171	340	854	854	854	854	854	854	854	854	7,176	11,620
Regional Totals	37	17	20	34	1,171	340	340	340	340	340	340	340	340	7,176	11,620
TOTAL, WESTERN AUSTRALIA	20,440	9,712	10,728	48,000	5,422	5,422	5,422	5,422	5,422	5,422	5,422	5,422	210,316	136,408	346,724

Source	df	SS	MS	F	p	η^2	df	SS	MS	F	p	η^2	df	SS	MS	F	p	η^2
Corrected Total	100	100.000	1.000				100	100.000	1.000				100	100.000	1.000			
Corrected Model	10	10.000	1.000	10.000	.000	.100	10	10.000	1.000	10.000	.000	.100	10	10.000	1.000	10.000	.000	.100
Intercept	1	90.000	90.000	90.000	.000	.900	1	90.000	90.000	90.000	.000	.900	1	90.000	90.000	90.000	.000	.900
Factor 1	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 2	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 3	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 4	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 5	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 6	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 7	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 8	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 9	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010
Factor 10	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010	1	1.000	1.000	1.000	.317	.010

[illegible]

(2) 6,780 1989 arrivals (adult passengers and crew) had edgewise-angled occlusal wear index, at edgewise faceting (top 50th and 90th) (see Table 100), more or less equaling or exceeding 10 units or more.

INDUSTRY AND OCCUPATIONAL STATUS OF THE POPULATION CENSUS 1966 JUNE, 1966

14 Week Period

Industry Group	In Work				Not in Work	Total in Work Force	Proportion in each industry group per cent.
	Employer	Self-employed	Employees on basis of Salary	Retiree (not on basis of Salary)			
Males							
Primary Production	6,155	18,254	14,781	875	1,017	39,069	17.55
Mining and Quarrying	85	111	7,102	9	54	7,361	3.52
Manufacturing	1,816	1,726	30,155	9	1,054	33,811	16.24
Electricity, Gas, Water and Sanitary Services	14	11	4,115		55	4,180	2.05
Building and Construction	1,064	1,011	16,736	16	1,087	18,850	9.04
Transport and Storage	517	1,540	17,251	10	507	19,825	9.51
Communication	4	16	5,299		20	5,319	2.57
Finance and Property	245	192	4,175	1	55	4,663	2.25
Commerce	3,929	2,713	28,239	14	813	35,708	17.58
Public Authority (N.S.I.) and Defence Services			5,184		64	5,248	2.59
Community and Business Services (including Professional)	1,714	575	11,797	75	127	13,268	6.42
Amusement, Health, Culture, Personal Services, etc.	1,707	1,060	4,554	19	770	7,100	3.44
Other (a)	22	90	774	15	1,002	1,893	0.93
Total Males in Work Force	17,595	25,614	194,211	1,208	7,914	246,628	100.00

FEMALES

Primary Production	888	1,174	58	410	13	2,533	4.03
Mining and Quarrying	1	1	138		133	272	0.44
Manufacturing	245	175	8,876	28	287	9,531	15.58
Electricity, Gas, Water and Sanitary Services	2	1	574		7	582	0.94
Building and Construction	71	19	571	4	59	615	1.00
Transport and Storage	54	16	917	3	7	930	1.50
Communication	1	13	932	3	14	943	1.53
Finance and Property	32	21	2,374	1	16	2,424	3.92
Commerce	1,945	779	18,177	144	426	20,471	33.37
Public Authority (N.S.I.) and Defence Services			2,779		12	2,791	4.59
Community and Business Services (including Professional)	1,111	116	19,560	31	275	20,093	33.48
Amusement, Health, Culture, Personal Services, etc.	1,011	719	11,181	113	809	12,724	20.86
Other (a)	13	12	100	5	544	670	1.10
Total Females in Work Force	5,336	3,991	53,151	686	2,344	60,168	100.00

PERSONS

Primary Production	7,043	19,428	14,839	1,285	1,030	41,605	14.72
Mining and Quarrying	86	112	7,240	9	54	7,401	2.63
Manufacturing	2,061	1,901	38,931	12	1,081	43,986	16.21
Electricity, Gas, Water and Sanitary Services	15	12	4,689		61	4,757	1.76
Building and Construction	1,085	1,030	17,307	16	1,091	19,429	7.20
Transport and Storage	518	1,556	17,164	13	514	19,761	7.40
Communication	5	16	5,311		20	5,352	2.01
Finance and Property	245	192	4,175	1	55	4,669	1.76
Commerce	3,929	2,713	28,239	14	813	35,708	13.55
Public Authority (N.S.I.) and Defence Services			5,184		64	5,248	1.98
Community and Business Services (including Professional)	1,814	575	11,817	74	127	12,597	4.86
Amusement, Health, Culture, Personal Services, etc.	1,707	1,060	4,554	19	770	7,100	2.75
Other (a)	22	90	774	15	1,002	1,893	0.73
Total in Work Force	22,931	30,605	247,395	1,224	7,914	279,784	100.00

(a) Comprises the groups "Other Industries" and "Industry Inadequately Described or Not Stated."

Estimates of Employment

In addition to employment data provided by the census, there are available monthly estimates of the number of wage and salary earners in civilian employment, excluding employees in rural industry (comprising agriculture, grazing and shearing) and private domestic service.

The figures appearing in this section, and in the *Statistical Summary from 1929* following this Chapter, are part of a new series which replaces entirely that published in the *Official Year Book of Western Australia* No. 1, 1930, and No. 3, 1932. The prime purpose of the new series is the same as that of the previous

series in that it aims to measure currently, and as nearly as possible with available data, monthly trends in employment in the defined field.

Although covering virtually the same part of the work force, the new series, in addition to incorporating revised estimates, differs from the old in the classification of some industries and in being based on comprehensive "benchmark" data derived for the purpose from the Population Census of June 1954 and June, 1961. Figures for periods between and subsequent to the two benchmark points in time are estimates obtained from three main sources, (i) Pay-roll Tax returns, which are lodged by all employers paying more than £200 per week in wages, other than those specifically exempted under the Pay-roll Tax Assessment Act 1941-1963, (ii) returns from government bodies, and (iii) some other direct current records of employment, e.g. for hospitals. The data thus derived are supplemented by estimates of the change in number of wage and salary earners not covered by these collections. As they become available, particulars of employment obtained from other collections, notably the annual factory census (see Chapter VII, Part 2) and the censuses and sample surveys of retail establishments, are used to check and, where desirable, to revise estimates in relevant sections.

The terms *employment*, *number employed*, *employees* and *wage earners* as used here are synonymous with, and relate to, wage and salary earners on pay-rolls or in *employment* in the latter part of each month, as distinct from numbers of employees *actually working* on a specific date. Some persons working part-time are included.

The estimated monthly figures are derived mainly from reports supplied by employers on an enterprise or establishment basis. The benchmark figures are derived from personal particulars supplied by individual respondents on population census schedules. However, the industry classifications of census information have been adjusted, as nearly as may be, to an "enterprise establishment" reporting basis. The industry classification used is that of the Population Census of June, 1961.

Employees in rural industry and in private domestic service are not included in the estimates because the available data are inadequate.

WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT

Excluding Employees in Rural Industry and Private Domestic Service, and Defence Forces

(Thousands)

Year	Month												Average for year ended—	
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	June	Dec
MALES														
1955	143.1	143.1	144.5	145.5	144.5	144.5	144.2	143.1	142.2	141.7	141.1	140.0	143.1	141.6
1956	146.4	147.2	147.5	146.9	147.5	147.5	147.0	146.3	145.1	143.7	142	140.4	146.4	149.4
1957	149.1	149.6	149.4	149.4	149.2	149.5	148.5	147.0	145.7	144.0	142.5	140.8	149.1	152.0
1958	151.6	152.1	151.1	150.5	150.4	150.7	150.4	149.1	147.4	145.4	143.7	142.1	151.6	154.9
1959	154.2	154.4	153.0	152.1	152.5	152.4	151.4	150.0	148.2	146.2	144.0	142.5	154.2	158.2
1960	156.1	156.5	155.0	154.0	154.5	154.2	153.2	151.8	149.9	147.7	145.4	144.0	156.1	160.1

FEMALES

1955	41.5	41.9	42.2	42.0	41.9	41.5	41.1	40.2	39.2	38.2	37.5	36.9	41.5	40.2
1956	42.7	43.0	43.1	42.7	42.8	42.4	41.9	41.1	40.1	39.1	38.2	37.4	42.7	44.5
1957	43.9	44.2	44.2	43.8	43.9	43.7	43.1	42.2	41.1	40.1	39.2	38.4	43.9	45.7
1958	45.1	45.4	45.2	44.8	44.9	44.6	44.1	43.2	42.1	41.1	40.2	39.4	45.1	47.0
1959	46.4	46.7	46.4	46.0	46.1	45.8	45.3	44.4	43.3	42.3	41.4	40.6	46.4	48.3
1960	47.6	47.9	47.6	47.2	47.3	47.0	46.5	45.6	44.5	43.5	42.6	41.8	47.6	49.5

PERSONS (%)

1955	185.9	185.0	186.5	187.5	186.2	186.0	185.3	184.4	183.4	182.4	181.4	180.4	185.9	184.7
1956	188.1	188.6	188.6	187.8	188.0	187.9	187.0	186.1	184.9	183.6	182.4	181.4	188.1	191.9
1957	190.4	190.8	190.6	190.2	190.3	190.2	189.3	188.2	187.0	185.7	184.5	183.5	190.4	194.2
1958	192.6	193.0	192.7	192.2	192.3	192.0	191.2	190.1	188.8	187.5	186.3	185.3	192.6	196.4
1959	194.8	195.1	194.8	194.4	194.5	194.2	193.4	192.2	191.0	189.7	188.5	187.5	194.8	198.6
1960	196.9	197.2	196.9	196.5	196.6	196.3	195.5	194.3	193.0	191.7	190.5	189.5	196.9	200.7

(a) The figures show the percentage of total in all cases but equal to the sum of the numbers of Males and Females. Any work done in parentheses is due to rounding in thousands.

WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT: INDUSTRY GROUPS
 Excluding Employees in Rural Industry and Private Domestic Service, and Defence Forces
 (Thousands)

INDUSTRY GROUPS AND SUB-GROUPS	June 1963	June 1964	June 1965	June 1966	June 1967	June 1968
MALES						
Forestry, Fishing and Trapping	1.8	1.6	1.8	1.6	1.5	1.1
Mining and Quarrying	5.0	3.9	3.0	2.3	2.1	2.1
Manufacturing	41.3	40.7	40.5	42.4	44.1	46.0
Electricity, Gas, Water and Sanitary Services	4.1	4.4	4.6	4.8	4.9	5.2
Building and Construction	20.2	18.4	18.6	20.0	20.0	21.2
Transport and Storage						
Road transport and storage	5.8	4.2	4.2	4.7	4.3	4.5
Shipping and stevedoring	4.0	4.1	4.1	4.9	4.0	4.1
Rail and air transport	6.8	3.9	3.8	2.8	2.0	2.6
Communication	1.5	1.5	1.5	1.3	1.3	1.3
Finance and Property						
Banking	2.4	2.6	2.7	2.7	2.9	3.1
Other	1.7	2.3	2.4	2.4	2.7	2.8
Commerce						
Retail trade	12.1	14.4	14.6	16.0	16.1	16.2
Wholesale and other commerce	10.7	11.7	11.6	11.9	11.6	11.5
Public Authority Activities, not elsewhere included	7.1	7.1	7.0	7.2	7.0	7.3
Other Industries						
Health, hospitals, etc.	1.2	2.7	2.8	2.9	3.1	3.4
Education	3.0	4.1	4.2	6.2	6.4	6.1
Other (a)	8.0	8.0	8.0	9.1	9.4	9.7
Total	144.5	147.5	148.5	156.7	158.4	164.2

FEMALE

Forestry, Fishing and Trapping	0.2	0.1	0.2	0.2	0.2	0.2
Mining and Quarrying	0.7	0.3	0.1	0.7	0.1	0.1
Manufacturing	0.3	0.2	0.1	0.1	0.1	0.2
Electricity, Gas, Water and Sanitary Services	0.2	0.2	0.2	0.3	0.3	0.5
Building and Construction						
Road transport and storage	0.2	0.1	0.1	0.4	0.4	0.2
Shipping and stevedoring	0.2	0.2	0.2	0.2	0.2	0.2
Rail and air transport	0.4	0.1	0.1	0.1	0.1	0.1
Communication	0.9	1.0	1.0	1.0	1.0	1.1
Finance and Property						
Banking	0.4	1.1	1.1	1.2	1.3	1.4
Other	1.1	1.8	1.8	1.8	2.1	2.2
Commerce						
Retail trade	10.1	11.6	11.5	12.3	12.2	12.0
Wholesale and other commerce	1.5	1.2	1.1	1.1	1.4	1.1
Public Authority Activities, not elsewhere included	2.1	2.1	2.2	2.3	2.5	2.5
Other Industries						
Health, hospitals, etc.	0.1	0.5	0.4	0.8	0.6	0.4
Education	0.8	1.6	1.5	3.1	3.1	3.9
Other (a)	1.2	2.5	2.2	3.1	3.7	3.2
Total	43.1	50.4	51.8	53.1	55.5	58.5

PERSONS

Forestry, Fishing and Trapping	1.8	1.6	1.8	1.1	1.6	1.4
Mining and Quarrying	5.6	3.6	2.2	2.4	2.2	2.2
Manufacturing	48.0	47.2	40.7	49.1	51.8	53.5
Electricity, Gas, Water and Sanitary Services	4.4	4.6	4.8	5.1	5.2	5.4
Building and Construction	20.4	18.6	18.8	20.1	20.9	21.9
Transport and Storage						
Road transport and storage	4.1	2.6	2.6	5.1	2.8	2.6
Shipping and stevedoring	4.2	4.1	4.1	4.1	3.1	3.3
Rail and air transport	2.2	3.2	3.1	2.2	1.0	1.9
Communication	1.5	1.5	1.5	1.3	1.3	1.3
Finance and Property						
Banking	2.2	2.1	2.2	2.2	2.3	2.5
Other	2.1	4.1	4.2	4.2	4.4	5.0
Commerce						
Retail trade	22.6	26.0	26.1	28.3	28.1	28.1
Wholesale and other commerce	14.2	14.3	14.9	14.6	15.1	15.1
Public Authority Activities, not elsewhere included	9.1	9.2	9.2	9.5	9.2	10.1
Other Industries						
Health, hospitals, etc.	0.9	1.2	1.1	2.2	1.7	1.2
Education	0.9	9.3	10.0	10.0	11.2	11.5
Other (a)	15.7	11.2	12.1	17.1	18.1	19.2
Total	169.4	197.4	198.7	208.1	214.3	222.9

(a) Figures do not in all cases add to the totals shown owing to rounding to thousands.

(b) See Appendix on page 397.

In the previous table the figures appearing against the item, "Other," under the heading "Other Industries" comprise employees in the Industries Sub-groups *Law, Order and Public Safety, Religion and Social Welfare, Other Communities and Business Services, Government, Sport and Recreation, Hotels, Boarding Houses and other Accommodation, and Restaurants* and *Other Personal Services*.

Employees of government and semi-government authorities are included in the figures shown in the previous table. 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, banas, 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 as defined is shown for time in each of the years from 1954 to 1964.

GOVERNMENT AUTHORITIES—CIVILIAN EMPLOYEES IN WESTERN AUSTRALIA
(Thousands)

Date	Commonwealth (a)			State (a, b)			Local Government (c)			Total		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
1954	8.8	2.1	10.9	32.1	8.6	40.7	1.1	0.2	1.3	42.0	9.2	52.9
1955	8.9	2.2	11.1	32.4	8.5	40.9	1.4	0.2	1.6	44.7	9.6	54.3
1956	9.0	2.2	11.2	32.5	8.5	41.0	1.4	0.2	1.6	46.3	9.9	56.2
1957	9.0	2.2	11.2	31.8	8.4	40.2	1.3	0.2	1.5	44.4	9.8	54.2
1958	9.1	2.2	11.3	32.8	8.5	41.3	1.5	0.2	1.7	45.4	10.1	55.5
1959	9.2	2.3	11.5	40.4	7.1	47.5	1.7	0.2	1.9	53.7	10.6	64.3
1960	9.3	2.3	11.6	48.7	7.5	56.2	1.7	0.2	1.9	61.7	10.8	72.5
1961	9.4	2.4	11.8	50.3	7.2	57.5	1.7	0.2	1.9	63.3	11.0	74.3
1962	9.4	2.4	11.8	51.4	7.7	59.1	1.8	0.2	2.0	65.0	11.6	76.6
1963	10.2	2.5	12.7	59.1	8.0	67.1	1.9	0.2	2.1	73.2	11.9	85.1
1964	10.3	2.6	12.9	59.9	8.5	68.4	1.9	0.2	2.1	74.8	12.3	87.1

(a) Includes employees of semi-government authorities in the mining and other industries.

(b) Excludes a small number of employees engaged in the mining industry.

OCCUPATIONS OF THE POPULATION

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, and as a service and is not concerned with the nature of personal performance.

The following table shows the proportion of the work force in Western Australia in each of the major groups of occupations, as recorded at the Census of 30th June, 1961.

OCCUPATION PROPORTIONS OF THE WORK FORCE IN EACH MAJOR GROUP
(CENSUS, 30th JUNE, 1961)

Major Occupational Group	Proportion of Total (per cent)		
	Males	Females	Persons
Professional, Technical and Related Workers	8.1	16.1	9.7
Administrative, Executive and Managerial Workers	7.2	1.2	4.3
clerical Workers	7.8	18.0	12.5
Service Workers	1.7	10.5	7.5
Farmer, Fisherman, Hunter, Timber Worker and Related Workers	15.0	4.0	10.0
Machine Operatives and Related Workers	2.5	—	1.5
Workers in Transport and Communication Occupations	9.5	1.2	7.1
Workers in Industry and Process Workers and Labourers (a)	38.5	7.1	31.8
Service, Sales and Recreation Workers	1.1	20.1	7.5
Members of Armed Services, Unarmed Personnel	1.0	0.1	0.6
Unemployed Individuals (b) Unemployed or Not Stated	0.7	1.5	0.8
Total in Work Force	100.0	100.0	100.0

(a) i.e., excludes "not elsewhere classified."

OCCUPATIONS OF THE POPULATION
CENSUS, 2004 JULY 1, 2001—continued[illegible][illegible]

CHAPTER X—continued

PART 2—WAGES

THE BASIC WAGE

The concept of a "basic" or "living" wage occurs commonly in the determinations of wage-fixing authorities in Australia, although it may vary in definition. Originally the term was understood to mean the minimum or "basic" wage necessary to provide a reasonable standard of comfort for the average worker and his family. In later years, however, economic factors have been taken into account and, in determining specified minimum rates of wage, consideration has been given to the capacity of industry to pay those rates.

There are two tribunals which have authority to declare basic wage rates applicable in Western Australia. They are the Commonwealth Conciliation and Arbitration Commission, constituted under the provisions of the Conciliation and Arbitration Act 1904-1964, and The Western Australian Industrial Commission, which functions under authority of the Industrial Arbitration Act, 1912-1963.

By an amendment of 1949 to the Commonwealth Conciliation and Arbitration Act, the basic wage for an adult male worker is defined as "that wage, or that part of a wage, which is just and reasonable for an adult male, without regard to any circumstance pertaining to the work upon which, or the industry in which, he is employed." The Act contains a similar definition of a basic wage for females. Before the inclusion of this amendment, the Act empowered the Court to prescribe a "minimum rate of wage" but it neither defined, nor provided for the determination of, a specific "basic wage." In general terms, however, the basic wage was understood to be identifiable as the minimum wage, including "loadings," payable to an adult unskilled labourer. A "loading" may be defined as an addition to the "basic" wage as compensation for some peculiar condition of labour or environment or other circumstances, and not by way of "margin for skill."

The Industrial Arbitration Act, 1912-1963 (State) defines the basic wage as "a wage which the Commission considers to be just and reasonable for the average worker to whom it applies." The Commission must have regard to the needs of the worker to enable him to live in reasonable comfort. By an amendment of 1960 the Commission is required to take into consideration the economic capacity of industry but, in so doing, shall not reduce the basic wage below an amount which it deems necessary to maintain this reasonable standard of comfort.

Industrial Authorities

A Commonwealth Court of Conciliation and Arbitration was established under the provisions of the Commonwealth Conciliation and Arbitration Act of 1904. By an amendment made to the Conciliation and Arbitration Act in 1960 the Commonwealth arbitration system was reorganised by the creation of two separate authorities to deal with matters wholly 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.

The Commonwealth Industrial Court consists of a Chief Judge and four 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 agreed to 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.

The Commonwealth Conciliation and Arbitration Commission, according to the provisions of the Conciliation and Arbitration Act 1904-1964, 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 the 31st December 1964 there were, in addition to the President and the Senior Commissioner, five Deputy Presidents, ten Commissioners, and three Conciliators. Generally, this authority's jurisdiction is limited to the prevention or settlement, by conciliation or arbitration, of industrial disputes which affect beyond the limits of any one State, but the Commission is authorised to accept jurisdiction in respect of any dispute in industrial matter associated with Commonwealth Government undertakings or projects. The power to make awards or certify agreements concerning standard hours, basic wage 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 at Melbourne, Victoria, and there is a Deputy Industrial Registrar in each State.

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 the 1st February, 1964, by the Western Australian Industrial Appeal Court and The Western Australian Industrial Commission, authorities constituted in terms of the Industrial Arbitration Act Amendment Act (No. 2), 1963.

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, power 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* consists of a Chief Industrial Commissioner and three 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 Act requires that basic wage determinations shall be made by the Commission in Court Session.

Commonwealth Basic Wage

The first determination of a wage standard by a Court in Australia was made in 1907, when Mr. Justice Higgins, President of the Commonwealth Court of Conciliation and Arbitration, fixed an amount of £2 2s. per week for Melbourne as reasonable to meet the needs of "a family of about five." This determination is commonly referred to as the "Harvester Judgment" from the fact that it related to an application by the proprietors of the Sunshine Harvester Works that the wage paid to their employees was "fair and reasonable."

The "Harvester" standard was adopted by the Court for incorporation in its awards and the rates remained virtually unchanged until 1913. In that year the Court began to have regard to retail price index numbers the first of which, the "A" series, covering food and groceries and rent of all houses, had recently been published by the Commonwealth Statistician. In general, the practice was to revise basic wage rates in direct proportion to variations in the retail price index. Until 1918 the Court, in computing "Harvester" equivalents, used the index numbers for the previous calendar year and, from 1918 to 1921, the figures for the next preceding four quarters.

During the period of application of this system, it was frequently contended that it failed to maintain the "Harvester" standard. Criticism became more general with the rise in prices towards the end of the first World War and led to the appointment in 1919 of a Royal Commission on the Basic Wage under the chairmanship of A. B. Piddington, K.C. The "Piddington Commission," as it came to be called, was required by its terms of reference to inquire into the actual cost of maintaining in a reasonable state of comfort a household comprising a man and his wife and three children under fourteen years of age, and also the means to be adopted for the automatic adjustment of the basic wage in order to maintain its purchasing power. The Commission presented its findings in two reports, the first of which was made in November, 1920, and the second in April, 1921. The recommendations in relation to a living wage were rejected by the Court as being so much in excess of existing wages as to cause doubt about the capacity of industry to pay such rates. The Commission's finding in regard to the automatic adjustment of the basic wage led to the creation of the "C" Series Index of Retail Prices, an index much more comprehensive in scope than the original "A" Series in that it included the additional groups Clothing and Miscellaneous Expenditure.

In 1921, the Court began to index (or index) awards for the automatic adjustment of wages according to quarterly movements in the "A" Series index, and a loading of 2s. was added to the "Harvester" equivalent by Mr. Justice Fyfe to ensure that during a period of rapidly rising prices the worker would suffer no loss of real wages in the interval between the adjustments of rates.

The method of fixation and adjustment remained unaltered until the depression of the 1930's, when the Court, having satisfied itself that unfavourable economic conditions prevented the maintenance of real wages at their rising level, directed that, with certain exceptions, all wages under its jurisdiction should be reduced by ten per cent. as from the 1st February, 1931.

In its judgment of May, 1931, the Court concluded that the method of adjusting wages to conform to variations in the "A" Series index had resulted in a decrease of real wages to a level below the prescribed percentage. To correct this decline, it adopted the use of the "D" Series index, derived by combining the "A" and the "C" Series indexes.

In a judgment delivered in April, 1933, the Court introduced an entirely new basis for the fixation of the basic wage. The "Harvester" standard supplemented by the Provisional Loading of 2s. was discarded and a fresh starting point selected. The basic wage was (20s.) founded upon a declaration of 11 sh. per week made by the New South Wales Board of Trade in August, 1933. As this amount took into consideration the upward tendency of prices, the Court regarded the rate as applicable to the year 1933. The "C" Series index number for Sydney for that year was 1,033, and for the December quarter of 1933 about 1,029. Thus the 1933 equivalent in purchasing power of an amount of 55 sh. in 1926 was £3 7s., to the nearest shilling 28s. = 529 = 1,033, which became the rate applicable in Sydney from the 1st May, 1934. The equating of this wage to the index number 1,000 re-established the relationship 1,000 in the "C" Series Index = 11 sh. in the wage (27s. = 1,000 = 829, to the nearest shilling) and by applying the multiplying factor to the "C" Series index number for any town or group of towns at any time, the wages in different parts of the country could be readily computed. Owing to adverse industrial conditions in South Australia and Queensland, the new rates for Adelaide and Hobart were graduated so as not to come into full operation until the 1st June, 1935. The date on which future periodical adjustments were to become operative was altered to the beginning of the first pay period in the months of June, September, December or March, and adjustments were continued on this basis until 1948. Thereafter they took effect from the beginning of the first pay period corresponding to the months of September, May, August or November, until their abolition by the Court in its judgment of the 12th September, 1953.

The hearing of a claim by two combined miners for an increase in the basic wage was conducted in June, 1937. The Court, in fixing a new rate, transferred the basis of the adjustment of wages from the "C" Series to a special "Cost" Series based upon the relationship between wages and index numbers which had been established in 1934. This Court Series was, in effect, simply a table expressing in shillings the wage rates derived by the use of the conversion factor 0.061. The Court's judgment further provided for the addition of "group-rate loadings" in the rates so derived, which came to be designated the "needs portion" of the wage. The amount of the loading applied to the "needs" wage for Sydney, Melbourne and Brisbane was 6s. for Sydney, Perth and Hobart, 4s. for the six capital cities as a whole, 3s.

In general, the method of the 1937 judgment was retained by the Court until its "historic" decision of the 12th December, 1948 when, in granting an increase of 1s. per week in the "needs" portion of the wage, it designated a Cost Index (Planning Series). In fixing the base of this new series, the "C" Series index number 1,110 for the six capital cities as a whole in the September quarter, 1948 was equated to the "needs" portion (13) of the new six capital cities wage. This established the base, 1,000 in the "C" Series Index = 1s. 7s. in the wage. The immediate monetary effect was an increase by 2s. per week in the "needs" wage in each of the capital cities with the exception of Hobart, where the increase was 6s. The prospective loadings were retained at their original levels.

On the application early in 1949 of certain unions seeking, among other things, an increase in the basic wage the Court, after an exhaustive examination of the Australian economy, ordered a general increase of 11 per cent. Judgment was delivered on the 17th October, 1949, the new rate to be operative from the first pay period in December. The Court also established a Cost Index (Third Series), derived by equating 171 sh. = 1,000 in the "C" Series index number for the six capital cities as a whole in the September quarter, 1948 to 17 sh. the national weighted average wage for the six capital cities made up of the "needs" portion 6s. 7s., plus a uniform prosperity loading of 2s. plus the additional 11 awarded by the Court. In this way, 1,000 in the "C" Series index number equal 1s. 11 sh. in the wage. In determining the new rate of payment, a uniform amount of 11 sh. was added to the existing "needs" basic wage, with the

concurrent discontinuance of the prosperity loading as a separate entity. This had the effect of increasing the basic wage in Sydney, Melbourne and Brisbane by 19s., in Adelaide, Perth and Hobart by £1 1s., and for the six capital cities as a whole by £1 1s. From, and including, the first pay-period in February, 1951, the rates so determined were to be subject in their entirety to quarterly adjustment in accordance with movements in the Cost Index (Third Series). Thus the components "needs portion" and "prosperity loading" ceased to exist as separate and distinguishable parts of the wage.

Following applications by employers' organizations requesting, among other things, "that the system of adjusting the basic wages in accordance with variations occurring in retail price index numbers be abandoned" and counter claims by employees' organizations for increases in the basic wage for adult males, the Court on the 16th September, 1952 commenced hearing evidence in what has come to be known as the "Basic Wage and Standard Hours Inquiry, 1952-53." Submission of evidence continued intermittently until the 11th September, 1953, and on the following day the Court announced its decision. The application for discontinuance of the system of adjusting the basic wages in accordance with variations in the retail price index numbers was granted but all of the other applications were refused. On the 27th October, in stating the reasons for its decision, the Court made it clear that, as in its opinion there should be no departure from "its now well-established principle that the basic wage should be the highest that the capacity of the community as a whole can sustain" and as it had "withdrawn from relating the basic wage to the fulfilment of any particular standard of needs," the Court "finds it impossible to justify the continuance of an 'automatic' adjustment system, whose purpose is to maintain the purchasing power of a particular wage measured with regard to the capacity of industry to pay such wage in 1950." In consequence, the wage rates which had applied from the beginning of the first pay-period commencing in August, 1950, continued to operate.

In November, 1953, application was made to the Court by certain employees' organizations seeking an alteration of the basic wage. Among matters included in the application were requests that the wage be increased to the amount which it would have reached if automatic quarterly adjustments, discontinued since September, 1953, had continued to apply, that the wage be raised by a further £1, and that automatic quarterly adjustments be restored. In the course of the hearing the Attorney General, in exercise of powers conferred by the Conciliation and Arbitration Act, intervened in the public interest on behalf of the Commonwealth and each of the State Governments was represented by counsel or by a State official. In its judgment, delivered on the 25th May, 1956, the Court refused the first of the unions' claims and rejected the request for the restoration of the quarterly adjustments, but granted an increase of 10s. per week in the adult male basic wage to apply from the beginning of the first pay-period commencing in June, 1956.

The next basic wage hearing commenced before the newly constituted Commonwealth Conciliation and Arbitration Commission on the 18th November, 1956. The unions' claims were substantially the same as in the previous case except that the clause relating to an increase of £1 in the basic wage was not included. Again the Commonwealth Government intervened in the public interest and representatives of the South Australian and Victorian State Governments appeared before the Commission. In its judgment on the 29th April, 1957, the Commission rejected the claims made by the unions and granted a uniform increase of 10s. per week in the adult male basic wage to apply from the beginning of the first pay-period commencing on or after the 15th May, 1957.

On the 18th February, 1958, the Commission began hearing an application by unions claiming that the basic wage be increased to the amount which it would have reached had the system of quarterly adjustments been retained plus an addition of 10s. per week, and that the resultant wage be subsequently varied by quarterly adjustment. The claims were opposed by the States of South Australia but Tasmania, the only other State represented, appeared in support of the unions' application. The Attorney General of the Commonwealth intervened in the public interest. In delivering judgment on the 12th May, 1958, the Commission refused the claim for restoration of automatic quarterly adjustments but granted an increase of 5s. per week in the adult male basic wage, to come into effect from the beginning of the first pay period commencing on or after the 21st May, 1958.

At the 1958 inquiry, which opened on the 20th February, the unions' claims were the same as those submitted in the previous case. The States of South Australia and Tasmania were again represented, South Australia opposing all the claims and Tasmania supporting those for an increase in the basic wage to the amount which it would have reached had the system of quarterly adjustments been retained and for restoration of the system. The Commonwealth Attorney-General intervened. On the 5th June,

1959 the Commission delivered judgment and granted an increase of 15s. per week in the basic wage for adult males, the new rate to operate from the beginning of the first pay-period commencing on or after the 11th June, 1959. All other claims were rejected. An application which had been made on behalf of employers in the pastoral industry seeking a reduction of £1 5s. in the basic wage payable to pastoral workers was also refused.

On the 16th February, 1960, the Commission began hearing an application by the unions for the restoration of quarterly adjustments to the basic wage and for an increase in the amount of the wage. On the six capital cities rate the increase sought was £1 2s. per week, representing an addition of 5s. to restore the real value of the wage to its 1953 level, and a further amount of 17s. being the unions' minimum estimate of the increase in productivity which had occurred since the automatic adjustment system was discontinued. The Commonwealth Government intervened and all States except New South Wales were represented. The State of South Australia opposed the unions' application. Victoria, Queensland and Western Australia, while presenting information to show how their finances would be affected by wage increases, neither supported nor opposed the claims. Tasmania supported the application for restoration of quarterly adjustments. In its judgment, delivered on the 12th April, 1960, the Commission refused the unions' application.

On the 14th February, 1961 the Commonwealth Conciliation and Arbitration Commission began hearing applications by employer and employee organizations. The employers sought an increase in standard hours of work from 40 to 42 with a concomitant increase in the weekly wage by an amount equivalent to two hours' pay at ordinary rates. The unions claimed an increase of £2 9s. in the wage on a "six capital cities" basis, and the reintroduction of automatic quarterly adjustments in accordance with movements in the "C" Series Retail Price Index. The amount claimed consisted of two components, one of £1 2s. representing the increase in productivity since 1953 and the other of £1 7s. (which was amended in the course of the hearing to £1 10s.) to cover "cost of living" increases since that time.

The Commonwealth Government, while supplying certain economic and statistical material, expressed no attitude apart from its opposition to the reintroduction of quarterly adjustments. All States except New South Wales were represented. South Australia made no submissions and called no evidence. Victoria, Queensland and Western Australia, although presenting some statistical information, neither supported nor opposed the unions' application. Tasmania supported the claim for restoration of automatic adjustments and an increase in the wage to the level indicated by the movement in the "C" Series Retail Price Index.

Judgment was delivered on the 4th July, 1961. The Commission refused the application of the employers, and the unions' claim for restoration of quarterly adjustments, and granted an increase of 12s. per week in the basic wage for adult males, to apply from the beginning of the first pay-period commencing on or after the 7th July, 1961. Among the decisions contained in the judgment was one stating, in part, that "in February next the only issue in regard to the basic wage should be why the money wages fixed as a result of our decision should not be adjusted in accordance with any change in the Consumer Price Index^(†) and for the purpose of deciding that issue the Order giving effect to the decisions hereby announced will also provide for the adjournment of the application of the unions for increase of the basic wages under the Metal Trades Award to Tuesday, 20th February, 1962 . . .".

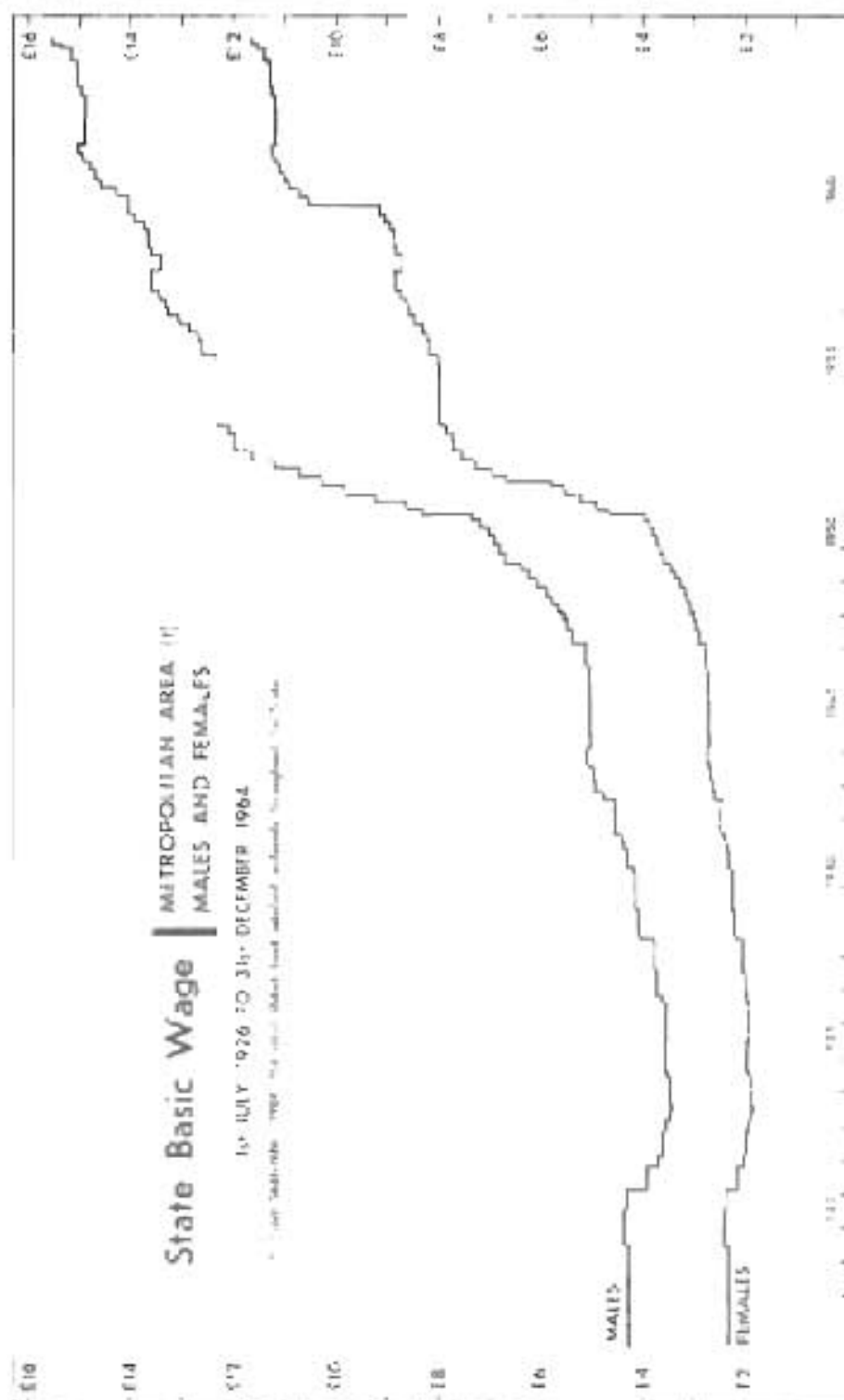
In accordance with this decision the adjourned hearing was held on the 20th February, 1962, when the Commission decided that "there will be no alteration in the amounts of the existing basic wages until further order of the Commission," and that "the application before the Commission is further adjourned until 19th February 1963."

The Commission, after a sitting on the 5th February, 1963, announced that there would be no alteration in the existing basic wage rates and further adjourned the application until the 18th February, 1964.

On the 9th June, 1964, after a hearing which began on the 19th February and ended on the 14th May, the Commission gave judgment granting an increase of £1 per week in the basic wage payable to adult males from the beginning of the first pay-period commencing on or after the 19th June, 1964. The unions' application for restoration of automatic quarterly adjustments of the basic wage was rejected.

The table on page 405 shows variations, during the period from 1941 to 1964, in the Commonwealth basic wage rates payable to adult male workers in each capital city. The rates based on the weighted average for the six capital cities are also shown.

[†] See letterpress *The Consumer Price Index* in Chapter X, Part 3—*Retail Prices*.



State Basic Wage

Under the provisions of an amendment of 1925 to the Industrial Arbitration Act, 1912, the Court of Arbitration was required to declare a basic wage periodically, to operate from the 1st July in each year. In 1930, the Court was empowered by another amendment to the Act to adjust the annual declaration each quarter in consonance with "the variation of prices in the cost of living." A further amendment in 1930 removed the obligation to make an annual declaration and conferred discretionary power to make basic wage determinations at any time, such reviews to be at intervals of not less than twelve months. The provision for quarterly adjustments was retained. State basic wage determinations are automatically applicable and thus become the minimum wage payable by law to be paid to all male and female workers who are covered by industrial awards or registered agreements and to those who come within the provisions of the Factories and Shops Act.

The first decision of the Court took effect on the 1st July, 1925, and prescribed a rate of £4 5s. for males and £2 5s. 11d. for 54 per cent of the male rate, for females throughout the whole of the State. In fixing the male rate, the Court divided the wage into four elements and allowed such amounts for each as to meet the requirements of a family unit of four, comprising a man, his wife and two children. For Food and Groceries the amount was the equivalent of the Piddington Commission's standard but reduced to provide for a family unit of four; for Rent, the average rental of four and five roomed houses; for Clothing, an amount approximating the sum fixed for such expenditure by the New South Wales Board of Trade in 1925, and for Miscellaneous Expenditure, an amount based on the Piddington Commission's findings.

These rates remained unaltered until the 1st July, 1930, when the amounts were increased to £4 1s. and £2 7s. respectively, with the exception of certain specified goldfields areas for which the previous wage was retained.

A revision by the Court following the 1930 inquiry resulted in the declaration of a separate wage for the metropolitan area of £4 6s. for males and £2 6s. 5d. for females. In this connexion, the metropolitan area is the area comprised within a radius of 15 miles from the General Post Office, Perth. Rates for all other parts of the State were fixed at £4 5s. and £2 5s. 11d. respectively.

Additional power was given to the Court under the provisions of the Industrial Arbitration Act Amendment Act, 1930, to enable quarterly adjustments to be made to the wage fixed by the annual declaration and, on the 3rd March, 1931, rates of £4 6s. for males and £2 5s. 2d. for females were prescribed for the metropolitan area, and of £4 5s. and £2 5s. 5d. for all other parts of the State. Such quarterly adjustments may be made only when a rise of one shilling or more per week is indicated in the "cost of living."

The annual declaration operative from the 1st July, 1931, did not vary these amounts, but a further quarterly adjustment on the 18th August, 1931, marked the inauguration of a separate wage for agricultural areas, which are taken to be those areas other than the Court's metropolitan area, contained within the official South-West Land Division as described in the Land Act.

In 1938 an inquiry, which was the most comprehensive since the original declaration, gave special consideration to the factors of national income and standards of nutrition and as a result wage levels throughout the State were considerably increased from the 1st July of that year. The Rent and Miscellaneous Expenditure elements of the wage were based on the existing standards but Clothing was based on the Piddington standard, reduced to provide for a family unit of four, and Food and Groceries on the Piddington standard plus an amount of 1s.

Subsequent annual declarations until 1942 maintained in purchasing power the standard of the 1938 judgment.

At a sitting of the Court held on the 20th February, 1942, to consider the quarterly adjustment of the basic wage, the Court decided that, under the existing economic conditions, there should be no alteration to the rates then in force. This decision marked the first occasion upon which the Court, in the exercise of the discretionary powers conferred upon it under the Act, had refrained from making a quarterly adjustment to the wage to equate its purchasing power to the standards of the relevant annual declaration. It was followed by a similar decision given on the 29th April, 1942, when the Court reaffirmed that no adjustment should be made to existing rates, despite further increases in retail prices.

On the 11th June, 1942, the Court, in its annual declaration, referred to its new basis the rates which had operated since the 18th July, 1941, and these remained in force until the 30th August, 1942, when they were superseded in terms of a Basic Wage Adjustment Order made by the Premier under the authority

of National Security (Economic Organisations) Regulations. The rates established under this Order were substantially the current equivalents of the standards adopted by the Court in its annual declarations from 1936 to 1941.

On the 30th October, 1942, these standards were re-adopted by the Court for the purposes of the quarterly adjustments and continued to apply until the Interim Basic Wage Declaration of the 26th February, 1947. In this declaration made under powers conferred by an amendment in December, 1946 to National Security (Economic Organisations) Regulations, the basic wage was increased by a loading of 5s. This loading was varied proportionately to the remainder of the basic wage in subsequent declarations and quarterly adjustments.

An amendment of 1950 to the Industrial Arbitration Act removed the obligation to make annual declarations, enables basic wage determinations to be made at any time during the year at intervals of not less than twelve months, subject only to quarterly adjustments, and requires that in such determinations due consideration must be given to the economic capacity of industry to pay any proposed increase in the basic wage.

Consequent on the judgment of the Commonwealth Court on the 12th October, 1950, the State Court declared a new wage, incorporating an increase of £1 for males and 15s. for females and children, adding the four elements and the loading previously mentioned, to have effect from the 18th December, 1950. This meant that the concept of a composite wage, which had applied since the initial declaration in 1926, was now abandoned. It was decided in January, 1951, that any quarterly adjustments should be based on variations in the "C" Series Retail Prices Index (Index Numbers). On the 28th November, 1951, the Court raised the basic wage for females from 54 per cent. of the male rate to 65 per cent., the new rates to operate from the 1st December, 1951.

On the 13th November, 1953, the Court again exercised its discretionary powers, conferred by section 127 of the Act, and determined that no change should be made in the basic wage, although there had been an appreciable increase in the "C" Series Retail Prices Index. This decision governed subsequent determinations until the 9th August, 1955, when the Court reverted to the practice of making quarterly adjustments.

On the 30th January, 1959 the Court raised the basic wage for females from 65 per cent. to 75 per cent. of the male wage; the new rates to operate from the beginning of the next succeeding pay period.

In determining the quarterly adjustments to basic wage rates to apply from the 1st May, 1961, the Court for the first time used the Consumer Price Index instead of, as formerly, the "C" Series Retail Price Index, which was last compiled for the December quarter of 1960.

The Western Australian Industrial Commission came into operation on the 1st February, 1964, replacing the Court of Arbitration as the authority responsible for State basic wage determinations in Western Australia. The Industrial Arbitration Act, 1912-1963 requires that such determinations shall be made by the Commissioner in Court Session. The Commission was constituted under its first adjustment to the basic wage on the 17th 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 £10 1s. 3d. in the Metropolitan Area, £11 2s. 6d. in the South Coast Land Division and £14 16s. 8d. in outback, rural and other parts of the State.

On the 16th 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 the 3rd July to consider questions of procedure, representation and related matters. The general inquiry began before the Commission in Court Session on the 22nd July and was completed on the 14th 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 authorized under section 66 of the Industrial Arbitration Act, 1912-1963. Judgment was given on the 22nd September. The Commission, in its conclusion, on 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 rate of £15 8s. should be declared as appropriate to adult male workers, and an order was issued accordingly prescribing this amount for males and an amount of £14 11s. for females; the rate to operate on and from the 22nd September, 1964 and to apply uniformly throughout the State. Subsequent variations have continued to be made on this basis.

The table on page 500 shows variations, during the period from 1929 to 1965, in the State basic wage rates payable to adult male workers, in shillings. Variations being negligible in 1929 to the first 10 shillings, 1936 are shown in the graph on page 499.

STATE BASIC WAGE-VARIATIONS IN RATES FROM 1940 (a)

State or Territory	Metropolitan Areas (b)		Non-Metropolitan Areas (c)		Goldfields Areas and other parts of State	
	Males	Females	Males	Females	Males	Females
	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
1940-41						
1st January	100.0	100.0	100.0	100.0	100.0	100.0
1st May	100.0	100.0	100.0	100.0	100.0	100.0
1st July	100.0	100.0	100.0	100.0	100.0	100.0
1st October	100.0	100.0	100.0	100.0	100.0	100.0
1941-42						
1st January	100.0	100.0	100.0	100.0	100.0	100.0
1st May	100.0	100.0	100.0	100.0	100.0	100.0
1st July	100.0	100.0	100.0	100.0	100.0	100.0
1st October	100.0	100.0	100.0	100.0	100.0	100.0
1st December	100.0	100.0	100.0	100.0	100.0	100.0
1942-43						
1st January	100.0	100.0	100.0	100.0	100.0	100.0
1st May	100.0	100.0	100.0	100.0	100.0	100.0
1st July	100.0	100.0	100.0	100.0	100.0	100.0
1st October	100.0	100.0	100.0	100.0	100.0	100.0
1st December	100.0	100.0	100.0	100.0	100.0	100.0
1943-44						
1st January	100.0	100.0	100.0	100.0	100.0	100.0
1st May	100.0	100.0	100.0	100.0	100.0	100.0
1st July	100.0	100.0	100.0	100.0	100.0	100.0
1st October	100.0	100.0	100.0	100.0	100.0	100.0
1st December	100.0	100.0	100.0	100.0	100.0	100.0
1944-45						
1st January	100.0	100.0	100.0	100.0	100.0	100.0
1st May	100.0	100.0	100.0	100.0	100.0	100.0
1st July	100.0	100.0	100.0	100.0	100.0	100.0
1st October	100.0	100.0	100.0	100.0	100.0	100.0
1st December	100.0	100.0	100.0	100.0	100.0	100.0
1945-46						
1st January	100.0	100.0	100.0	100.0	100.0	100.0
1st May	100.0	100.0	100.0	100.0	100.0	100.0
1st July	100.0	100.0	100.0	100.0	100.0	100.0
1st October	100.0	100.0	100.0	100.0	100.0	100.0
1st December	100.0	100.0	100.0	100.0	100.0	100.0

(a) Table showing variations from beginning to 1940 to the end of 1946 appears on page 395-5 of the Official Year Book of Western Australia, 1946, Pp. 1-2 per year. (b) See table on page 400. (c) Special determination increasing rate of 41 per cent. for males, 100 per cent. for females. (d) Female rate increased by 60 per cent. of male rate. (e) Female rate increased by 75 per cent. of male rate from beginning of test (increasing rate period). (f) See table on page 400. (g) Additional determination.

MINIMUM RATES OF WAGE

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 Commonwealth Conciliation and Arbitration Commission or of The Western Australian Industrial Commission or may be negotiated by industrial agreement. These agreements are registered with the appropriate arbitration authority and are binding upon the parties.

It is estimated that, in May, 1963, awards, determinations and registered agreements of the Commonwealth authority applied to 13.3 per cent. of male and 14.8 per cent. of female workers in Western Australia, and of the State Court of Arbitration to 76.5 per cent. of male and 74.4 per cent. of female workers.

The additions made to the basic rate are principally margins for skill which vary according to the occupation or craft of workers to whom they apply. In general, the labourer receives no such margin, and the margin increases with the degree of training and experience necessary for the satisfactory performance of a particular operation. Clothing allowances are frequently paid to employees who are handling destructive or corrosive materials or who are required to work in excessively dirty situations. A tool allowance is often provided, as in the case of carpenters, cabinetmakers and painters. Some awards prescribe the payment of a district allowance to workers in unincorporated shires or in areas where amenities are lacking. Noxious trades sometimes carry a specific loading. "Service money" is payable, under some awards, to workers who have had a specified period of service in a particular industry. An "industry allowance" is paid to good-running workers. Further examples of special allowances are those paid to employees working in a confined space or at heights or in excessively wet conditions.

The following table shows the minimum rates of wage payable at the 31st December, 1964, to adult workers in a selection of industries and occupations. The data have been extracted from a much more comprehensive list appearing in the *Quarterly Statistical Abstract* and in Part VI of the *Statistical Register*. The rates relate generally to a full week's work of 40 hours excluding overtime.

MINIMUM RATES OF WAGES PAYABLE TO ADULT WORKERS UNDER AWARDS OF
ARBITRATION AUTHORITIES AND INDUSTRIAL AGREEMENTS
AS AT 31st DECEMBER, 1964

Rates relate generally to the metropolitan area and are shown to the nearest penny

Industry and Occupation	Wages	Industry and Occupation	Wages
AGRICULTURAL, PASTORAL AND DAIRY- ING—	£ s. d.	CLERICAL—	£ s. d.
Farming—	Per week	Wholesale and Retail Trading—	Per week
Field worker	15 17 2	Senior clerk	20 17 2
Pastoral Workers—		Clerk (male)	17 3 8
Machine shearer	Per 100		60
Flock sheep	8 12 4		16 16 2
Rams	17 5 0	Clerk (female)	13 11 5
	Per week		60
Wool presser	29 13 1	HAIRDRESSING—	
Wool shed hand	28 14 1	Hairstresser (male)	19 13 2
BUILDING—		Hairstresser (female)	15 1 5
Carpenter, Joiner	21 14 11	HOSPITALS, GOVERNMENT—	
Bricklayer, Rubble waller	21 11 11	Nurses—	
Stonemason	21 7 3	Less than 5 beds	22 4 8
Plaster, Stonemason	21 9 8	5 and less than 10 beds	23 12 11
Plasterer	21 12 2	10 and less than 20 beds	24 11 11
Plumber	21 13 1	20 and less than 50 beds	26 3 11
CARTING AND CARRYING—		50 and less than 100 beds	28 16 11
Motor engine driver			20 1 11
Vehicle 2½ cwt. or less	12 5 5	Sister in charge	60
Vehicle over 2½ cwt. and up to	13 19 6		0, 10 6
3 tons	19 15 1		18 11 6
Vehicle over 3 and up to 6 tons		Sister	60
CLEANING, CARPETING, ETC. (BUILD- INGS)—			19 3 0
Caretaker (male)	19 17 2	Tailor, dress	17 11 5
Cleaner (male)	17 0 2		60
	12 17 5	Ward-maid, Government	13 0 6
Cleaner (female)	60		12 11 5
	13 1 1	Quilted	17 4 2
Lift attendant (male)	16 13 8		60
Window cleaner (male)	17 13 8		17 10 8

MINIMUM RATES OF WAGES AT 31st DECEMBER, 1984 — *Contd. (Contd.)*[illegible]

repatriation and repatriation bonus, death payments of previous and retiring allowances, and amounts paid as workers' compensation for injuries. Pay and allowances of members of the forces consist of active pay, field allowances, subsistence allowances, dependants' allowances and the value to the members of the forces of food, clothing, medical attention, etc. supplied in kind. Deferred pay is included.

Statistics of "average weekly earnings per employed male unit" are derived from particulars of employment and wages and salaries recorded on pay roll for wages, from other direct collections and from estimates of the unrecorded business. Pay of members of the forces is not included. Male units represent total male employment plus a proportion of female employment based on the approximate ratio of female to male earnings. It is important to bear in mind in reading the table, that the figures shown as "average weekly earnings per employed male unit" relate therefore to the total wage and salary which field and composite payments to all grades of employees throughout the State from junior workers to persons at the highest levels of executive and administrative activity. Overtime earnings, other award and bonus payments are included, as well as payments made in advance or retrospectively during the years shown.

CHAPTER X — continued

PART 3 — RETAIL PRICES

Prices of a limited range of commodities are recorded at the Blue Books of Western Australia from the early years of settlement. It was not until 1911, however, that a systematic collection of retail prices was undertaken by the Commonwealth Statistician, was begun. The results of this inquiry were published in 1912 and thus, for the first time, particulars of retail prices at a selection of Western Australian towns became available. As well as providing data for each of five principal towns, for the year 1911 the publishing information contained particulars for the capital city for each year from 1881 to 1910. The scope of the investigation having been specially extended for this purpose. The commodities included in the collection, in addition to house food, comprised a representative range of groceries, dairy produce and meat. The field of collection was later expanded to cover other groups of household expenditure.

Prices are now collected regularly for items of food; clothing and drapery; housing; household supplies and equipment; and miscellaneous commodities and services.

Representative and reputable retailers and service establishments are selected by each class of commodity and each service. These informants forward regular returns of prices. Whenever necessary, particulars of prices are also obtained from other firms. For food items, prices are collected monthly, as at the 15th of each month, and are averaged for the three months of the quarter. For most other items prices are obtained quarterly, as at the 15th of the middle month of the quarter. In general, prices are collected from actual samples of retail selling outlets. The prices and items actually being charged for normal cash purchases of new articles. "Bargain" or "special" prices of irregular goods or discontinued lines are not used.

The information is collected, under authority of the Census and Statistics Act 1905 (1949), for specified "standards" of the commodities and services priced. Specifications include the unit of quantity to be priced, the grade, quality, size, style, etc., and in some cases the particular brand and the manufacturer's "line" number. The standards selected are those with a considerable volume of trade and likely to remain representative over a long period.

The items and standards priced are revised from time to time to keep them in harmony with changing conditions. Before each quarterly collection the standards of all items are reviewed after extensive inquiries among manufacturers, wholesalers and retailers. Where changes in the items or standards priced become necessary, suitable adjustments are made in compiling price series to ensure that they reflect only changes in prices for representative goods of constant quality and not differences in prices of differing standards.

The actual collection of information is carried out by specially qualified field officers of the Commonwealth Bureau of Census and Statistics, who not only receive and check returns but visit the shops or other establishments concerned.

The following tables show the average retail prices at 17 shops of groceries, dairy produce and meat in the Metropolitan area for each of the five years from 1960 to 1964.

AVERAGE RETAIL PRICES OF GROCERIES — METROPOLITAN AREA

Commodity	Unit	1960	1961	1962	1963	1964
		pence	pence	pence	pence	pence
Bacon, lean	1 lb.	17 25	18 00	18 00	18 45	18 90
Butter, plain, salted	"	30	30	25 90	25 40	25 15
" " salted	"	22 75	22 44	22 20	21 10	20 30
Egg	10	25 00	26 25	24 84	24 55	24 84
Flour	"	10 00	10 00	10 00	11 00	10 70
Wheat	1 25, 100 lb.	30	30	30 20	34 55	33 70
Corn, yellow	1 25, 100 lb.	34 00	33 51	32 80	32 80	31 80
Oats, rolled	1 25, 100 lb.	32 04	30 72	28 70	30 30	32 40
Peas, green	20 lb.	38 40	38 60	38 74	38 50	38 70
Peas, frozen	"	38 60	39 10	38 30	38 20	38 60
Potatoes	1 lb.	40 20	40 00	40 00	39 30	39 20
Tomatoes, frozen	10	10 10	11 44	8 80	8 80	10 00
Vegetables, frozen	"	10 40	10 15	10 20	10 15	10 30

(a) Data were collected.

(b) Data not collected in this year.

AVERAGE RETAIL PRICES OF DAIRY PRODUCE AND MEAT—METROPOLITAN AREA

Commodity	Unit	1960	1961	1962	1963	1964
<i>Dairy Produce</i>						
Butter	lb.	55.85	57.70	57.70	57.10	58.55
(cream, processed)	"	56.7	58	57.70	55.85	56.15
buns, trade 12	doz.	67.71	68.81	70.00	70.75	69.19
Bacon rashers	lb.	80.34	79.32	74.75	61.30	64.66
Milk, condensed	14 oz. can	21.29	22.25	22.54	22.85	22.92
— fresh, instant 12	quart	32.15	31.80	31.90	31.90	31.00
<i>Meat</i>						
Beef (fresh):						
Steak	lb.	45.36	52.57	52.05	50.48	54.10
Rib (without bone)	"	60.75	50.54	43.70	45.98	50.58
Steak, rump	"	51.74	74.06	71.05	74.67	70.20
" chuck	"	45.96	49.51	49.58	44.02	48.73
" sausage	"	52.55	57.92	53.07	54.90	55.48
Beef (canned):						
Stew	"	45.75	49.55	48.90	44.90	51.30
Roast, rolled	"	55.10	58.65	55.77	54.40	56.90
Lamb (fresh):						
Leg	"	52.72	57.85	50.25	50.16	54.28
Forequarter	"	17.45	13.56	13.74	12.97	16.52
Chops, loin	"	24.05	24.75	27.20	27.55	30.79
" leg	"	27.11	28.40	28.61	29.32	32.45
Lamb (fresh):						
Leg	"	44.25	43.17	48.25	42.15	50.47
Forequarter	"	20.00	20.22	21.44	20.90	24.50
Chops, loin	"	47.76	48.15	47.75	44.01	54.43
" leg	"	47.76	48.15	47.75	45.21	54.03
Pork (fresh):						
Loin	"	64.56	67.84	53.78	51.50	60.47
Bait	"	65.14	67.70	53.04	53.47	60.52
Hog	"	65.14	68.45	53.04	60.13	66.52

a Data not collected in this year

b Price paid delivered

RETAIL PRICE INDEX NUMBERS

The collected information relating to prices of goods and services may be summarized in the form of index numbers. Prices of items, selected as being representative of a high proportion of the expenditures of wage-earner households, are combined at regular intervals by the use of "weights" in approximate proportion to quantities actually used. The aim is to express as a single number the degree of change in prices for the selected field taken as a whole. In practice the application of this principle over a term of years presents great difficulty by reason of the numerous changes which occur in the type, grade and relative quantities of many of the items commonly used.

Basically in the simplest method of compiling retail price indexes the price of each item is multiplied by a fixed quantity or "weight", the product being an "expenditure". The sum of these products for all items at any given date represents an "aggregate expenditure". The "aggregate expenditures" for successive periods are converted into an index series by equating the aggregate for a selected or "base" period to 1,000 (or some other convenient number), and calculating all index numbers to this base according to the ratio which the several aggregates bear to that of the base period.

The "A" Series Index was first compiled in 1912 and although it was both rudimentary and of limited scope, covering only food, groceries and house rents, it was not discontinued until 1938. The "C" Series Index was first compiled in 1921, and retrospectively to 1911, to supply the need for a more adequate index. It was originally described as the "All Items" Index, to distinguish it from the "A" series, because it included, in addition to food, groceries and house rents, many items of clothing, household drapery and utensils, fuel, lighting, cars, smoking and some other miscellaneous items.

The list of component items and the weighting pattern of the "C" Series Retail Price Index first adopted in 1921, were slightly revised by Conference of Statisticians in 1936, but otherwise remained almost unchanged until the index was discontinued in 1966. From the outbreak of war in 1939 to late in 1948, periodic policy changes in regard to various wartime controls, including rationing, caused recurrent changes in consumption and in the pattern of expenditure. This rendered changes in the index desirable but made it impracticable either to produce a new index, or to revise the old one on any basis that would render the index more representative than it already was of the changing pattern in those years.

When commodity rationing had virtually ceased in the latter part of 1948, action was taken by the Commonwealth Statistician to collect price data of about 100 additional items and to gather information

as to current consumption and expenditure patterns. This was due to the same review of the composition and weighting system of the "C" Series Retail Price Index in the light of the new pattern of wage-earner expenditure and consumption that appeared to be then emerging. However, these supervened in the next few short interludes which caused wide price dispersion, coupled with a very rapid rise in prices and a new sequence of changes in composition and the pattern of wage-earner expenditure. Under these conditions it was not possible to derive any new weighting pattern likely to be more continuously representative of conditions then current than was the existing "C" Series Index on the 1936 revision. Consequently the "C" Series Index continued to be compiled on its pre-war basis without significant changes in procedure.

An Interim Retail Price Index, with the year 1952=100 as its base, was introduced in 1953 and continued until the March quarter of 1960. This Interim Index was a transitional index designed to measure price index exceptions on the "C" Series until in future of post-war consumption weights, as emerging in the early 1950's. It covered a wider range of commodities and services than did the "C" Series Index, but it did not take into account successive major changes in the pattern of expenditure and mode of living that began to manifest itself in 1950 and through to 1960. These changes could not, in fact, be detected and measured promptly and incorporated into an index, and actually with their happening without price. Thus it was impossible to promptly incorporate into the index, and actually with their happening without price. Thus it was impossible to promptly incorporate into the index, and actually with their happening without price. Thus it was impossible to promptly incorporate into the index, and actually with their happening without price.

During this period home ownership largely replaced the renting of privately owned houses, the numbers of government-owned rented houses increased appreciably, the use of the motor car greatly increased and partly replaced use of public transport, various items of electrical household equipment and television sets, also widespread use, household consumption of electricity greatly increased, and technological developments such as the introduction of new synthetic materials produced a number of changes in clothing and other groups of items. Through the impact of these continuing changes in usage, combined with disparate movements in prices, the Interim Retail Price Index became outmoded. As studies progressed and new data became available, it was clear that no single list of items and no single set of fixed weights would be adequately representative as a basis for measuring retail price changes at all times throughout the post-war period. In consequence, the situation was met by compiling the Consumer Price Index constructed as a chain of linked indexes with significant changes in composition and weighting effected at short intervals.

THE CONSUMER PRICE INDEX

The Consumer Price Index was first compiled in 1960, retrospectively to the September quarter of 1949. It replaced both the "C" Series Retail Price Index and the Interim Retail Price Index in official statistical publications. The title "Consumer Price Index" is used for purposes of convenience and does not imply that the new index differs in definition or purpose from previous retail price indexes. The Index is designed 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 consumer aggregates of wage-earner household expenditures and not to estimated expenditures of an "average" or individual household of specified size, type, or mode of living. It is thus possible to give appropriate representation to owner-occupied houses as well as rented houses and to include motor cars, television sets, and other major expenditures which relate to wage households and not to others.

Investigations revealed that the magnitude and frequency of changes in the pattern of household expenditure since 1949 were such as to render it necessary to construct not one but a series of new indexes incorporating additional items and changes in weighting patterns at short intervals. Five series for short periods, beginning quarter 1949 to June quarter, 1952; June quarter, 1952 to June quarter, 1955; June quarter, 1955 to March quarter, 1958; March quarter, 1958 to December quarter, 1959; and from December quarter, 1959 have therefore been constructed and linked to form a continuous series, with reference base year 1952=100. In each period between links the items and weighting have remained unchanged. It is envisaged that future links will be made in the index even significant changes in the pattern of household expenditure render it necessary to do so.

The Consumer Price Index covers a wide range of commodities and services aggregated in the five major groups, Food, Clothing and Drapery, Housing, Household Supplies and Equipment, and Miscellaneous. It is designed only to measure the proportionate change in price as combined in the individual groups or the aggregate of the groups in the index. This is a basic principle of all price

indexes, and failure to appreciate it gives rise to misconceptions concerning price indexes and their uses. Consumer (retail) price indexes are sometimes loosely called "cost of living indexes" and are thought to measure changes in the "cost of living." Neither the Consumer Price Index, nor any other retail price index, measures those changes in the cost of living that result directly from changes in the mode or level of living. Changes of that kind are matters for consideration apart from price indexes. But the change in prices of goods and services is a very important part of the change in any cost of living and this part is measured by consumer (retail) price indexes.

The following summary gives a general description of the nature of the items included in the several groups which together comprise the Consumer Price Index:

Food—Meat (fresh and processed); dairy produce; cereal products; soft drink, ice cream and confectionery; potatoes, onions and processed fruit and vegetables; and other foods including sugar, jam, margarine, tea, coffee, baby foods, and sundry canned and other foods.

Clothing and Drapery—Men's, women's, boys and girls' clothing; men's, women's and children's footwear; household drapery; and paraphernalia and wearing apparel.

Housing—Costs (gross price, rates, repairs and maintenance) involved in home ownership or purchase by instalments, and rent paid to a private owner or government authority.

Household Supplies and Equipment—Household appliances; fuel and light; and household articles including furniture and floor coverings, kitchen and other utensils, gardening and small tools, household sundries, personal requisites, proprietary medicines and school requisites.

Miscellaneous—Transport (train, tram and bus fares and private motorist costs); beer; tobacco and cigarettes; services such as hairdressing, dry cleaning, shoe repairs and postal and telephone services; and other expenditure including costs of radio and television operation, cinema admission and newspapers.

These groups do not include every item of household spending. It is both impracticable and unnecessary for them to do so. Prices are collected regularly for specified quantities and qualities of a large and representative selection of commodities and services. Movements in the prices of these items, when combined in suitable proportions, provide a representative measure of price change as affecting a high proportion of the expenditure of wage-earner households.

The sets of weights used have been derived from analyses of statistics of production and consumption, the Population Census of 1947, 1954 and 1961, the Census of Part of Establishments of 1944-45, 1950-51, 1956-57 and 1961-62 and the continuing Survey of Retail Establishments; from information supplied by manufacturing, commercial and other reference sources; and from special surveys. As from the December quarter 1963 the weights, in general, are based on the pattern of consumption of the years 1957-58 to 1961-62.

The index 1944 has been computed for each quarter from the September quarter of 1945, and for each financial year from 1946-47. A selection of Consumer Price Index numbers as a basis appears in the table on pages 389-92 of the *Official Year Book of Western Australia*, Vol. 3—1962, and in the *Statistical Summary* from 1959 following this Chapter. All "Groups" index numbers, and group index numbers for each of the five major groups, are compiled and published regularly for the six State capital cities separately and combined. The reference base for each of these indexes is: Year 1957-58 = 100.0. Figures appearing after the decimal point possess little significance for general statistical purposes. They are inserted merely to avoid the minor distortions that would result in rounding off the figures to the nearest whole number.

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 actual price level, since the index for each city is independently based on the prices recorded in that city during 1957-58. Similarly, the separate group indexes measure price movements of each group individually. They enable comparisons to be drawn as to differences in the degree of price change in the different groups, but do not show the comparative level of the different groups.

The index for the six capital cities combined is a weighted average of price movement in the individual cities. For periods to the December quarter, 1963 the individual collections of the group's cities on the combined index is determined by their populations at the 1954 Census. From the half made as at the December quarter, 1963 the weights of the individual cities have been revised on the basis of the results of the 1961 Census.

CONSUMER PRICE INDEX—PERTH

(Base of 1945 Index Series: Year 1932-53 = 100)

Period	Group Index Numbers					Composite Index (All Groups)
	Food	Clothing and Drapery	Household	Household Supplies and Equipment	Miscellaneous	
Year						
1952-53	100.0	100.0	100.0	100.0	100.0	100.0
1953-54	106.2	100.0	107.5	102.0	98.1	103.0
1954-55	109.3	100.1	112.2	102.0	96.5	105.1
1955-56	111.1	101.4	123.5	102.0	106.5	107.9
1956-57	118.0	105.1	123.5	104.5	117.0	112.9
1957-58	114.4	105.7	128.0	105.7	118.1	113.6
1958-59	115.2	107.2	130.3	106.9	118.7	114.7
1959-60	115.4	108.2	132.5	107.1	120.9	116.9
1960-61	124.4	119.5	141.7	107.3	126.1	121.1
1961-62	123.5	121.7	146.4	107.3	126.1	123.6
1962-63	125.0	112.0	150.9	107.0	125.1	123.1
1963-64	126.1	112.8	155.9	108.2	128.1	123.6
Quarter						
1952-1						
September	95.4	99.4	95.1	94.2	95.1	96.1
December	98.7	100.3	101.1	99.0	99.1	99.5
1952-2						
March	100.7	100.0	101.2	100.6	100.1	100.7
June	103.1	100.3	101.1	101.1	100.5	101.7
September	104.9	100.4	104.0	102.2	100.8	102.1
December	105.0	100.2	106.2	101.8	99.7	102.1
1953-1						
March	106.7	100.2	106.5	101.9	98.4	102.5
June	109.3	99.2	114.0	102.1	96.9	104.3
September	109.4	99.3	114.5	102.4	96.5	104.7
December	101.8	99.5	114.8	102.2	98.1	104.4
1953-2						
March	108.8	100.0	111.9	102.5	99.1	105.0
June	111.1	101.3	121.8	101.2	101.2	106.8
September	106.9	101.3	122.4	101.4	102.4	106.4
December	106.9	101.2	123.8	101.6	102.1	106.1
1953-3						
March	111.6	101.5	124.5	102.1	104.1	107.9
June	116.0	101.4	124.8	102.9	112.4	108.5
September	115.0	101.9	124.1	103.5	113.4	111.7
December	114.8	102.4	123.5	104.4	117.3	112.3
1954-1						
March	125.9	103.4	133.4	104.8	115.1	117.1
June	127.3	104.8	132.2	105.5	114.4	118.1
September	126.1	105.0	131.9	106.9	116.0	117.0
December	125.0	105.1	131.3	106.5	116.4	116.0
1954-2						
March	127.9	105.4	134.9	106.0	118.1	118.1
June	124.1	106.9	137.9	106.2	118.1	117.1
September	121.1	107.0	138.5	106.4	116.4	115.4
December	119.0	107.1	136.4	106.7	116.7	114.1
1954-3						
March	114.9	109.2	130.5	106.1	116.5	111.7
June	117.1	108.9	131.4	106.4	116.5	111.1
September	115.8	107.3	131.5	106.6	116.5	110.7
December	115.7	107.7	132.4	107.0	116.4	110.7
1955-1						
March	118.1	108.0	134.2	107.4	118.1	111.1
June	121.4	109.4	136.0	107.0	122.1	113.0
September	122.4	109.4	137.0	107.4	122.1	113.8
December	121.9	109.5	141.0	107.2	122.1	113.8
1955-2						
March	125.1	110.9	141.1	107.4	123.6	115.1
June	128.1	111.0	144.0	107.5	125.4	117.4
September	123.1	111.0	143.1	107.5	125.7	117.7
December	122.1	111.9	141.5	107.4	125.1	117.1
1955-3						
March	125.1	111.4	141.1	107.1	124.9	117.1
June	124.1	111.1	141.0	107.1	124.9	117.1
September	124.1	111.1	141.0	107.1	124.9	117.1
December	124.1	111.1	141.0	107.1	124.9	117.1
1956-1						
March	121.7	112.0	141.0	107.0	124.1	116.1
June	124.1	112.1	141.0	107.0	124.1	116.1
September	124.1	112.1	141.0	107.0	124.1	116.1
December	124.1	112.1	141.0	107.0	124.1	116.1
1956-2						
March	125.1	112.1	141.0	107.0	124.1	116.1
June	125.1	112.1	141.0	107.0	124.1	116.1
September	125.1	112.1	141.0	107.0	124.1	116.1
December	125.1	112.1	141.0	107.0	124.1	116.1

CONSUMER PRICE INDEX—SIX CAPITAL CITIES COMBINED

(Base of 1958 Index Series: Year 1952-53 = 100)

Period	Group Index Numbers					Combined Index All Groups
	Food	Clothing and Lifestyle	Housing	Household Supplies and Equipment	Miscellaneous	
Year—						
1952-53	100.0	100.0	100.0	100.0	100.0	100.0
1953-54	101.2	100.7	104.2	101.0	99.9	101.3
1954-55	104.3	101.0	108.4	101.4	99.9	102.4
1955-56	110.2	105.0	115.1	101.6	105.3	109.2
1956-57	113.3	108.9	122.1	105.8	118.0	113.1
1957-58	114.3	107.0	123.3	105.5	119.7	114.2
1958-59	115.4	108.2	120.6	108.7	121.2	116.0
1959-60	119.5	106.4	125.2	108.8	125.9	118.9
1960-61	122.7	111.6	124.8	111.2	127.3	121.5
1961-62	125.3	112.5	125.7	117.7	128.1	124.1
1962-63	128.3	113.2	121.0	112.4	128.8	124.7
1963-64	130.9	114.0	120.5	111.0	129.9	125.7
Quarter—						
1952-53						
September	99.8	99.4	96.3	99.3	99.1	98.4
December	99.6	99.8	96.7	99.4	99.1	98.4
1953-54						
March	100.1	100.7	104.3	100.4	100.4	100.4
June	101.7	101.3	106.1	100.9	100.4	101.4
September	103.7	100.9	109.9	101.9	100.3	102.1
December	105.2	100.6	124.6	101.4	99.4	101.7
1954-55						
March	107.7	100.8	104.9	101.0	100.1	102.1
June	109.5	100.4	108.2	101.7	100.3	102.1
September	112.9	100.4	108.6	101.8	99.7	102.4
December	115.2	100.9	109.6	101.7	99.5	102.2
1955-56						
March	116.0	100.9	108.7	101.1	100.0	102.2
June	119.1	101.9	115.1	101.6	100.1	103.0
September	121.9	101.9	116.2	101.1	101.3	103.7
December	126.6	102.1	113.7	101.5	104.8	105.0
1956-57						
March	128.3	102.0	118.5	101.6	105.3	106.0
June	134.6	102.6	119.5	101.2	110.4	110.2
September	139.0	102.3	119.7	101.6	116.0	112.2
December	143.6	104.3	121.7	101.5	119.0	113.2
1957-58						
March	142.9	104.2	122.2	102.0	118.6	113.4
June	145.8	104.6	124.3	102.1	118.7	113.7
September	148.4	105.2	125.6	102.6	118.6	113.9
December	152.1	106.7	127.0	103.0	118.6	113.7
1958-59						
March	153.6	106.7	127.6	102.1	118.4	114.3
June	155.0	108.2	128.5	102.1	118.5	114.4
September	158.7	108.1	129.2	102.7	118.3	114.4
December	161.6	108.4	130.4	103.1	118.4	114.7
1959-60						
March	163.0	109.1	130.9	103.9	118.2	114.8
June	167.1	107.6	131.0	103.7	118.3	115.0
September	167.9	108.3	132.2	103.4	118.1	115.1
December	169.8	104.2	131.9	103.6	118.0	115.1
1960-61						
March	170.0	109.5	134.8	110.0	121.5	116.0
June	172.0	110.5	139.4	110.2	121.1	116.1
September	176.0	111.5	141.4	110.6	121.1	116.2
December	176.7	111.5	144.1	111.0	121.1	116.3
1961-62						
March	178.6	111.7	145.7	111.3	121.5	116.5
June	181.4	112.4	146.0	111.9	121.7	116.6
September	182.1	112.1	147.9	111.6	121.9	116.6
December	185.0	112.9	150.5	111.7	122.3	116.7
1962-63						
March	184.7	112.9	150.9	111.7	122.6	116.1
June	186.7	113.6	152.6	111.6	122.2	116.6
September	184.9	113.0	151.3	112.6	122.4	116.1
December	184.9	113.2	154.7	111.4	122.7	116.4
1963-64						
March	184.1	114.2	153.3	111.1	122.3	116.7
June	181.6	113.4	156.5	113.1	122.7	116.4
September	180.0	113.7	157.9	113.6	122.7	116.3
December	181.5	113.7	159.0	113.5	122.4	116.5
1964-65						
March	179.0	113.6	159.9	111.1	120.1	115.7
June	185.5	114.6	160.7	111.1	120.5	115.9
September	180.7	115.0	161.0	111.7	120.1	115.8
December	182.1	115.4	164.4	111.1	120.5	116.0

**CONSUMER PRICE INDEX: ALL GROUPS INDEX NUMBERS
SIX CAPITAL CITIES, SEPARATELY AND COMBINED**

(Base of each Index Series: Year 1952-53 = 100)

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.

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Weighted Average of Six Capital Cities
Year—							
1952-53	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1953-54	101.6	102.0	102.0	102.0	103.0	105.0	102.5
1954-55	101.1	102.0	102.5	103.5	105.2	106.9	102.6
1955-56	101.8	106.1	104.8	104.9	107.9	110.2	106.7
1956-57	112.9	114.0	112.0	111.1	111.9	106.4	113.1
1957-58	111.5	118.8	111.4	111.9	113.8	117.0	111.0
1958-59	115.3	116.0	115.2	114.9	114.7	118.7	116.0
1959-60	117.8	120.0	121.2	119.0	116.9	120.3	119.0
1960-61	122.1	125.9	125.4	122.9	121.2	127.1	123.5
1961-62	126.6	126.1	127.5	122.5	121.6	125.1	124.1
1962-63	127.3	126.7	127.7	122.1	122.3	125.0	124.5
1963-64	121.5	121.1	129.0	121.5	125.8	129.4	123.1
Quarter—							
1952							
September	98.8	97.8	99.4	99.4	98.6	97.1	98.5
December	98.5	99.3	99.6	99.0	99.2	98.4	99.4
1953							
March	100.4	100.1	100.1	100.7	100.5	100.3	100.4
June	101.2	101.0	100.0	101.4	101.7	100.3	101.4
September	101.8	102.2	101.4	102.1	102.5	100.2	102.1
December	101.1	101.7	100.1	101.0	102.1	100.3	101.7
1954							
March	101.5	102.0	102.2	102.4	102.9	100.0	102.1
June	101.3	102.0	102.1	102.4	104.3	104.4	102.1
September	101.4	101.3	101.8	102.5	104.7	104.2	101.8
December	101.0	101.5	102.4	102.5	104.1	104.1	102.2
1955							
March	102.4	102.1	102.5	102.5	105.0	105.7	102.9
June	103.0	102.1	102.9	104.7	106.8	106.2	103.6
September	103.7	102.7	104.4	105.2	106.4	107.4	104.5
December	104.7	101.3	101.9	106.0	106.8	109.1	105.9
1956							
March	105.3	108.4	106.4	106.5	107.9	106.4	108.0
June	106.4	112.0	109.5	109.9	110.5	115.3	110.2
September	112.5	114.1	111.9	111.6	111.7	110.2	112.9
December	112.4	114.2	111.9	111.4	112.3	115.2	113.0
1957							
March	112.9	115.3	111.7	110.2	113.2	116.7	112.6
June	113.1	114.8	112.6	111.5	114.5	117.5	113.7
September	114.0	114.4	113.8	111.9	114.0	116.7	113.9
December	113.0	114.2	113.1	111.0	113.0	118.3	113.7
1958							
March	115.0	114.2	115.5	111.5	115.7	117.1	114.2
June	115.1	114.0	115.9	112.7	114.1	117.1	114.6
September	116.0	114.0	116.1	113.5	114.4	117.7	114.9
December	115.5	116.4	117.9	113.2	114.3	116.7	115.6
1959							
March	115.4	115.1	119.0	114.9	114.1	119.1	119.5
June	115.4	117.9	119.2	115.3	115.5	119.3	119.8
September	116.7	118.2	120.2	116.1	115.9	119.7	117.2
December	117.5	118.0	120.8	116.9	115.7	120.1	118.0
1960							
March	117.2	119.8	121.5	116.5	117.1	120.3	119.0
June	119.0	120.0	122.5	119.0	119.0	120.4	121.1
September	120.8	120.9	121.6	121.6	119.6	120.1	122.6
December	121.6	120.5	121.1	122.4	120.8	120.1	122.3
1961							
March	122.4	120.4	120.7	121.4	121.9	124.1	124.2
June	122.4	121.1	120.7	122.1	122.1	124.0	123.0
September	123.7	120.4	121.0	121.1	121.7	124.1	124.3
December	122.9	120.5	121.1	121.2	121.8	124.3	124.5
1962							
March	121.1	121.0	121.7	121.1	121.5	127.1	124.1
June	122.1	120.9	121.2	121.4	121.8	127.1	124.0
September	122.1	120.2	121.9	121.7	122.1	127.1	124.3
December	122.2	120.2	121.6	121.9	121.7	128.2	124.4
1963							
March	123.1	120.0	121.8	121.5	122.3	128.0	124.5
June	123.1	120.4	122.6	121.5	122.8	128.1	124.8
September	123.7	120.7	123.4	121.5	123.7	128.5	125.1
December	124.9	120.8	123.2	121.5	123.1	129.0	125.0
1964							
March	124.0	121.1	120.2	122.4	124.3	129.8	124.8
June	125.6	121.4	120.2	123.1	125.1	130.1	125.0
September	127.1	120.4	121.0	123.9	126.0	131.1	126.5
December	127.1	121.2	120.4	123.8	126.4	131.4	126.0

RETAIL PRICE INDEX NUMBERS, 1901 TO 1964

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 1940-42, the "C" Series Retail Price Index; from 1940-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and "C" Series Index excluding Rent; from 1948-49 to 1964, the Consumer Price Index.

RETAIL PRICE INDEX NUMBERS, 1901 TO 1964

SIX STATE CAPITAL CITIES COMBINED

(Base Year 1911 = 100)

Year	Index Number	Year	Index Number
1901	88	1933	133
1902	93	1934	136
1903	91	1935	138
1904	86	1936	141
1905	90	1937	145
1906	95	1938	149
1907	96	1939	153
1908	95	1940	159
1909	95	1941	167
1910	97	1942	181
1911	100	1943	188
1912	110	1944	187
1913	116	1945	187
1914 (a)	114	1946	190
1915 (a)	130	1947	198
1916 (a)	132	1948	218
1917 (a)	141	1949	240
1918 (a)	150	1950	267
1919 (a)	170	1951	311
1920 (a)	193	1952	367
1921 (a)	168	1953	383
1922 (a)	162	1954	386
1923	166	1955	394
1924	164	1956	419
1925	165	1957	429
1926	168	1958	435
1927	166	1959	443
1928	167	1960	455
1929	171	1961	451
1930	162	1962	469
1931	145	1963	472
1932	138	1964	483

(a) September

STATISTICAL SUMMARY FROM 1829

POPULATION AND MIGRATION (A)

Year	Population at 31st December (A)			Mean Population (M)			Migration		
	Whole State			Year ended			Arrivals (d)	Deaths (e)	Estimated Net Migration (f)
	Males	Females	Total	1911-12	1920-21	1921-22			
1870	100	224	324			(g)			(g)
1880	477	995	1 472			(g)			(g)
1890	1 434	2 977	4 411			(g)			(g)
1900	5 530	11 159	16 689			(g)			(g)
1910	15 247	30 749	45 996	160	371	15 092			139
1920	21 511	39 028	60 539			21 689			7
1930	28 986	52 579	81 565			29 160	(h)	(i)	129
1940	37 504	69 049	106 553			41 081			1 351
1950	49 285	89 829	139 114			53 111			4 444
1961	117 500	227 794	345 294	70 700	150 430	158 155			10 445
1972	175 470	345 671	521 141	277 500	495 790	561 793			5 063
1981	241 140	479 008	720 148	450 020	812 965	870 041			6 061
1990	311 094	627 714	938 808	585 940	1 126 871	1 218 960			10 101
2000	430 478	860 610	1 291 088	806 450	1 600 800	1 700 081	28 790	32 984	5 002
2009	488 060	967 122	1 455 182	958 720	1 911 132	2 044 302	35 490	35 037	379
2010	490 270	978 278	1 468 548	960 130	1 928 810	2 065 210	32 320	27 740	5 411
2011	498 447	991 224	1 489 671	980 600	1 955 051	2 077 892	34 394	28 390	574
2012	511 325	1 014 350	1 525 675	1 011 400	2 030 155	2 153 279	34 445	28 527	1 166
2013	527 971	1 048 861	1 576 832	1 056 330	2 106 400	2 231 911	31 304	27 600	1 112
2014	545 491	1 125 081	1 670 572	1 111 400	2 278 047	2 396 712	31 150	29 570	11 621
2015	575 207	1 171 724	1 746 931	1 180 000	2 400 161	2 518 436	31 000	31 900	9 144
2016	590 551	1 201 001	1 791 552	1 211 700	2 495 145	2 614 194	32 037	30 900	9 300
2017	619 978	1 241 111	1 861 089	1 252 100	2 590 114	2 722 609	32 270	31 217	9 007
2018	650 000	1 281 771	1 931 771	1 292 000	2 722 000	2 821 247	30 734	32 100	11 157
2019	680 287	1 321 641	2 001 928	1 331 100	2 857 507	3 010 100	30 122	31 581	15 701
2020	717 515	1 401 908	2 119 423	1 380 000	3 000 756	3 180 120	37 497	32 977	15 474
2021	750 405	1 501 315	2 251 720	1 430 000	3 200 304	3 380 108	36 102	30 190	16 788
2022	774 361	1 525 278	2 299 639	1 450 000	3 310 355	3 490 053	32 561	28 110	14 490
2023	799 595	1 561 125	2 360 720	1 480 000	3 427 152	3 600 000	29 970	27 120	15 209
2024	825 499	1 597 585	2 423 084	1 510 000	3 541 973	3 714 974	29 440	26 430	16 000
2025	851 511	1 634 111	2 485 622	1 540 000	3 656 801	3 829 801	28 910	25 740	16 800
2026	877 523	1 670 637	2 548 160	1 570 000	3 771 629	3 944 629	28 380	25 050	17 600
2027	903 535	1 707 163	2 610 698	1 600 000	3 886 457	4 059 457	27 850	24 360	18 400
2028	929 547	1 743 689	2 673 236	1 630 000	4 001 285	4 174 285	27 320	23 670	19 200
2029	955 559	1 780 215	2 735 774	1 660 000	4 116 113	4 289 113	26 790	22 980	20 000
2030	981 571	1 816 741	2 798 312	1 690 000	4 230 941	4 403 941	26 260	22 290	20 800
2031	1 007 583	1 853 267	2 860 850	1 720 000	4 345 769	4 518 769	25 730	21 600	21 600
2032	1 033 595	1 889 793	2 923 388	1 750 000	4 460 597	4 633 597	25 200	20 910	22 400
2033	1 059 607	1 926 319	2 985 926	1 780 000	4 575 425	4 748 425	24 670	20 220	23 200
2034	1 085 619	1 962 845	3 048 464	1 810 000	4 690 253	4 863 253	24 140	19 530	24 000
2035	1 111 631	2 000 371	3 112 002	1 840 000	4 805 081	4 978 081	23 610	18 840	24 800
2036	1 137 643	2 037 897	3 175 540	1 870 000	4 919 909	5 092 909	23 080	18 150	25 600
2037	1 163 655	2 075 423	3 239 078	1 900 000	5 034 737	5 207 737	22 550	17 460	26 400
2038	1 189 667	2 112 949	3 302 616	1 930 000	5 149 565	5 322 565	22 020	16 770	27 200
2039	1 215 679	2 150 475	3 366 154	1 960 000	5 264 393	5 437 393	21 490	16 080	28 000
2040	1 241 691	2 188 001	3 430 692	1 990 000	5 379 221	5 552 221	20 960	15 390	28 800
2041	1 267 703	2 225 527	3 493 230	2 020 000	5 494 049	5 667 049	20 430	14 700	29 600
2042	1 293 715	2 263 053	3 556 768	2 050 000	5 608 877	5 781 877	19 900	14 010	30 400
2043	1 319 727	2 300 579	3 620 306	2 080 000	5 723 705	5 896 705	19 370	13 320	31 200
2044	1 345 739	2 338 105	3 683 844	2 110 000	5 838 533	6 011 533	18 840	12 630	32 000
2045	1 371 751	2 375 631	3 747 382	2 140 000	5 953 361	6 126 361	18 310	11 940	32 800
2046	1 397 763	2 413 157	3 810 920	2 170 000	6 068 189	6 241 189	17 780	11 250	33 600
2047	1 423 775	2 450 683	3 874 458	2 200 000	6 183 017	6 356 017	17 250	10 560	34 400
2048	1 449 787	2 488 209	3 938 996	2 230 000	6 297 845	6 470 845	16 720	9 870	35 200
2049	1 475 799	2 525 735	4 003 534	2 260 000	6 412 673	6 585 673	16 190	9 180	36 000
2050	1 501 811	2 563 261	4 065 072	2 290 000	6 527 501	6 700 501	15 660	8 490	36 800
2051	1 527 823	2 600 787	4 128 610	2 320 000	6 642 329	6 815 329	15 130	7 800	37 600
2052	1 553 835	2 638 313	4 192 148	2 350 000	6 757 157	6 930 157	14 600	7 110	38 400
2053	1 579 847	2 675 839	4 255 686	2 380 000	6 871 985	7 044 985	14 070	6 420	39 200
2054	1 605 859	2 713 365	4 319 224	2 410 000	6 986 813	7 159 813	13 540	5 730	40 000
2055	1 631 871	2 750 891	4 382 762	2 440 000	7 101 641	7 274 641	13 010	5 040	40 800
2056	1 657 883	2 788 417	4 446 300	2 470 000	7 216 469	7 389 469	12 480	4 350	41 600
2057	1 683 895	2 825 943	4 509 838	2 500 000	7 331 297	7 504 297	11 950	3 660	42 400
2058	1 709 907	2 863 469	4 573 376	2 530 000	7 446 125	7 619 125	11 420	2 970	43 200
2059	1 735 919	2 900 995	4 636 914	2 560 000	7 560 953	7 733 953	10 890	2 280	44 000
2060	1 761 931	2 938 521	4 700 458	2 590 000	7 675 781	7 848 781	10 360	1 590	44 800
2061	1 787 943	2 976 047	4 764 990	2 620 000	7 790 609	7 963 609	9 830	900	45 600
2062	1 813 955	3 013 573	4 828 526	2 650 000	7 905 437	8 078 437	9 300	200	46 400
2063	1 839 967	3 051 100	4 891 067	2 680 000	8 020 265	8 193 265	8 770	100	47 200
2064	1 865 979	3 088 626	4 954 605	2 710 000	8 135 093	8 308 093	8 240	0	48 000

(A) Excluding full-blood Aborigines.

(B) Estimated. Figures for 1911 and later years are based on census returns, and have not been adjusted to 1911-12 base.

(C) Figures shown for 1911 and later years are based on recorded migration and have not been adjusted to 1911-12 base.

(D) Recorded net immigration and overseas migration in relation with adjustments for differences between the population as estimated and as actually enumerated at census dates. As records of migration (particularly inter-State) are known to be incomplete, the whole of the difference found at each census has been attributed to migration, and the recorded migration figures have been adjusted accordingly.

(E) By land.

(F) By sea.

VITAL STATISTICS

Year	Number				Rate per 1,000 of Mean Population (a)				Infant Mortality (c)	
	Marriages	Births	Deaths	Natural Increase	Marriages	Births	Deaths	Natural Increase	Number	Rate
1880	25	54	20	34	5	69	26	43	69	1.0
1881	37	100	34	66	9	99	32	67	101	1.3
1882	151	300	100	200	12.01	28.98	11.43	17.55	147	1.9
1870	132	325	87	238	11.1	34.27	11.15	23.12	173	1.7-2.3
1890	214	403	102	301	7.29	41.79	11.07	30.72	177	1.7
1891	278	1,061	240	821	7.28	53.19	11.87	41.32	198	2.0-2.0
1892	1,781	3,454	2,240	1,214	10.77	51.15	11.79	39.36	255	1.6-1.7
1901	1,321	3,718	2,510	1,208	8.88	40.92	11.39	29.53	737	1.8-2.0
1902	1,021	3,232	2,212	1,020	8.92	39.48	11.79	27.69	855	1.72-2.1
1903	1,004	3,099	2,155	944	8.10	39.50	12.69	26.81	918	1.71-2.2
1904	1,088	7,179	2,817	4,362	9.92	40.67	12.61	28.06	871	1.71-2.2
1905	1,195	7,582	2,709	4,873	9.81	39.13	10.97	28.16	730	1.6-1.9
1906	1,261	7,806	2,654	5,152	9.89	39.99	12.12	27.87	696	1.60-2.0
1907	1,114	7,712	2,911	4,801	9.71	39.13	11.87	27.26	707	1.6-1.7
1908	1,012	7,755	2,879	4,876	9.60	39.08	11.67	27.41	687	1.6-1.7
1909	1,097	7,902	2,794	5,108	9.69	38.87	10.77	28.10	691	1.6-1.7
1910	1,107	7,285	2,789	4,496	9.77	37.99	10.75	27.24	714	1.6-1.8
1911	1,121	8,091	2,973	5,118	9.77	38.32	10.13	28.19	699	1.6-1.7
1912	1,124	8,080	3,013	5,067	9.77	38.99	11.07	27.92	713	1.6-1.8
1913	1,179	8,213	3,014	5,199	9.71	39.41	9.28	30.13	695	1.6-1.8
1914	1,200	9,004	3,043	5,961	9.71	39.92	9.45	30.47	677	1.6-1.8
1915	1,281	9,017	3,062	5,955	9.60	39.07	9.71	29.36	699	1.6-1.8
1916	1,265	8,461	3,043	5,418	9.53	37.33	9.55	27.78	697	1.6-1.8
1917	1,221	7,882	2,799	5,083	9.79	35.79	9.11	26.68	697	1.6-1.8
1918	1,115	7,106	2,801	4,305	9.77	29.96	9.19	18.77	697	1.6-1.8
1919	1,194	9,937	3,090	6,847	9.88	31.69	11.11	20.58	671	1.6-1.8
1920	1,202	8,149	3,085	5,064	9.88	28.09	10.37	17.72	697	1.6-1.8
1921	1,255	7,807	3,480	4,327	9.88	28.37	10.42	17.95	671	1.6-1.8
1922	1,117	8,131	3,047	5,084	9.77	29.62	9.75	19.87	671	1.6-1.8
1923	1,276	7,534	3,030	4,504	9.77	29.39	9.71	19.68	671	1.6-1.8
1924	1,296	8,061	3,205	4,856	9.77	29.90	9.70	19.20	671	1.6-1.8
1925	1,256	8,185	3,111	5,074	9.77	31.05	9.79	21.26	671	1.6-1.8
1926	1,244	8,051	3,030	5,021	9.77	31.71	9.79	21.92	671	1.6-1.8
1927	1,108	8,482	3,203	5,279	9.77	31.03	9.79	19.24	671	1.6-1.8
1928	1,209	8,794	3,080	5,714	9.77	31.90	9.79	22.11	671	1.6-1.8
1929	1,267	9,051	3,030	6,021	9.77	31.01	9.71	21.30	671	1.6-1.8
1930	1,305	9,200	3,171	6,029	9.77	31.48	9.79	21.69	671	1.6-1.8
1931	1,271	8,549	3,081	5,468	9.77	30.77	9.71	21.06	671	1.6-1.8
1932	1,264	7,965	3,111	4,854	9.77	29.31	9.71	19.60	671	1.6-1.8
1933	1,274	7,824	3,090	4,734	9.77	29.05	9.71	19.34	671	1.6-1.8
1934	1,281	7,801	3,075	4,726	9.77	29.04	9.71	19.33	671	1.6-1.8
1935	1,289	8,117	3,111	5,006	9.77	29.17	9.71	19.46	671	1.6-1.8
1936	1,282	8,479	3,220	5,259	9.77	29.15	9.71	19.44	671	1.6-1.8
1937	1,165	8,060	3,080	4,980	9.77	29.02	9.71	19.31	671	1.6-1.8
1938	1,153	9,141	3,211	5,930	9.77	30.11	9.71	20.40	671	1.6-1.8
1939	1,165	9,030	3,305	5,725	9.77	30.29	9.71	19.58	671	1.6-1.8
1940	1,174	9,111	3,446	5,665	11.06	30.27	9.71	20.56	671	1.6-1.8
1941	1,167	10,113	3,708	6,405	10.71	31.53	10.06	21.47	671	1.6-1.8
1942	1,181	9,001	3,675	5,326	11.47	30.77	10.07	20.70	671	1.6-1.8
1943	1,227	10,481	3,707	6,774	9.50	31.58	9.72	21.86	671	1.6-1.8
1944	1,209	10,870	3,478	7,392	9.38	32.58	9.39	23.19	671	1.6-1.8
1945	1,188	10,072	3,712	6,360	9.71	31.99	9.72	22.27	671	1.6-1.8
1946	1,171	12,136	4,111	8,025	10.49	34.17	9.75	24.42	671	1.6-1.8
1947	1,181	11,871	4,225	7,646	10.60	33.89	9.89	24.00	671	1.6-1.8
1948	1,186	11,011	4,543	6,468	10.08	33.13	9.70	23.43	671	1.6-1.8
1949	1,181	11,111	4,700	6,411	9.70	33.17	9.89	23.28	671	1.6-1.8
1950	1,174	11,215	5,005	6,210	9.74	33.50	9.07	24.43	671	1.6-1.8
1951	1,190	11,794	5,285	6,509	9.25	35.49	9.11	26.38	671	1.6-1.8
1952	1,199	11,413	5,209	6,204	9.91	35.66	9.67	25.99	671	1.6-1.8
1953	1,052	11,892	5,072	6,820	9.19	35.94	9.17	26.77	671	1.6-1.8
1954	1,194	11,928	5,101	6,827	9.71	34.90	9.39	25.51	671	1.6-1.8
1955	1,145	10,023	5,379	4,644	9.71	30.29	9.75	20.54	671	1.6-1.8
1956	1,086	10,016	5,572	4,444	9.71	29.38	9.20	19.18	671	1.6-1.8
1957	1,091	10,011	5,207	4,804	9.71	29.32	9.71	19.61	671	1.6-1.8
1958	1,097	10,711	5,504	5,207	9.71	29.30	9.71	19.59	671	1.6-1.8
1959	1,087	11,111	5,407	5,704	9.71	29.34	9.71	19.63	671	1.6-1.8
1960	1,021	10,016	5,607	4,409	9.71	29.41	9.48	19.93	671	1.6-1.8
1961	1,120	11,078	5,329	5,749	9.66	28.16	9.77	18.39	671	1.6-1.8
1962	1,166	11,064	5,810	5,254	9.71	28.20	9.69	18.51	671	1.6-1.8
1963	1,155	11,080	5,876	5,204	9.44	28.39	9.71	18.68	671	1.6-1.8
1964	1,022	10,085	6,419	3,666	9.62	28.11	9.44	18.67	671	1.6-1.8

(a) Excluding full-blood marriages. (b) Rates for 1961 and later years are subject to revision after the release of Census data. (c) Excludes deaths of infants born before 1900. (d) For 1,000 live births. (e) Not available.

PUBLIC REVENUE AND EXPENDITURE

Year (a)	Consolidated Revenue Fund									
	Revenue from—					Expenditure on—				
	Land (including Land Tax)	Mining	Timber	Total Revenue	Lands and Sea Ports	Agricul- ture (Generally)	Mining	Woods and Forests (b)	Total Expendi- ture	
	£	£	£	£	£	£	£	£	£	£
1860	1,000			1,000	700				1,000	
1861	1,000			1,000	700				1,000	
1862	1,000			1,000	700				1,000	
1863	1,000			1,000	700				1,000	
1864	1,000			1,000	700				1,000	
1865	1,000			1,000	700				1,000	
1866	1,000			1,000	700				1,000	
1867	1,000			1,000	700				1,000	
1868	1,000			1,000	700				1,000	
1869	1,000			1,000	700				1,000	
1870	1,000			1,000	700				1,000	
1871	1,000			1,000	700				1,000	
1872	1,000			1,000	700				1,000	
1873	1,000			1,000	700				1,000	
1874	1,000			1,000	700				1,000	
1875	1,000			1,000	700				1,000	
1876	1,000			1,000	700				1,000	
1877	1,000			1,000	700				1,000	
1878	1,000			1,000	700				1,000	
1879	1,000			1,000	700				1,000	
1880	1,000			1,000	700				1,000	
1881	1,000			1,000	700				1,000	
1882	1,000			1,000	700				1,000	
1883	1,000			1,000	700				1,000	
1884	1,000			1,000	700				1,000	
1885	1,000			1,000	700				1,000	
1886	1,000			1,000	700				1,000	
1887	1,000			1,000	700				1,000	
1888	1,000			1,000	700				1,000	
1889	1,000			1,000	700				1,000	
1890	1,000			1,000	700				1,000	
1891	1,000			1,000	700				1,000	
1892	1,000			1,000	700				1,000	
1893	1,000			1,000	700				1,000	
1894	1,000			1,000	700				1,000	
1895	1,000			1,000	700				1,000	
1896	1,000			1,000	700				1,000	
1897	1,000			1,000	700				1,000	
1898	1,000			1,000	700				1,000	
1899	1,000			1,000	700				1,000	
1900	1,000			1,000	700				1,000	
1901	1,000			1,000	700				1,000	
1902	1,000			1,000	700				1,000	
1903	1,000			1,000	700				1,000	
1904	1,000			1,000	700				1,000	
1905	1,000			1,000	700				1,000	
1906	1,000			1,000	700				1,000	
1907	1,000			1,000	700				1,000	
1908	1,000			1,000	700				1,000	
1909	1,000			1,000	700				1,000	
1910	1,000			1,000	700				1,000	
1911	1,000			1,000	700				1,000	
1912	1,000			1,000	700				1,000	
1913	1,000			1,000	700				1,000	
1914	1,000			1,000	700				1,000	
1915	1,000			1,000	700				1,000	
1916	1,000			1,000	700				1,000	
1917	1,000			1,000	700				1,000	
1918	1,000			1,000	700				1,000	
1919	1,000			1,000	700				1,000	
1920	1,000			1,000	700				1,000	
1921	1,000			1,000	700				1,000	
1922	1,000			1,000	700				1,000	
1923	1,000			1,000	700				1,000	
1924	1,000			1,000	700				1,000	
1925	1,000			1,000	700				1,000	
1926	1,000			1,000	700				1,000	
1927	1,000			1,000	700				1,000	
1928	1,000			1,000	700				1,000	
1929	1,000			1,000	700				1,000	
1930	1,000			1,000	700				1,000	
1931	1,000			1,000	700				1,000	
1932	1,000			1,000	700				1,000	
1933	1,000			1,000	700				1,000	
1934	1,000			1,000	700				1,000	
1935	1,000			1,000	700				1,000	
1936	1,000			1,000	700				1,000	
1937	1,000			1,000	700				1,000	
1938	1,000			1,000	700				1,000	
1939	1,000			1,000	700				1,000	
1940	1,000			1,000	700				1,000	
1941	1,000			1,000	700				1,000	
1942	1,000			1,000	700				1,000	
1943	1,000			1,000	700				1,000	
1944	1,000			1,000	700				1,000	
1945	1,000			1,000	700				1,000	
1946	1,000			1,000	700				1,000	
1947	1,000			1,000	700				1,000	
1948	1,000			1,000	700				1,000	
1949	1,000			1,000	700				1,000	
1950	1,000			1,000	700				1,000	
1951	1,000			1,000	700				1,000	
1952	1,000			1,000	700				1,000	
1953	1,000			1,000	700				1,000	
1954	1,000			1,000	700				1,000	
1955	1,000			1,000	700				1,000	
1956	1,000			1,000	700				1,000	
1957	1,000			1,000	700				1,000	
1958	1,000			1,000	700				1,000	
1959	1,000			1,000	700				1,000	
1960	1,000			1,000	700				1,000	
1961	1,000			1,000	700				1,000	
1962	1,000			1,000	700				1,000	
1963	1,000			1,000	700				1,000	
1964	1,000			1,000	700				1,000	
1965	1,000			1,000	700				1,000	
1966	1,000			1,000	700				1,000	
1967	1,000			1,000	700				1,000	
1968	1,000			1,000	700				1,000	
1969	1,000			1,000	700				1,000	
1970	1,000			1,000	700				1,000	
1971	1,000			1,000	700				1,000	
1972	1,000			1,000	700				1,000	
1973	1,000			1,000	700				1,000	
1974	1,000			1,000	700				1,000	
1975	1,000			1,000	700				1,000	
1976	1,000			1,000	700				1,000	
1977	1,000			1,000	700				1,000	
1978	1,000			1,000	700				1,000	
1979	1,000			1,000	700				1,000	
1980	1,000			1,000	700				1,000	
1981	1,000			1,000	700				1,000	
1982	1,000			1,000	700				1,000	
1983	1,000			1,000	700				1,000	
1984	1,000			1,000	700				1,000	
1985	1,000			1,000	700				1,000	
1986	1,000			1,000	700				1,000	
1987	1,000			1,000	700				1,000	
1988	1,000			1,000	700				1,000	
1989	1,000			1,000	700				1,000	
1990	1,000			1,000	700				1,000	
1991	1,000			1,000	700				1,000	
1992	1,000			1,000	700				1,000	
1993	1,000			1,000	700				1,000	
1994	1,000			1,000	700				1,000	
1995	1,000			1,000	700				1,000	
1996	1,000			1,000	700				1,000	
1997	1,000			1,000	700				1,000	
1998	1,000			1,000	700				1,000	
1999	1,000			1,000	700				1,000	
2000	1,000			1,000	700				1,000	
2001	1,000			1,000	700				1,000	
2002	1,000			1,000	700				1,000	
2003	1,000			1,000	700				1,000	
2004	1,000			1,000	700				1,000	
2005	1,000			1,000	700				1,000	
2006	1,000			1,000	700				1,000	
2007	1,000			1,000	700				1,000	
2008	1,000			1,000	700				1,000	
2009	1,000			1,000	700				1,000	
2010	1,000			1,000	700				1,000	
2011	1,000			1,000	700				1,000	
2012	1,000			1,000	700				1,000	
2013	1,000			1,000	700				1,000	

NET EXPENDITURE FROM LOAN FUNDS: PUBLIC DEBT

Year (a)	Net Expenditure from Loan Funds on Public Works and Services (b)						Public Debt (as at end of year)		
	Railways, Tramways and Omni-buses	Electricity Supply	Harbours, Rivers, Lights, Docks, etc.	Water Supply, Sewerage and Irrigation	Public Buildings	Other	Total	Gross Amount Outstand- ing	Sinking Fund
	£	£	£	£	£	£	£	£	£
1881								1,730	
1882									
1883	274,885		19,816				14,009,856	241,000	60
1884	1,497		2,811				15,966	2,307,411	45,437
1885	151,111		197,488	478,812		56,115	478,229	11,074,645	377,441
1886	332,729		218,850	872,890		74,333	1,443,892	15,700,456	431,474
1887	578,085		182,862	121,774		31,087	1,541,892	11,944,119	480,747
1888	1,069,418		138,422	415,132		54,829	1,667,801	12,562,739	656,009
1889	443,335		84,515	130,162		29,709	710,029	10,099,288	864,732
1890	348,397		90,968	109		299,261	864,533	10,642,771	1,073,844
1891	213,997		28,455	18,684	3,244	192,121	475,443	10,958,583	1,730,601
1892	324,527		90,060	21,708	115,098	271,261	800,694	12,222,624	1,000,643
1893	305,817		70,464	15,796	108,685	119,382	725,742	20,437,814	1,904,434
1894	517,899		81,182	14,819	97,111	171,872	1,012,886	21,951,101	2,235,360
1895	464,323		89,102	99,395	75,994	312,929	1,098,865	23,257,113	2,560,707
1896	6,308,988		33,270	1,73,102	979,009	19,008,186	20,510,012	1,701,014	2,344,412
1897	1,330,300		185,788	121,393	190,840	547,644	2,366,592	26,280,702	2,016,734
1898	1,083,901		150,488	39,115	79,112	799,571	2,093,183	30,279,476	2,309,413
1899	1,160,594		80,870	29,210	44,165	1,286,580	2,521,069	34,429,746	1,098,103
1900	609,118		186,369	245,242	61,093	1,333,898	2,521,069	37,022,699	4,088,488
1901	447,363		169,229	115,661	80,084	823,867	1,586,692	39,139,678	4,328,432
1902	337,475		121,358	76,185	22,330	296,013	833,133	40,010,894	5,035,361
1903	207,973		84,393	68,248	17,337	675,487	1,054,178	42,904,601	5,370,453
1904	187,348		99,948	46,675	27,570	724,236	1,049,736	43,934,367	6,149,008
1905	121,348		102,177	47,080	10,000	1,947,311	2,062,520	45,996,883	4,823,478
1906	108,888		118,333	112,604	24,961	1,090,574	1,556,404	47,553,287	2,641,554
1907	802,476		91,841	217,479	44,440	1,197,799	2,244,595	49,697,774	4,370,100
1908	678,372		120,140	260,874	18,080	1,370,248	2,098,229	51,786,004	4,791,051
1909	651,519		139,814	41,595	38,995	1,023,040	1,903,921	53,789,967	4,373,571
1910	621,398		181,012	610,370	42,140	2,588,229	4,002,087	61,175,261	5,085,031
1911	798,774		219,308	958,463	77,796	2,332,353	4,076,684	70,619,061	5,034,193
1912	778,421		191,187	441,663	317,493	2,450,265	3,998,201	79,650,175	5,766,339
1913	961,154		284,860	540,095	127,784	2,348,549	4,160,952	76,421,764	5,699,080
1914	912,489		282,847	545,838	94,079	1,127,308	3,063,732	109,330,449	6,999,276
1915	909,750		244,309	906,058	54,138	1,74,831	3,484,126	111,194,323	1,060,167
1916	499,011		128,509	280,894	41	758,309	1,306,846	78,564,885	1,316,360
1917	181,442		77,989	575,904		821,401	1,510,242	79,707,989	1,208,396
1918	187,011		242,179	777,022	14,028	918,087	2,060,199	81,814,088	1,446,349
1919	329,460		249,368	808,201	48,008	1,173,783	2,649,361	84,947,802	371,412
1920	498,344		304,941	1,077,273	108,899	551,956	2,538,213	88,680,170	423,423
1921	472,778		300,453	1,243,408	44,422	350,116	2,411,707	90,344,063	609,184
1922	343,422		175,391	1,157,309	96,128	570,379	2,093,223	92,332,855	618,008
1923	473,801		190,549	921,560	91,674	571,821	2,188,399	94,711,941	501,211
1924	229,844		92,994	948,798	114,779	395,040	1,636,184	96,479,061	549,080
1925	160,208		51,738	897,281	108,317	488,868	1,419,479	98,230,339	502,374
1926	105,034	8,961	76,088	891,295	123,047	245,120	1,460,314	97,779,744	571,578
1927	62,259	12,679	65,469	802,547	25,043	318,031	979,729	97,459,543	595,420
1928	75,293	48,117	66,288	438,887	27,432	705,015	1,268,602	96,988,000	771,015
1929	24,340	18,337	71,435	17,663	82,074	17,171	166,544	96,478,226	70,139
1930	69,085	3,391	30,579	71,898	120,395	243,786	548,002	96,844,080	127,080
1931	79,454	104,060	31,009	216,488	220,208	107,856	617,203	96,923,011	101,040
1932	207,740	198,054	68,478	728,741	486,101	416,545	2,083,627	99,002,381	248,284
1933	358,082	735,047	158,232	894,878	548,508	62,828	3,347,029	101,274,741	24,109
1934	454,477	1,094,543	224,489	818,227	549,872	411,176	1,990,294	103,668,743	62,822
1935	9,548,183	2,448,718	401,833	1,061,042	478,293	1,429,599	16,049,664	109,330,143	70,959
1936	1,861,324	3,295,712	582,213	2,548,312	1,001,895	1,640,338	10,326,394	123,186,748	8,440
1937	7,508,037	3,341,918	1,346,808	2,480,331	1,364,566	1,704,647	17,348,268	138,288,323	323,313
1938	4,768,736	89,379	1,215,976	2,429,198	2,716,143	4,393,707	17,009,387	153,079,170	895,877
1939	6,647,107	703,154	1,148,778	1,040,781	1,172,545	3,137,022	14,103,874	165,789,544	416,441
1940	4,975,814	708,080	980,011	2,810,321	1,396,616	3,863,208	14,730,370	177,481,349	223,038
1941	1,060,649	1,024,890	819,117	2,784,308	2,203,946	3,449,078	15,341,113	188,732,740	25,377
1942	5,756,379	3,300,000	876,367	2,798,002	2,960,002	1,594,634	16,278,014	205,115,943	95,918
1943	1,194,882	2,940,000	499,109	3,847,128	2,943,308	1,598,054	14,130,783	248,128,448	73,459
1944	5,859,418	1,100,000	713,709	4,192,363	3,784,979	1,596,367	17,171,355	262,118,579	86,137
1945	2,476,845	778,508	568,717	4,773,572	4,361,206	1,177,322	16,152,022	249,707,292	58,579
1946	5,101,714	900,000	863,061	5,158,060	1,210,437	4,018,818	27,208,036	261,335,019	46,301
1947	5,710,094	150,000	1,293,618	5,475,460	6,015,762	1,224,230	28,879,354	277,864,378	110,360
1948	5,719,001	250,000	2,218,690	6,384,730	5,709,979	5,791,379	39,449,886	293,688,091	242,642
1949	5,748,918		1,514,197	5,268,424	7,831,805	5,204,292	21,549,846	313,022,541	221,007

(a) From 1880, year ended 30th June. Sinking Fund at 31st March from 1902 to 1925. (b) From 1924 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 1895. (g) Including repayments for previous years. (h) Reduction due to operation of Finance Agreement Act of 1922.

BANKING AND INSURANCE

Year	Trading Banks			Savings Banks (c)		Insurance			
	De- positors' Balances (a)	Loans (other than Loans to Authorized Dealers in the Short- term Money Market), Advances and Bills Discounted (a)	Bank Clearings (b)	Number of accounts open at end of Year	Depositors' Balances at end of Year	Life		General (d) (e)	
						Sum Insured under Policies Existing at end of Year		Gross Premiums	Gross Claims
						Ordinary (including Super- annuation)	Industrial		
	£'000	£'000	£'000		£	£'000	£'000	£	£
1870	(f)	(f)	(f)	895	13,582	(f)	(f)		
1880	(f)	(f)	(f)	1,299	22,724	(f)	(f)		
1890	952	1,404		3,314	34,616	(f)	(f)		
1900	4,391	2,767		33,646	1,299,144	3,458	220		
1901	4,437	3,061		39,318	1,618,369	3,816	236		
1902	4,796	3,224		45,108	1,889,082	4,337	261		
1903	4,792	3,661		48,008	1,988,624	4,925	264		
1904	4,734	3,855		54,873	2,079,763	5,344	266		
1905	5,098	4,111		59,764	2,207,296	5,557	353		
1906	5,551	4,614		63,573	2,316,161	5,626	365		
1907	5,348	5,062		66,737	2,433,135	5,621	355	(f)	(f)
1908	4,985	5,451		70,340	2,381,189	5,773	445		
1909	5,116	5,488		75,852	3,053,575	5,937	481		
1910	6,314	6,114		84,262	3,477,708	6,359	585		
1911	7,165	7,500		97,147	4,088,800	6,098	684		
1912	6,697	8,412	(f)	108,622	4,400,398	7,462	831		
1913	6,420	8,176		121,201	4,675,097	7,638	1,009		
1914	6,894	8,317		134,510	4,925,454	7,921	1,134		
1915	7,613	8,709		144,777	5,142,291	8,029	1,225		
1916	8,049	9,143		156,458	5,333,463	8,330	1,365		
1917	8,589	9,143		171,207	5,841,611	8,620	1,521	360,648	98,065
1918	9,667	9,683		182,140	6,290,028	9,064	1,728	391,380	151,673
1919	10,803	10,414		196,584	7,002,474	9,925	1,953	401,706	147,620
1920	12,371	10,707		211,415	7,257,840	10,820	2,045	589,944	184,067
1921	13,002	10,916		226,468	7,716,529	12,091	2,349	556,186	341,919
1922	12,260	10,766		237,506	7,759,317	12,703	2,504	597,676	328,867
1923	12,674	10,998		250,214	8,032,420	13,772	2,554	620,861	217,530
1924	13,122	11,656		264,842	8,218,147	14,855	3,180	764,152	271,665
1925	13,600	12,048		277,701	8,363,034	15,670	3,405	834,380	361,675
1926	(g) 14,444	(g) 12,872		292,353	8,969,824	16,985	3,858	916,006	450,389
1927	14,651	14,617		309,176	9,694,596	18,139	4,021	(h) 1,155,329	(g) 216,226
1928	15,513	15,296		330,284	10,645,373	19,463	4,376	1,055,624	600,194
1929	15,405	17,240		350,046	11,606,100	20,634	4,683	1,195,526	602,706
1930	12,762	20,886	1,707	367,665	11,728,617	20,828	4,502	1,226,101	681,307
1931	12,228	20,818	1,368	371,602	10,667,422	19,953	4,177	957,008	485,620
1932	14,281	19,640	1,446	206,997	10,217,739	19,591	4,293	846,498	327,445
1933	14,892	19,371	1,528	194,096	10,064,464	19,724	4,459	893,218	397,817
1934	16,453	19,371	1,622	192,915	10,398,972	20,316	4,697	872,056	400,446
1935	18,103	20,531	1,815	197,611	10,929,610	21,449	4,973	964,609	454,809
1936	19,366	21,614	1,947	208,090	11,517,320	22,504	5,344	1,087,779	507,335
1937	19,732	22,266	2,011	217,247	11,834,794	24,428	5,887	1,206,146	632,612
1938	20,615	22,571	2,092	225,118	12,037,486	25,826	6,072	1,320,314	762,869
1939	20,690	23,887	2,059	232,564	12,396,191	26,926	6,304	1,372,956	730,778
1940	21,110	24,765	2,298	233,649	11,866,161	27,354	6,543	1,441,950	726,069
1941	23,549	22,809	2,234	238,820	12,521,159	27,921	6,938	1,395,903	618,163
1942	25,959	21,819	2,398	250,153	13,821,138	27,940	7,656	1,402,777	622,803
1943	30,568	18,914	2,638	279,460	18,884,330	28,932	8,328	1,173,589	607,033
1944	35,764	16,781	2,774	301,225	25,790,714	30,640	8,681	1,184,443	448,445
1945	37,423	16,752	2,907	316,565	31,763,170	33,147	9,612	1,282,270	677,196
1946	(h) 33,326	(h) 16,863	3,637	340,737	33,828,087	38,804	10,518	1,444,946	611,433
1947	33,245	22,694	4,341	349,091	36,625,137	44,008	11,627	1,512,273	668,671
1948	41,016	24,377	5,519	358,706	38,182,591	49,416	12,669	2,093,779	1,044,528
1949	50,486	24,952	6,807	365,130	37,634,968	55,698	13,563	2,536,463	1,026,541
1950	53,229	27,650	8,820	378,570	39,612,361	63,168	14,732	2,950,479	1,220,179
1951	74,622	33,340	11,403	392,706	44,672,327	74,362	18,220	3,679,886	1,670,488
1952	85,461	41,676	11,460	403,678	47,170,835	85,504	17,628	4,673,956	2,602,471
1953	85,117	43,679	12,341	414,288	49,794,288	97,750	19,055	5,368,019	2,726,318
1954	90,932	53,214	13,692	422,450	52,614,379	110,734	20,124	5,715,329	2,637,919
1955	90,448	68,915	13,798	426,637	53,628,939	125,772	20,744	6,281,459	3,140,604
1956	87,035	71,078	14,538	446,419	57,933,790	141,640	21,057	6,772,858	3,562,890
1957	92,789	67,637	15,569	473,548	62,693,288	158,632	21,267	6,896,208	4,101,225
1958	93,239	70,599	15,183	497,690	65,948,351	176,180	21,601	7,800,641	3,903,656
1959	90,150	73,553	17,250	527,079	71,439,134	198,131	21,839	8,584,313	4,582,351
1960	96,035	71,032	22,462	550,966	78,022,269	229,870	22,162	9,976,554	5,335,260
1961	95,047	73,123	23,639	577,619	80,711,848	261,618	22,372	10,803,068	6,354,893
1962	104,833	69,602	25,906	625,070	80,527,483	298,946	23,377	11,456,803	6,127,333
1963	109,976	76,765	29,937	653,417	104,406,239	339,580	25,992	12,380,737	7,361,415
1964	121,132	82,436	34,274	736,909	119,883,140	(f)	(f)	13,142,355	7,814,523

(a) Average based on amounts as at close of business each week. From 1927, year ended 30th June. (b) Weekly average for calendar year. (c) From 1900, year ended 30th June. (d) From 1927, year ended 30th June.

(e) Excludes transactions of The Motor Vehicle Insurance Trust, which became the sole insurer in respect of motor vehicle (third party) insurance from 1st July, 1949. (f) Not available. (g) Six months ended 30th June.

(h) Average for nine months to 30th June. (i) Not available at time of publication.

* Revised.

TRANSPORT AND COMMUNICATION

Year	State Government Railways (a)				Private Railways	Posts, Telegraphs and Telephones		Shipping (b)		
	Route Miles at end of Year (c)	Operating Revenue (d)	Operating Expenses (e)	Paying Goods and Passengers Carried (f)	Route Miles at end of Year (g)	Tele-graph and Tele-phones Lines (h)	Revenue (i)(j)	Expendi-ture (j)(k)	Vessels—Geared to Ports outside the State	
									Number	Net Tonnage
	1	2	3	4	5	6	1929	1930		
1927									151	67,730
1928	34	2,466	1,851	2,466	36	1,365	1	30	188	129,141
1929	128	45,313	51,840	60,602	388	5,991	27	37	283	429,327
1930	1,368	1,280,311	961,479	1,354,940	422	8,955	229	249	747	1,608,312
1931	1,253	1,353,304	1,044,300	1,713,720	459	8,175	219	251	901	1,577,027
1932	1,360	1,821,422	1,263,370	1,888,146	479	8,112	218	259	767	1,588,506
1933	1,348	1,551,081	1,253,723	1,786,019	477	8,079	221	277	705	1,692,141
1934	1,341	1,558,084	1,178,454	1,807,370	455	8,199	216	295	625	1,777,146
1935	1,405	1,610,120	1,256,003	1,854,273	494	8,369	244	305	616	1,829,250
1936	1,412	1,634,444	1,261,753	1,888,514	493	8,451	260	295	609	1,792,170
1937	1,764	1,617,353	1,235,907	1,991,378	585	8,680	281	319	593	1,761,218
1938	1,843	1,691,853	1,307,735	2,058,741	738	8,868	272	346	592	1,716,905
1939	2,040	1,698,456	1,317,871	2,067,100	848	8,714	277	336	610	1,816,188
1940	2,115	1,702,354	1,398,008	2,241,855	902	2,480	306	383	716	1,870,760
1941	2,170	1,841,413	1,218,477	2,488,444	945	3,580	311	455	781	1,980,590
1942	2,566	1,894,804	1,343,977	2,642,067	981	5,758	321	494	795	2,014,327
1943	2,598	2,017,863	1,506,600	2,860,241	1051	5,515	336	611	813	2,042,954
1944	2,467	2,237,011	1,557,008	3,170,144	1050	5,804	341	571	812	2,101,754,070
1945	2,462	2,036,744	1,497,320	2,923,858	976	(1)	848	344	611	2,164,122
1946	2,462	2,036,744	1,497,320	2,923,858	976	(1)	848	344	611	2,164,122
1947	2,420	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1948	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1949	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1950	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1951	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1952	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1953	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1954	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1955	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1956	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1957	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1958	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1959	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1960	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1961	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1962	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1963	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1964	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1965	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1966	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1967	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1968	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1969	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1970	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1971	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1972	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1973	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1974	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1975	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1976	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1977	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1978	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1979	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1980	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1981	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1982	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1983	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1984	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1985	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1986	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1987	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1988	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1989	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1990	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1991	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1992	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1993	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1994	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1995	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1996	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1997	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1998	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
1999	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2000	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2001	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2002	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2003	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2004	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2005	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2006	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2007	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2008	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2009	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2010	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2011	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2012	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2013	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2014	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2015	2,421	1,871,382	1,458,451	2,460,746	1,010	3,342	380	437	701	1,767,888
2016										

MOTOR VEHICLE REGISTRATIONS: EXPORTS OF WOOL

Year	Motor Vehicles—Effective Registrations (a)				Wool Exports (b)			
	Motor Cars (c)	Ordnance, Vans and Trucks (d)	Goods-carrying	Motor Cycles (e)	Gross (f)		Net (g)	
					Quantity	Value	Quantity	Value
1940					0	0	0	0
1941					30,000	3,000		
1942					30,000	3,000		
1943					30,000	3,000		
1944					30,000	3,000		
1945					30,000	3,000		
1946					30,000	3,000		
1947					30,000	3,000		
1948					30,000	3,000		
1949					30,000	3,000		
1950					30,000	3,000		
1951					30,000	3,000		
1952					30,000	3,000		
1953					30,000	3,000		
1954					30,000	3,000		
1955					30,000	3,000		
1956					30,000	3,000		
1957					30,000	3,000		
1958					30,000	3,000		
1959					30,000	3,000		
1960					30,000	3,000		
1961					30,000	3,000		
1962					30,000	3,000		
1963					30,000	3,000		
1964					30,000	3,000		
1965					30,000	3,000		
1966					30,000	3,000		
1967					30,000	3,000		
1968					30,000	3,000		
1969					30,000	3,000		
1970					30,000	3,000		
1971					30,000	3,000		
1972					30,000	3,000		
1973					30,000	3,000		
1974					30,000	3,000		
1975					30,000	3,000		
1976					30,000	3,000		
1977					30,000	3,000		
1978					30,000	3,000		
1979					30,000	3,000		
1980					30,000	3,000		
1981					30,000	3,000		
1982					30,000	3,000		
1983					30,000	3,000		
1984					30,000	3,000		
1985					30,000	3,000		
1986					30,000	3,000		
1987					30,000	3,000		
1988					30,000	3,000		
1989					30,000	3,000		
1990					30,000	3,000		
1991					30,000	3,000		
1992					30,000	3,000		
1993					30,000	3,000		
1994					30,000	3,000		
1995					30,000	3,000		
1996					30,000	3,000		
1997					30,000	3,000		
1998					30,000	3,000		
1999					30,000	3,000		
2000					30,000	3,000		
2001					30,000	3,000		
2002					30,000	3,000		
2003					30,000	3,000		
2004					30,000	3,000		
2005					30,000	3,000		
2006					30,000	3,000		
2007					30,000	3,000		
2008					30,000	3,000		
2009					30,000	3,000		
2010					30,000	3,000		
2011					30,000	3,000		
2012					30,000	3,000		
2013					30,000	3,000		
2014					30,000	3,000		
2015					30,000	3,000		
2016					30,000	3,000		
2017					30,000	3,000		
2018					30,000	3,000		
2019					30,000	3,000		
2020					30,000	3,000		

N.A. denotes "not ascertainable" or "not available."

(a) From 1940 to 1949, the earlier years, at various dates. For years before 1940, estimates (unpublished) based on 1940 statistics. Commonwealth-owned vehicles other than those of defence services. From 1950, year ending based on the results of the periodic Census of Motor Vehicles. (b) From 1915, year ending 1915. From 1916, 1916 is motor station wagons, previously included with omnibuses, cabs and trucks. (c) See note (a). (d) Including motor omnibuses. (e) For 1940 and earlier years including motor cycles for which figures are not available separately. (f) See note (c). (g) See note (c).

EXPORTS OF CERTAIN COMMODITIES—continued

Year (1)	Wheat								Barley, Potatoes and Oats							
	Roof and Vent				Malting and Lough				Port							
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value								
1880	1,000	10	10	10	10	10	10	10								
1881	1,000	10	10	10	10	10	10	10								
1882	1,000	10	10	10	10	10	10	10								
1883	1,000	10	10	10	10	10	10	10								
1884	1,000	10	10	10	10	10	10	10								
1885	1,000	10	10	10	10	10	10	10								
1886	1,000	10	10	10	10	10	10	10								
1887	1,000	10	10	10	10	10	10	10								
1888	1,000	10	10	10	10	10	10	10								
1889	1,000	10	10	10	10	10	10	10								
1890	1,000	10	10	10	10	10	10	10								
1891	1,000	10	10	10	10	10	10	10								
1892	1,000	10	10	10	10	10	10	10								
1893	1,000	10	10	10	10	10	10	10								
1894	1,000	10	10	10	10	10	10	10								
1895	1,000	10	10	10	10	10	10	10								
1896	1,000	10	10	10	10	10	10	10								
1897	1,000	10	10	10	10	10	10	10								
1898	1,000	10	10	10	10	10	10	10								
1899	1,000	10	10	10	10	10	10	10								
1900	1,000	10	10	10	10	10	10	10								

(a) Figures 1958, year ended 1958: Total. (b) Separate particulars not available. Total exports of fresh
meats were 184,379 lb. valued at \$4,502 in 1958. 244,000 lb. valued at \$5,144 in 1957; 1,879 lb. valued at \$208 in
1956. (c) Six months ended 1958: Total. (d) Figures for 1956-57 available, and those for 1957-as instance,
statements of 6,774,044 lb. valued at \$446,531 exported overseas during 1958-57 but not recorded until 1959-60.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Wool (b)		Hides (b)		Fur skins (b)		Fruit (b)		Cattle meat	Sheep meat
	Quantity		Quantity		Quantity		Quantity			
	Value	Value	Value	Value	Value	Value	Value	Value		
	£	£	£	£	£	£	£	£		
1896	17	720				60			24	114
1897						60				1,360
1898						76				140
1899	17	121								102
1900										431
1901	48	400			11	600	114		15	1,039
1902	48	413				641	107		10	1,054
1903						148	30	7,835		1,498
1904						10	15			45
1905	5	41	110			4	14			102
1906	14	877				10	121	100		1,313
1907	24	130				10	138	113		191
1908	4,087	11,050				10	124	109		12
1909	520	5,050	100	13	61	548	5,202	118		135
1910	1,000	10,675	117	23	100	911	5,157	117		136
1911	5,000	25,427	154	3	81	700	5,500	7,845		1,161
1912	5,170	34,565	13,544	530	60	644	10,105	30,542		5,44
1913	18,000	111,730	38,849	2,000	71	7,000	15,308	41,354		11,070
1914	29,000	159,640	48,306	3,540	111	2,150	35,374	73,010		15,100
1915	18,200	133,000	50,000	1,100	111	900	8,300	29,877		8,111
1916	2,000	7,150	25,540	1,011	101	9,000	19,417	37,408		6,070
1917	17,300	218,000	32,710	2,000	100	10,000	25,000	70,843		4,100
1918	37,472	424,000	55,001	3,000	100	3,000	85,014	22,303		1,010
1919	58,500	690,577	318,140	21,007	105	2,107	35,000	80,307		14,000
1920	65,451	1,004,400	100,415	17,700	100	7,007	47,007	9,518		71,040
1921	170,410	2,500,000	137,370	15,765	100	14,004	160,000	30,310		11,000
1922	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1923	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1924	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1925	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1926	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1927	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1928	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1929	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1930	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1931	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1932	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1933	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1934	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1935	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1936	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1937	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1938	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1939	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1940	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1941	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1942	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1943	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1944	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1945	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1946	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1947	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1948	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1949	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1950	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1951	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1952	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1953	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1954	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1955	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1956	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1957	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1958	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1959	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1960	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1961	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1962	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1963	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000
1964	50,000	1,070,000	86,745	10,000	71	8,500	131,000	21,007		11,000

(a) From 1911, year ended 30th June. (b) Includes ships' stores for 1900-49 and earlier. From 1950-60 ships' stores are excluded. (c) Includes ships' stores. (d) Includes freights. (e) More or less than 100 lb. (f) Not available. (g) Six months ended 30th June. * Revised.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (1)	Stone and Tiles		Timber (2)		Fish, Bats, Tails, Prong (3)		Pearl-shell		Petroleum Oils and Spuns (4)	
	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
	£	1000 sq. ft.	£	—	£	—	£	—	£	
1929	329	126	1,799							
1930	66	655	5,812							
1931	195	2,589	17,571				1,489	8,551		
1932	3,775	7,950	99,293				14,399	35,710		
1933	24,402	14,995	97,002				24,732	85,292		
1934	24,992	98,795	47,000				14,737	86,512		
1935	99,559	45,997	17,547				16,357	105,799		
1936	111,456	71,082	100,544				18,696	198,899		
1937	129,625	95,799	4,88,997				19,971	174,322		
1938	159,372	95,999	162,129				21,275	124,595		
1939	169,289	104,614	499,911				29,691	146,882		
1940	182,799	105,791	710,799				25,512	142,682		
1941	189,678	79,692	591,992				27,891	199,515		
1942	187,991	118,195	410,614				39,692	199,711		
1943	197,655	99,995	499,795				29,412	174,995		
1944	241,294	144,995	97,292				29,791	249,699		
1945	171,149	149,399	998,147				27,471	249,794		
1946	182,495	199,299	999,299				31,915	421,699		
1947	259,417	192,422	1,099,422				49,419	274,724		
1948 (1)	199,415	75,591	192,591				19,192	85,992		
1949	149,991	119,992	499,992				27,899	191,299		
1950	251,992	95,795	419,514				25,945	139,597		
1951	229,295	49,695	719,495				24,999	199,677		
1952	297,798	41,719	279,719				17,297	149,779		
1953	211,991	49,995	719,591				17,119	117,512		
1954	923,999	99,794	899,794				31,595	339,292		
1955	979,674	117,795	179,221				29,999	244,991		
1956	959,149	99,791	1,041,947				19,449	295,779		
1957	143,977	94,995	997,171				29,477	244,994		
1958	929,245	199,645	1,367,217				29,479	249,699		
1959	477,427	149,191	1,477,427				29,291	294,449		
1960	441,395	144,911	1,323,895				29,792	295,847		
1961	179,994	57,191	1,077,976				29,599	215,397		
1962	254,144	184,617	1,265,284				19,999	199,995		
1963	999,994	91,991	999,141				21,515	179,476		
1964	399,997	79,991	897,419				19,575	169,799		
1965	299,699	49,294	597,141				29,515	197,219		
1966	197,259	99,791	149,811				19,997	97,997		
1967	259,995	99,425	297,477				29,619	147,915		
1968	399,795	49,729	499,944				19,294	97,399		
1969	211,799	64,911	917,221				19,415	94,791		
1970	919,291	67,171	977,291				19,391	199,919		
1971	911,494	99,995	999,291				19,291	124,395		
1972	999,414	91,497	929,577				24,721	199,199		
1973	917,939	99,451	779,619				22,921	199,699		
1974	979,625	91,991	979,191				19,979	79,992		
1975	249,492	79,994	799,629				13,794	79,199		
1976	199,999	92,497	999,191				11,619	79,349		
1977	175,551	42,772	599,497				129	719		
1978	999,141	49,744	999,999				37	399		
1979	999,999	19,212	999,717							
1980	919,999	49,479	14,921				999	8,199		
1981	1,999,692	41,991	919,692				2,497	99,945		
1982	1,994,157	41,349	1,115,111				6,721	199,499		
1983	1,997,911	99,379	999,122				8,199	149,199		
1984	1,194,551	14,294	979,477		1,119,294	97,959	8,997	197,499		
1985	2,449,699	29,191	999,122		1,149,915	15,254	4,797	177,199		
1986	1,999,911	29,691	1,999,911		1,999,911	199,722	8,299	299,299		
1987	1,997,221	17,591	2,999,221		1,999,221	1,999,221	9,599	299,299		
1988	1,997,444	49,411	2,999,199		1,171,221	12,221	12,221	299,799		
1989	1,449,291	41,749	1,999,191		2,479,577	2,479,577	13,799	499,477	1,479,199	
1990	1,619,995	54,991	1,799,191		2,479,976	1,479,722	13,934	499,727	1,479,976	
1991	1,999,774	59,147	1,997,191		2,479,749	1,771,191	2,471	999,724	1,999,724	
1992	1,999,221	69,872	1,747,191		1,999,551	2,479,551	2,471	999,221	1,999,221	
1993	1,747,999	77,991	4,999,472		1,999,911	2,479,911	19,921	249,721	1,999,911	
1994	1,999,491	79,991	1,999,221		1,999,551	2,479,551	12,455	399,551	1,999,551	
1995	1,914,249	99,412	2,479,749		1,999,911	2,479,911	11,229	299,249	1,999,249	
1996	2,299,911	99,991	1,999,191		2,479,749	4,999,994	8,124	199,191	2,479,749	
1997	2,199,411	99,717	1,999,411		1,999,411	4,999,411	7,947	144,411	2,199,411	
1998	2,479,999	41,191	1,999,191		1,999,191	4,999,191	1,991	29,191	2,479,999	

(1) From 1945, year ended 30th June.

(2) Excluding plywood and veneers and small quantities of timber for which no separate figures are recorded. For the years 1966 to 1981, figures are approximate.

(3) Figures for the years 1946 to 1965 represent overseas exports only and exclude small consignments to other Australian States. Those for 1962 to 1981 and later years include small consignments of cooked whole crayfish to other Australian States.

(4) A major oil refinery began production in 1954. In some earlier years there were small quantities of re-exported products which were of little significance and are not shown.

(5) Figures for 1956-57 are available, but it is known that the value of exports was about £200,000.

(6) Figures for 1956-57 are available, and that for 1957-58 includes, an amount of £11,000 representing the value of cattle hides exported during 1956-57 but not recorded until 1957-58.

EXPORTS OF CERTAIN COMMODITIES—continued

[illegible]

(a) From 1913, year ended 30th June. (b) Gold sold abroad before shipment is not recorded as an export until actually shipped. (c) Australian currency value, including additional premiums on sales of industrial gold. (d) From 1928-29, includes bullion imports. (e) Six months ended June.

EXTERNAL TRADE

Year	Imports			Exports (b)			Excess of—	
	Overseas	Interstate	Total	Overseas	Interstate	Total	Imports	Exports
	£	£	£	£	£	£	£	£
1879	164,068	10,007	174,075	50,990	3,353	54,343	40,810	40,810
1880	125,046	33,311	158,357	177,217	23,763	200,980	79,528	79,528
1881	174,542	179,127	353,669	371,264	127,383	498,647	12,274	12,274
1882	612,695	361,839	974,534	484,624	167,150	651,774	322,854	322,854
1883	4,287,022	2,673,166	6,960,188	5,727,022	1,120,000	6,847,022	689,878	689,878
1884	2,839,137	2,534,020	5,373,157	2,941,001	674,022	3,615,023	2,063,452	2,063,452
1885	2,771,851	2,046,701	4,818,552	2,252,848	786,790	3,039,638	1,828,096	1,828,096
1886	4,739,564	2,641,368	7,380,932	2,484,120	669,017	3,153,137	4,227,805	4,227,805
1887	4,921,968	2,653,527	7,575,495	5,012,432	354,607	5,367,039	2,208,456	2,208,456
1888	3,703,242	2,712,479	6,415,721	6,050,182	811,867	6,862,049	1,148,807	1,148,807
1889	3,701,192	2,046,436	5,747,628	6,030,237	774,364	6,804,601	1,053,973	1,053,973
1890	3,287,525	2,883,166	6,170,691	5,653,577	1,240,363	6,893,940	666,245	666,245
1891	3,212,027	2,968,176	6,180,203	5,803,120	914,593	6,717,713	505,713	505,713
1892	2,322,397	2,664,575	4,986,972	2,060,907	860,494	2,921,401	1,964,571	1,964,571
1893	4,375,115	2,531,206	6,906,321	4,460,178	2,613,623	7,073,801	2,708,686	2,708,686
1894	4,483,396	4,160,605	8,644,001	9,307,494	1,204,369	10,511,863	1,867,862	1,867,862
1895	5,311,496	4,232,664	9,544,160	7,779,663	1,161,355	8,941,018	602,442	602,442
1896	6,407,714	4,464,693	10,872,407	5,254,180	3,672,451	8,926,631	1,946,776	1,946,776
1897	5,559,146	5,127,796	10,686,942	5,060,415	2,241,123	7,301,538	3,385,404	3,385,404
1898	3,899,192	4,113,061	8,012,253	5,250,765	2,607,564	7,858,329	3,953,837	3,953,837
1899	4,105,109	4,512,693	8,617,802	4,869,332	3,381,255	8,250,587	4,367,215	4,367,215
1900	4,260,383	4,968,622	9,229,005	4,922,221	9,160,766	14,082,987	4,822,784	4,822,784
1901	5,243,273	6,143,266	11,386,539	4,402,317	1,404,298	5,806,615	5,584,225	5,584,225
1902	7,467,514	4,883,476	12,350,990	6,759,107	1,78,266	6,937,373	5,428,141	5,428,141
1903	4,969,082	7,406,260	12,375,342	14,564,556	1,704,134	16,268,690	3,899,348	3,899,348
1904	7,214,336	7,414,705	14,629,041	10,887,099	1,771,540	12,658,639	1,970,402	1,970,402
1905	6,796,141	7,724,645	14,520,786	11,169,651	2,264,232	13,433,883	1,637,105	1,637,105
1906	6,690,366	7,257,642	13,948,008	9,374,546	1,131,572	10,506,118	3,441,890	3,441,890
1907	6,602,720	7,691,410	14,294,130	12,881,841	1,471,785	14,353,626	1,651,496	1,651,496
1908	6,658,432	6,647,285	13,305,717	13,444,227	1,325,221	14,769,448	1,411,731	1,411,731
1909	7,869,174	6,766,398	14,635,572	13,786,224	1,448,423	15,234,647	585,073	585,073
1910	6,427,065	3,926,095	10,353,160	13,730,698	1,413,281	15,143,979	4,790,814	4,790,814
1911	6,011,394	6,276,320	12,287,714	10,893,694	1,344,841	12,238,535	2,049,179	2,049,179
1912	9,434,177	10,690,595	20,124,772	15,970,045	1,213,011	17,183,056	2,941,716	2,941,716
1913	6,775,394	9,906,792	16,682,186	10,657,287	1,172,232	11,829,519	4,852,667	4,852,667
1914	4,385,260	9,818,692	14,203,952	17,166,369	818,935	17,985,304	3,781,352	3,781,352
1915	4,493,642	7,925,680	12,419,322	13,344,310	961,170	14,305,480	1,885,158	1,885,158
1916	4,776,660	8,379,118	13,155,778	14,344,632	995,577	15,340,209	2,184,431	2,184,431
1917	4,464,431	9,376,606	13,841,037	10,604,225	1,296,322	11,899,547	2,941,492	2,941,492
1918	3,101,584	10,456,154	13,557,738	16,526,079	1,448,186	17,974,265	4,412,527	4,412,527
1919	6,341,756	11,696,618	18,038,374	17,087,041	1,659,039	18,746,080	2,707,704	2,707,704
1920	7,071,935	12,770,797	19,842,732	17,798,622	3,224,511	21,023,133	1,151,402	1,151,402
1921	7,695,059	12,616,671	20,311,730	19,014,725	3,684,512	22,699,237	2,384,208	2,384,208
1922	6,137,159	12,694,556	18,831,715	17,596,632	1,136,776	18,733,408	1,097,257	1,097,257
1923	6,268,826	13,724,896	20,000,722	19,281,147	1,299,617	20,580,764	511,938	511,938
1924	4,865,266	13,729,622	18,594,888	9,122,499	13,415,081	22,537,580	7,672,692	7,672,692
1925	5,135,677	13,654,671	18,790,348	12,101,012	12,665,472	24,766,484	1,630,136	1,630,136
1926	5,601,247	13,407,739	19,008,986	6,275,684	10,698,119	16,973,803	2,035,183	2,035,183
1927	6,865,210	13,314,116	20,179,326	17,199,237	12,736,612	29,935,849	9,760,539	9,760,539
1928	4,607,621	13,491,716	18,099,337	13,699,384	3,891,680	17,591,064	4,497,733	4,497,733
1929	5,294,135	14,115,994	19,410,129	10,698,716	5,676,104	16,374,820	3,035,309	3,035,309
1930	5,164,392	11,126,793	16,291,185	14,989,384	3,765,131	18,754,515	871,323	871,323
1931	17,553,364	10,800,427	28,353,791	20,900,894	6,851,126	27,752,020	661,771	661,771
1932	22,067,607	10,561,245	32,628,852	20,114,266	4,714,266	24,828,532	7,800,320	7,800,320
1933	34,121,793	10,521,696	44,643,489	30,443,675	3,387,536	33,831,211	10,812,278	10,812,278
1934	40,258,174	47,914,007	88,172,181	62,140,425	9,890,438	72,030,863	16,141,318	16,141,318
1935	40,327,066	42,104,414	82,431,480	29,250,964	13,141,522	42,392,486	40,034,995	40,034,995
1936	29,354,198	49,004,936	78,359,134	27,861,541	39,751,395	67,612,936	40,497,395	40,497,395
1937	42,523,265	42,660,677	85,183,942	71,540,690	20,601,516	92,142,206	43,041,731	43,041,731
1938	40,947,712	41,876,552	82,824,264	72,030,222	24,054,872	96,085,094	15,247,332	15,247,332
1939	40,481,702	48,973,396	89,455,098	81,685,450	28,698,442	110,383,892	20,902,892	20,902,892
1940	40,211,295	51,339,254	91,550,549	11,327,510	41,194,911	52,522,421	39,194,111	39,194,111
1941	45,667,719	47,351,696	93,019,415	42,489,104	26,163,651	68,652,755	24,366,660	24,366,660
1942	44,265,264	101,214,884	145,470,148	11,600,201	14,601,207	26,201,408	126,268,740	126,268,740
1943	46,181,545	128,142,767	174,324,312	100,579,315	100,693,508	201,272,823	73,041,487	73,041,487
1944	55,263,623	121,716,396	176,980,019	150,338,182	43,290,698	193,628,880	73,351,267	73,351,267
1945	60,668,975	125,034,806	185,703,781	149,498,674	42,311,052	191,809,726	93,894,055	93,894,055
1946	56,379,363	134,655,660	191,035,023	123,365,231	48,421,231	171,786,462	19,248,561	19,248,561
1947	62,385,643	101,082,122	163,467,765	147,893,660	10,942,190	158,835,850	4,651,915	4,651,915

(a) From 1915, year ended 30th June. (b) Includes ships' stores. (c) Not available. (d) Six months ended 30th June. (e) An amount of £504,420, representing the value of goods exported overseas in 1916-17 but not recorded until 1917-18, is excluded from 1916-17 and included in 1917-18.

LAND TENURE; LIVESTOCK; WOOL PRODUCTION

Year	Land Allotted and Land in Process of Allotment (a)	Land held under Lease or Licence (b) (c)	Livestock (d)				Wool Production (e)	
			Horses	Cattle	Sheep	Pigs	Quantity	Gross Value (f)
1899	225,000	5,000	7	204	1,469	109	17	—
1900	323,345	—	191	563	7,951	60	17	—
1901	1,407,697	—	908	2,432	10,961	1,580	17	—
1902	1,322,821	—	2,425	13,074	128,111	3,190	17	—
1903	1,515,700	5,503,020	5,335	32,478	280,130	10,901	17	—
1904	1,465,116	52,399,131	22,174	45,213	608,892	12,927	17	—
1905	2,384,701	48,319,634	94,568	83,714	1,231,717	24,432	17	—
1906	3,333,611	104,742,410	44,384	110,870	2,524,911	28,945	17	—
1907	6,015,228	47,375,053	66,263	339,590	2,414,711	41,710	17	—
1908	9,365,144	97,435,957	73,770	398,547	1,623,853	41,692	17	—
1909	9,858,992	112,137,932	80,158	437,139	2,701,880	52,889	17	—
1910	10,548,057	135,879,571	82,741	497,617	2,680,639	59,209	17	—
1911	11,358,395	150,554,919	90,225	581,400	2,853,424	70,299	17	—
1912	12,195,035	145,369,592	97,397	631,823	3,130,703	74,567	17	—
1913	12,573,905	152,327,740	104,957	690,011	3,545,745	85,395	17	—
1914	13,070,006	160,130,142	113,390	717,377	3,644,974	88,356	17	—
1915	14,002,030	161,118,873	116,795	741,768	4,707,124	96,852	17	—
1916	16,032,363	186,267,941	123,315	795,217	4,711,737	97,602	17	—
1917	17,329,521	187,207,804	124,134	825,940	5,138,533	97,658	17	—
1918	19,042,975	199,307,588	140,277	943,628	5,411,542	105,320	17	—
1919	20,701,296	175,699,991	147,629	918,204	4,699,968	121,251	17	—
1920	21,362,546	188,347,344	155,036	924,270	1,321,573	147,966	17	—
1921	21,648,060	184,239,512	161,075	943,898	4,456,163	149,416	17	—
1922	22,087,323	190,742,046	161,016	922,043	4,457,561	153,811	17	—
1923	21,700,708	196,708,069	169,730	945,950	5,199,060	159,726	17	—
1924	21,580,605	192,437,243	175,151	927,098	6,204,131	171,844	17	—
1925	21,567,715	190,648,542	180,094	943,617	5,555,747	181,845	17	—
1926	21,847,476	215,404,541	174,022	980,643	6,097,911	185,150	17	—
1927	22,022,426	227,609,971	173,684	949,803	6,647,959	191,341	17	—
1928	22,201,043	238,507,020	185,332	993,108	6,509,757	205,001	17	—
1929	22,791,105	267,119,580	191,159	916,500	6,604,735	217,561	17	—
1930	22,964,088	282,187,806	191,744	955,764	6,604,735	217,561	17	—
1931	23,342,020	280,306,841	172,116	881,564	6,604,735	217,561	17	—
1932	24,901,793	232,001,089	175,063	932,911	6,604,735	217,561	17	—
1933	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1934	21,740,177	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1935	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1936	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1937	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1938	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1939	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1940	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1941	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1942	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1943	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1944	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1945	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1946	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1947	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1948	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1949	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1950	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1951	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1952	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1953	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1954	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1955	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1956	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1957	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1958	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1959	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1960	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1961	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1962	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1963	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1964	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1965	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1966	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1967	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1968	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1969	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1970	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1971	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1972	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1973	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1974	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1975	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1976	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1977	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1978	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1979	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1980	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1981	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1982	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1983	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1984	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1985	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1986	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1987	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1988	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1989	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1990	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1991	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1992	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1993	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1994	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1995	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1996	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1997	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1998	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
1999	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2000	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2001	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2002	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2003	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2004	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2005	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2006	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2007	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2008	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2009	25,277,669	231,562,420	166,868	925,063	6,604,735	217,561	17	—
2010	25,277,669	231,562,420	16					

AGRICULTURE

Area and Production of Principal Grain Crops

Year (1)	Total Area under all Crops (2)	Wheat				Oats		Barley	
		Production				Area	Produce Lbs.	Area	Produce Lbs.
		Acres	Yield per Acre	Total	Gross Value				
	acres	acres	bu./acre	bu./acre	£	acres	bu./acre	acres	bu./acre
1840	1,922	1,670	21.00	35,060	31,400	10	10	10	10
1850	7,419	4,416	10	44,160	39,744	10	10	10	10
1860	24,705	13,584	15.34	208,322	184,347	507	11,325	2,411	30,445
1870	54,327	30,040	11.59	347,760	314,828	2,005	30,374	6,439	57,750
1880	69,609	37,686	12.00	452,174	401,828	1,111	21,194	9,101	60,082
1890	69,675	39,530	11.82	467,350	415,591	1,954	26,781	5,322	45,401
1900	207,335	124,568	12.47	1,554,235	1,344,231	1,790	36,421	2,538	29,139
1901	317,141	194,709	12.10	2,356,458	1,794,416	2,751	185,364	2,662	34,725
1902	328,992	198,999	12.07	2,401,350	1,792,473	10,354	187,882	3,763	40,355
1903	334,742	197,046	12.00	2,364,552	1,794,347	13,568	195,303	3,909	50,337
1904	327,321	197,080	11.96	2,351,237	1,791,828	14,604	195,318	3,251	37,332
1905	364,704	195,071	11.85	2,308,306	1,785,591	10,711	188,987	3,885	49,497
1906	406,825	195,023	11.02	2,148,261	1,645,294	24,303	437,154	3,500	46,827
1907	493,637	179,050	12.46	2,222,026	1,722,026	40,807	721,783	6,034	70,395
1908	565,339	195,011	11.55	2,246,822	1,726,368	56,401	738,303	7,504	74,438
1909	721,046	195,014	12.48	2,426,368	1,830,505	79,342	1,248,102	8,072	101,673
1910	855,024	195,022	12.14	2,367,340	1,881,216	41,013	776,223	5,369	55,546
1911	1,071,033	112,104	7.10	7,958,904	5,967,240	77,488	681,385	3,663	37,311
1912	1,198,991	791,000	11.80	9,408,594	7,004,504	137,645	1,016,312	6,826	98,416
1913	1,791,395	1,207,123	12.15	14,581,350	10,382,886	143,825	1,965,881	11,502	147,315
1914	1,987,547	1,375,019	11.81	16,224,190	11,940,326	160,035	2,484,943	6,596	74,560
1915	2,186,446	1,784,117	12.25	21,726,326	15,987,347	164,066	2,538,082	10,699	125,070
1916	2,004,914	1,686,606	12.78	21,703,376	15,982,401	195,320	2,686,359	11,195	134,509
1917	1,678,774	1,448,747	7.44	10,911,787	7,900,649	16,669	608,582	6,028	55,761
1918	1,605,088	1,448,747	7.73	10,911,787	7,900,649	141,450	1,490,689	7,982	81,451
1919	1,625,163	1,448,747	10.71	15,325,710	10,330,301	111,921	1,496,318	6,117	116,687
1920	1,804,086	1,448,747	8.40	12,248,068	8,531,436	198,480	2,021,331	10,989	121,426
1921	1,901,040	1,136,939	12.41	13,904,721	9,765,882	142,888	1,010,808	7,894	86,457
1922	2,274,986	1,136,939	8.82	11,867,432	8,493,228	214,292	1,281,893	9,543	101,801
1923	2,324,070	1,136,939	11.47	12,686,971	9,498,501	241,608	1,646,870	9,670	101,779
1924	2,719,356	1,136,939	12.75	14,581,350	10,382,886	218,982	1,941,074	11,094	127,337
1925	2,835,210	1,136,939	8.40	10,471,177	7,418,547	275,344	2,906,380	12,309	158,363
1926	3,224,323	1,136,939	11.66	13,164,000	9,498,501	214,292	1,281,893	12,670	158,146
1927	3,726,100	1,136,939	12.12	13,726,100	9,498,501	214,292	1,281,893	12,670	158,146
1928	4,219,356	1,136,939	12.10	13,726,100	9,498,501	214,292	1,281,893	12,670	158,146
1929	4,696,001	1,136,939	12.95	14,861,183	10,880,118	268,134	1,996,101	12,440	158,146
1930	4,795,017	1,136,939	13.58	15,304,149	11,101,268	274,874	2,042,300	17,230	185,301
1931	5,021,172	1,136,939	13.14	14,861,183	10,880,118	274,874	2,042,300	17,230	185,301
1932	5,201,384	1,136,939	12.33	14,001,384	10,330,301	274,874	2,042,300	17,230	185,301
1933	5,317,280	1,136,939	11.72	13,201,280	9,498,501	274,874	2,042,300	17,230	185,301
1934	5,366,000	1,136,939	8.76	10,001,384	7,418,547	274,874	2,042,300	17,230	185,301
1935	5,728,324	1,136,939	8.18	9,311,317	6,737,547	274,874	2,042,300	17,230	185,301
1936	5,851,876	1,136,939	8.35	9,541,876	6,982,129	274,874	2,042,300	17,230	185,301
1937	6,108,011	1,136,939	11.97	13,201,280	9,498,501	274,874	2,042,300	17,230	185,301
1938	6,461,315	1,136,939	10.79	12,001,384	8,737,547	274,874	2,042,300	17,230	185,301
1939	6,766,015	1,136,939	13.75	15,501,384	11,101,268	274,874	2,042,300	17,230	185,301
1940	7,066,306	1,136,939	8.05	9,101,384	6,531,436	274,874	2,042,300	17,230	185,301
1941	7,311,112	1,136,939	14.15	16,001,384	11,101,268	274,874	2,042,300	17,230	185,301
1942	7,844,004	1,136,939	11.71	13,201,280	9,498,501	274,874	2,042,300	17,230	185,301
1943	8,144,000	1,136,939	10.54	11,901,384	8,737,547	274,874	2,042,300	17,230	185,301
1944	8,796,000	1,136,939	10.81	12,201,384	9,037,547	274,874	2,042,300	17,230	185,301
1945	9,271,000	1,136,939	11.40	12,901,384	9,737,547	274,874	2,042,300	17,230	185,301
1946	9,801,145	1,136,939	9.81	11,101,384	8,037,547	274,874	2,042,300	17,230	185,301
1947	10,001,145	1,136,939	12.50	14,201,384	10,330,301	274,874	2,042,300	17,230	185,301
1948	1,104,466	1,136,939	12.64	14,401,384	10,530,301	274,874	2,042,300	17,230	185,301
1949	1,204,780	1,136,939	12.36	14,001,384	10,330,301	274,874	2,042,300	17,230	185,301
1950	1,304,780	1,136,939	10.05	11,401,384	8,330,301	274,874	2,042,300	17,230	185,301
1951	1,404,780	1,136,939	12.12	13,726,100	9,498,501	274,874	2,042,300	17,230	185,301
1952	1,504,780	1,136,939	11.89	13,426,100	9,198,501	274,874	2,042,300	17,230	185,301
1953	1,604,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1954	1,704,780	1,136,939	11.61	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1955	1,804,780	1,136,939	11.44	12,826,100	8,598,501	274,874	2,042,300	17,230	185,301
1956	1,904,780	1,136,939	11.61	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1957	2,004,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1958	2,104,780	1,136,939	11.61	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1959	2,204,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1960	2,304,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1961	2,404,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1962	2,504,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1963	2,604,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1964	2,704,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1965	2,804,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1966	2,904,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1967	3,004,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1968	3,104,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1969	3,204,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1970	3,304,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1971	3,404,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1972	3,504,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1973	3,604,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1974	3,704,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1975	3,804,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1976	3,904,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1977	4,004,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1978	4,104,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1979	4,204,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1980	4,304,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1981	4,404,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1982	4,504,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1983	4,604,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1984	4,704,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	185,301
1985	4,804,780	1,136,939	11.71	13,026,100	8,798,501	274,874	2,042,300	17,230	

PRIMARY PRODUCTION — MISCELLANEOUS

Year	Ray (all kinds)		Gold Production (a)		Dial Production		Average Values (c,d)	
	Area	Production	Quantity	Value (b)	Quantity	Value	Wheat (gross) per lb. (e)	Wheat per bushel (d)
	Acres	Tons	Barres	£	tons	£	pence	s. d.
1900	8,288	8,000						1 4d
1901	37,173	20,602						5 8
1902	18,662	19,540						1 0
1903	22,282	25,014	51,406	62,664				
1904	106,264	103,612	1,412,611	6,907,631	118,470	54,326		
1905	82,854	80,722	1,703,417	7,205,659	117,898	68,561	6 5d	4 0
1906	100,701	94,060	1,671,037	7,247,661	120,664	68,126	5 2d	5 2
1907	100,002	121,704	2,064,681	8,775,729	133,827	86,129	4 12d	6 4d
1908	106,247	124,794	1,983,230	8,454,250	138,520	87,174	4 12d	6 4d
1909	124,408	120,260	1,955,516	8,405,654	137,064	85,319	4 12d	6 4d
1910	149,840	168,112	1,794,247	7,621,749	146,750	87,368	4 12d	6 4d
1911	131,306	137,513	1,697,554	7,210,749	142,179	85,150	4 12d	6 4d
1912	201,264	170,008	1,647,911	6,969,642	170,216	78,694	4 12d	6 4d
1913	184,625	181,282	1,506,269	6,778,274	214,870	90,966	4 12d	6 4d
1914	175,139	179,403	1,476,012	6,246,646	202,169	118,899	4 12d	6 4d
1915	244,932	200,696	1,701,887	7,321,075	249,684	113,154	4 12d	6 4d
1916	211,690	226,741	1,761,656	7,445,357	285,679	130,387	4 12d	6 4d
1917	210,660	273,267	1,714,042	7,581,701	313,816	153,614	4 12d	6 4d
1918	202,007	309,516	1,712,077	7,273,351	310,211	150,211	4 12d	6 4d
1919	210,056	306,112	1,716,112	7,440,250	296,060	137,669	4 12d	6 4d
1920	246,728	288,989	1,601,898	6,808,522	291,520	147,653	4 12d	6 4d
1921	205,609	297,185	775,217	4,221,815	376,699	191,352	4 12d	6 4d
1922	240,798	295,014	673,521	3,723,183	317,689	204,419	4 12d	6 4d
1923	177,495	274,075	704,060	3,788,662	401,718	280,356	4 12d	6 4d
1924	266,624	264,244	617,649	3,475,762	466,027	300,346	4 12d	6 4d
1925	336,501	369,740	511,731	2,865,080	495,417	407,117	4 12d	6 4d
1926	431,003	467,371	516,246	2,912,641	438,442	381,566	4 12d	6 4d
1927	329,534	368,122	501,112	2,512,189	420,714	366,949	4 12d	6 4d
1928	397,293	448,525	485,040	2,755,337	451,809	395,250	4 12d	6 4d
1929	394,142	441,369	441,792	2,674,329	447,407	385,203	4 12d	6 4d
1930	452,427	423,849	427,343	2,593,710	474,613	394,800	4 12d	6 4d
1931	397,066	418,797	404,732	2,714,571	391,305	407,967	4 12d	6 4d
1932	414,996	421,004	391,408	1,677,430	326,430	420,140	4 12d	6 4d
1933	414,996	424,728	377,179	1,602,147	314,750	426,708	4 12d	6 4d
1934	398,411	401,545	417,126	1,804,442	301,423	394,758	4 12d	6 4d
1935	381,443	461,868	319,172	2,098,117	435,400	396,176	4 12d	6 4d
1936	417,438	465,386	305,261	1,916,642	416,730	370,630	4 12d	6 4d
1937	479,765	512,410	637,207	2,866,254	458,998	398,368	4 12d	6 4d
1938	411,332	499,847	601,338	2,668,678	390,343	378,704	4 12d	6 4d
1939	494,496	504,671	645,049	3,702,149	357,168	316,013	4 12d	6 4d
1940	478,099	412,762	546,298	2,373,539	395,075	331,076	4 12d	6 4d
1941	432,399	409,419	1,006,647	3,745,759	373,399	340,444	4 12d	6 4d
1942	408,276	437,609	1,167,791	3,582,023	394,792	375,040	4 12d	6 4d
1943	305,881	475,677	1,514,238	11,641,964	367,676	342,811	4 12d	6 4d
1944	414,480	373,248	1,101,481	12,696,503	339,447	344,580	4 12d	6 4d
1945	325,396	414,715	1,109,318	11,661,445	366,674	369,278	4 12d	6 4d
1946	313,160	377,957	848,181	4,868,496	381,176	401,480	4 12d	6 4d
1947	314,486	314,359	546,475	3,713,689	397,540	406,721	4 12d	6 4d
1948	326,729	339,611	492,280	4,599,697	358,322	383,078	4 12d	6 4d
1949	281,410	287,476	469,594	3,610,541	348,893	373,390	4 12d	6 4d
1950	277,489	280,202	614,964	4,640,089	342,257	370,164	4 12d	6 4d
1951	220,172	267,001	703,886	3,671,578	390,600	340,249	4 12d	6 4d
1952	228,772	277,329	604,030	7,106,899	373,638	390,230	4 12d	6 4d
1953	210,320	272,052	844,426	7,895,898	390,699	375,245	4 12d	6 4d
1954	178,906	229,703	610,335	4,466,270	314,362	1,367,749	4 12d	6 4d
1955	173,662	211,629	897,779	3,723,343	448,475	1,718,798	4 12d	6 4d
1956	227,088	290,298	729,676	11,547,617	430,461	2,457,290	4 12d	6 4d
1957	218,173	293,896	821,912	13,196,092	588,182	3,071,078	4 12d	6 4d
1958	289,228	306,062	801,540	13,111,616	1,018,343	3,588,516	4 12d	6 4d
1959	269,439	282,784	842,916	13,474,088	601,792	3,769,311	4 12d	6 4d
1960	242,212	268,479	812,380	14,005,480	630,097	2,723,381	4 12d	6 4d
1961	338,983	380,392	310,881	14,666,893	638,681	2,655,637	4 12d	6 4d
1962	338,813	455,169	807,189	14,798,328	870,642	2,826,649	4 12d	6 4d
1963	314,486	439,201	899,679	14,194,195	911,436	2,656,534	4 12d	6 4d
1964	264,036	361,019	853,750	14,899,863	923,308	2,436,135	4 12d	6 4d
1965	294,546	395,002	871,645	14,201,199	795,740	1,690,259	4 12d	6 4d
1966	239,252	351,951	899,368	14,067,360	919,132	1,980,778	4 12d	6 4d
1967	268,607	394,418	930,212	13,187,489	902,496	1,966,090	4 12d	6 4d
1968	304,610	310,305	712,347	11,591,630	987,470	2,336,867	4 12d	6 4d

(a) Composite gold reduced to the gold and gold contained in gold-bearing materials exported. (b) Australian currency value including amounts, totalling £3,332,711 for the years 1952 to 1964, 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 1954-1962, totalling £2,680,907 in the years 1955 to 1964. (c) From 1943 figures relate to year ended 30th June. (d) 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 30th June. (e) Not available. (f) Exports negligible; average Metropolitan Market price shown. (g) For six months ended 30th June. * Revised.

VALUES OF PRIMARY PRODUCTION

Year (a)	Gross Value of Primary Production (b)						Net Value of all Recorded Primary Production (c) (d)
	Agriculture	Dairying, Poultry and Hive Keeping	Pastoral and Trapping	Mining and Quarrying	Forestry	Fishing	
	£	£	£	£	£	£	£
1814	3,027,140	580,708	2,017,742	1,577,897			
1815	6,328,673	580,846	3,030,234	1,528,403			
1816	7,839,863	691,300	3,670,666	1,998,211			
1817	4,255,463	685,963	4,479,482	1,662,723			
1818	4,717,763	688,022	4,544,184	1,503,683			
1819	5,066,263	843,719	4,771,708	1,592,758			
1820	5,732,984	1,032,303	4,664,780	1,796,662			
1821	6,926,532	1,122,557	4,016,967	2,623,654			
1822	6,403,946	1,174,863	3,292,255	2,899,254			
1823	7,537,364	2,241,422	8,313,551	2,722,624		320,560	
1824	11,183,797	1,032,914	6,701,602	2,676,086		363,160	
1825	10,574,864	1,531,464	5,768,224	2,503,770	2,003,174	467,530	15,076,085
1826	12,001,666	1,751,493	5,821,088	2,461,281	1,663,405	261,840	16,251,674
1827	13,034,621	1,343,673	7,741,573	1,566,815	1,461,023	255,135	18,114,177
1828	13,942,967	1,675,753	6,791,519	2,264,254	1,281,190	286,465	18,883,165
1829	12,251,400	1,751,185	5,406,017	2,287,945	1,973,285	375,194	18,271,226
1830	8,577,263	1,684,312	1,432,475	2,267,388	993,701	242,635	13,632,680
1831	10,492,702	1,658,282	4,611,251	3,165,446	861,925	211,496	11,291,069
1832	10,917,311	2,659,674	4,629,270	3,643,351	691,415	315,077	12,356,075
1833	9,511,008	1,637,318	6,684,816	3,393,171	671,911	702,670	14,367,117
1834	8,767,895	1,663,315	4,797,874	3,668,561	1,194,685	180,676	14,667,716
1835	8,522,425	1,945,568	6,313,427	3,701,012	1,536,715	163,670	16,110,211
1836	8,455,738	2,088,770	5,715,159	3,913,146	1,415,842	244,272	14,221,662
1837	10,553,740	2,246,941	5,669,755	9,422,688	1,475,616	276,130	18,116,638
1838	9,938,885	2,358,180	11,205,365	11,075,431	1,468,116	286,391	17,067,529
1839	11,538,791	2,427,280	10,010,989	12,617,121	1,629,828	296,514	23,506,635
1840	7,379,954	2,614,903	7,680,496	13,672,453	1,680,795	299,315	20,312,258
1841	11,170,603	2,679,263	6,718,767	12,421,288	1,475,548	298,398	21,776,127
1842	9,051,783	1,871,873	8,771,190	9,187,284	1,671,701	127,145	22,671,077
1843	9,572,676	1,860,766	9,001,961	8,168,616	1,674,626	173,275	21,267,519
1844	10,829,279	4,236,264	7,001,291	7,764,611	1,673,873	163,105	24,105,290
1845	13,155,380	1,723,613	8,713,158	7,868,866	1,678,781	211,666	23,991,297
1846	16,217,322	4,686,481	11,425,150	7,013,557	1,652,657	317,394	30,171,155
1847	12,519,432	4,695,391	15,313,106	7,993,139	1,624,685	667,749	23,695,131
1848	20,592,578	3,981,281	23,583,628	8,111,866	2,601,160	696,495	34,696,521
1849	21,843,611	6,667,770	20,590,389	9,551,665	2,555,615	715,873	33,601,620
1850	45,875,773	7,077,645	46,008,696	12,687,392	3,470,594	854,673	111,267,184
1851	41,306,571	8,188,861	40,221,035	19,487,712	4,256,160	1,252,515	81,601,755
1852	45,661,557	10,049,615	43,544,760	17,664,262	5,157,160	1,642,576	95,261,279
1853	63,286,893	11,161,967	51,267,785	20,498,128	5,899,962	1,903,752	97,101,789
1854	38,542,102	10,880,771	49,889,609	31,625,564	6,667,899	2,191,600	86,715,451
1855	51,833,644	11,739,369	41,826,566	39,379,157	6,236,682	2,467,385	106,213,225
1856	40,083,122	12,620,753	36,686,616	21,307,039	5,162,944	2,767,749	88,374,304
1857	33,640,150	11,739,672	47,146,667	22,191,662	5,223,668	3,564,646	81,326,218
1858	38,535,906	11,434,878	40,802,191	21,797,520	5,451,366	3,660,180	80,965,171
1859	58,623,774	19,247,846	50,551,747	33,943,766	5,690,776	4,516,026	111,947,175
1860	70,061,110	17,665,790	50,814,759	23,571,124	6,941,144	4,264,924	114,294,942
1861	74,362,668	18,200,656	52,916,124	24,267,321	6,551,786	5,344,146	121,661,736
1862	78,071,105	18,096,466	54,825,198	24,707,695	6,438,980	6,091,666	123,691,020
1863	61,671,446	14,261,294	51,609,659	22,733,166	5,162,923	5,063,084	107,325,612

(a) Figures generally are for the calendar or financial period ending in the following year. (b) Represents the estimated value of recorded production based on wholesale prices realized in the principal market. (c) In addition, the following amounts were added as follows: distribution of profits equal to 1849-1945 War-time Wool Exports (P.W.E. in 1849, £1,814,739; in 1861, £1,914,799; in 1862, £1,162,662; in 1863, £194,662; in 1864, £1,666,230; and in 1865, £666,645). Separate share figures are not available for distributions made from 1865 to 1938 when payments were virtually complete. (d) Net value of production is derived by deducting from the gross value all marketing costs and the cost of certain goods (seed, fertilizer, pebbles, sprays, dips, fodder, tan and oil, etc.) used in the process of production. * Not available.

FACTORIES (a)

Year (1)	Fac- tories (2)	Persons Em- ployed (3)	Salaries and Wages (4)	Output (5)	Net Pro- duct Value (6)	Certain Items of Factory Production							
						Bricks (7)	Lumber (8)	Timber from Local Logs (9)	Bacon and Ham (10)	Butter (11)	Meat and Stock (12)	Flour (13)	Kiln- dried Dis- tributed (14)
	No.	No.	£'000	£'000	£'000	'000	tons	'000 sup. ft.	tons	tons	'000 gal.	short tons (5)	'000 bbl.
1907	437	9,690	(b)			36,644		26,863		121	2,814	7,314	
1908	505	9,895	(b)			28,811		103,643		116	2,273	8,491	
1909	601	10,204	1,245			18,595		118,052		132	3,374	10,944	
1910	652	11,166	1,264			25,234		112,943		136	4,015	12,536	
1911	642	12,104	1,451			30,180		122,414		150	4,225	10,278	
1912	702	12,590	1,521	(c)	(c)	31,772		124,595		144	4,790	11,840	
1913	693	12,454	1,480			45,576		126,730		157	4,943	13,711	(c)
1914	792	13,427	1,604			50,312		143,545		197	5,609	20,185	
1915	777	13,401	1,561			44,045		147,550		189	5,144	26,232	
1916	802	13,736	1,622			37,844		136,266		170	4,100	26,957	
1917	797	13,545	1,479			28,696		120,394	(c)	166	4,682	26,351	
1918	774	13,274	1,354	4,479	2,807	23,842		168,410		183	4,312	31,414	
1919	773	13,804	1,505	4,405	4,432	17,803		171,821		185	4,600	31,934	
1920	822	14,094	1,791	5,070	5,736	30,348		174,328		250	4,711	34,814	
1921	880	16,754	2,066	5,932	3,245	28,887		198,377		322	5,113	40,612	21,247
1922	892	17,421	2,207	6,826	3,862	34,432		217,606		320	5,419	48,319	26,704
1923	864	18,072	2,338	7,290	3,702	36,085		218,906		271	5,360	51,097	25,716
1924	899	18,799	2,474	7,222	3,583	34,854		227,297		201	5,541	4,922	27,680
1925	883	19,897	2,908	7,053	4,251	31,697		223,434		209	5,349	32,798	28,141
1926	875	19,844	3,010	7,346	3,347	28,585		180,336		432	5,769	70,012	38,843
1927	844	19,265	3,431	7,082	3,069	37,488		85,318		608	5,618	106,705	30,252
1928	862	19,449	3,603	7,760	3,759	35,672		94,990	1,029	597	5,362	110,878	30,462
1929	825	19,354	3,318	10,247	3,823	21,092		141,477	1,000	445	5,775	141,511	24,083
1930	808	19,362	3,087	13,141	4,894	31,819		137,394	637	541	5,716	120,123	24,316
1931	1,090	18,151	3,568	12,544	5,230	23,548	(a)	183,691	775	684	5,932	32,143	26,080
1932	1,223	18,743	3,712	12,871	5,790	28,569	(a)	179,509	391	978	4,988	91,534	40,436
1933	1,307	19,801	3,865	13,104	6,123	34,884	(a)	192,347	969	766	4,805	107,802	17,973
1934	1,246	21,671	4,337	15,728	8,013	34,930	(a)	207,137	1,164	741	5,150	125,101	57,140
1935	1,170	20,667	4,584	21,460	9,611	53,336	15,030	329,385	1,374	836	5,601	140,709	61,553
1936	1,210	19,303	4,551	15,872	6,567	45,204	17,080	229,195	1,123	1,100	5,615	114,914	79,315
1937	1,308	20,436	4,501	16,898	7,060	52,946	10,643	227,881	1,157	1,111	6,011	127,241	85,450
1938	1,469	20,911	4,676	17,454	7,060	60,598	30,769	179,321	1,269	1,612	5,934	119,550	92,440
1939	1,460	19,843	4,765	16,891	7,488	47,730	23,276	159,848	1,101	2,109	6,008	125,593	102,411
1940	1,456	14,414	7,587	19,353	5,881	12,630	15,863	112,484	1,105	3,171	5,008	132,660	68,100
1941	1,440	13,392	7,396	11,335	7,666	15,111	16,483	57,690	1,367	3,720	4,360	141,163	119,433
1942	1,439	16,810	7,243	12,378	5,082	15,673	24,557	59,254	1,542	4,224	4,890	177,574	134,011
1943	1,610	16,154	7,751	19,877	5,444	31,717	27,748	96,428	1,301	4,360	5,430	122,605	152,074
1944	1,638	17,701	9,211	14,445	6,286	37,552	40,409	130,447	2,003	4,904	5,970	144,130	161,991
1945	1,646	20,972	9,704	17,529	7,084	30,499	49,524	156,080	2,573	5,299	7,260	133,345	175,793
1946	1,672	22,712	11,268	26,213	7,947	53,270	38,903	176,821	1,861	7,761	6,979	122,722	229,999
1947	1,668	23,733	11,403	24,641	8,592	57,698	50,499	178,718	1,843	8,317	6,792	129,472	236,064
1948	1,719	23,211	11,674	24,540	8,776	53,082	46,325	181,515	1,801	9,545	7,289	137,551	277,517
1949	1,710	22,967	11,675	20,307	9,078	43,780	37,777	192,433	2,073	6,251	8,009	140,846	301,903
1950	1,691	22,734	11,721	21,825	9,017	45,505	44,709	146,547	2,288	6,362	8,182	149,925	326,236
1951	1,638	22,980	11,590	20,954	10,101	34,247	41,167	148,513	2,729	6,990	8,396	154,356	311,675
1952	1,700	20,812	11,478	20,738	11,461	8,926	32,730	136,676	4,106	6,446	9,060	166,271	284,215
1953	1,807	20,101	11,418	20,309	12,512	6,298	36,783	131,690	4,322	6,531	9,671	169,739	273,540
1954	1,911	20,548	11,614	21,242	12,060	10,000	29,090	116,330	4,871	5,678	9,178	161,899	291,480
1955	2,280	20,258	11,884	21,023	13,827	24,180	28,110	117,935	4,579	5,804	10,532	166,730	302,423
1956	2,610	19,804	11,705	18,270	15,748	37,769	23,573	109,640	4,803	6,836	11,308	176,792	324,826
1957	2,788	19,967	10,756	15,024	13,384	49,989	36,450	109,605	3,365	8,974	11,990	163,493	345,271
1958	2,926	18,354	11,028	16,417	11,474	50,378	50,140	101,740	3,543	8,966	12,207	181,406	353,675
1959	3,023	40,733	12,269	61,978	20,944	58,947	40,000	133,813	3,542	4,769	12,220	159,495	368,171
1960	3,111	43,791	10,368	84,431	34,320	47,812	78,073	176,597	3,868	4,793	16,479	217,346	491,650
1961	3,067	40,097	10,305	106,322	42,743	78,886	74,681	199,447	3,882	6,701	17,493	221,648	428,050
1962	3,434	45,189	10,344	119,310	49,301	86,941	47,414	229,321	3,993	4,480	17,794	224,230	449,209
1963	3,623	47,464	11,090	134,097	55,147	101,240	129,403	241,611	3,448	4,240	17,844	227,965	503,001
1964	3,727	49,314	14,739	149,584	60,956	115,413		251,403	3,118	7,145	17,411	165,797	625,050
1965	3,871	50,108	17,208	176,148	66,781	109,839		245,138	3,379	7,404	17,801	162,922	648,688
1966	3,030	48,745	16,036	167,436	75,442	101,800		228,497	3,054	7,602	16,553	165,433	645,433
1967	3,042	48,482	17,015	196,363	75,512	111,982		239,173	3,052	6,967	16,812	168,098	648,098
1968	3,129	49,417	18,732	196,363	78,762	101,541		237,779	2,455	6,100	16,779	169,702	641,346
1969	4,276	49,051	11,641	215,982	86,373	110,359	(a)	245,461	1,177	7,379	181	150,774	733,147
1970	4,314	50,808	45,128	240,070	98,631	119,908		210,310	3,162	7,661		168,237	870,071
1971	4,414	51,083	46,420	265,494	95,041	119,908		210,348	3,000	7,483		141,103	979,443
1972	4,192	53,416	49,490	259,000	104,211	151,176		205,625	3,897	7,493		135,411	1,019,507
1973	4,009	50,703	54,257	277,329	115,204	150,702		210,437	3,750	7,911		141,294	1,111,757

(a) For statistical purposes a factory is defined as any establishment engaged in the processes of manufacturing, assembling, treating or repairing and in which four 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. (c) From 1927, year ended 30th June. See also note (7). (d) Average over the full twelve months and includes working proprietors and, up to and including 1925-26, partners and owners employed by sawmills. (e) Figures for 1929-30 and later years exclude amounts drawn by working proprietors. (f) Selling value "At Factory Door." (g) Value added in course of manufacture, representing sum available for payment of wages, rent, interest, depreciation, advertising, insurance, etc., and profit. (h) Comprises standard bricks of all types. Prior to 1925-26 firebricks and blocks were included. (i) Includes plywood veneers in terms of sugar, beet 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 30th June. (n) Not available for publication.

CONSUMER PRICE INDEX (a)

(Base of each index series: Year 1913-14 = 100)

Year to	Group Index Numbers— Perth (Metropolitan Area)					Combined Index (All Groups— Capital Cities)						
	Total	Living and Dining	Housing	Household Furniture and Equipment	Manufactures	Perth	Edin- burgh	Manches- ter	Bristol	Aberdeen	Glasgow	All Capital Cities (a)
1949	85.0	86.6	89.7	88.4	87.7	86.6	86.4	81.0	81.5	81.6	80.2	80.0
1950	81.9	84.0	86.4	77.1	81.5	81.0	82.0	80.0	81.1	84.6	84.7	80.0
1951	79.0	79.0	74.8	74.1	78.1	74.4	74.6	74.8	71.1	74.7	72.8	74.8
1952	87.2	88.0	87.2	88.7	86.7	86.4	81.0	80.0	82.8	81.4	80.0	77.4
1953	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1954	106.6	106.0	107.6	107.0	98.0	101.0	103.0	101.0	101.0	100.0	104.4	100.0
1955	106.6	106.1	114.0	107.0	93.6	104.0	102.7	100.0	100.0	100.0	104.0	100.0
1956	111.1	101.4	123.6	104.0	101.0	107.0	106.7	106.7	106.6	106.0	116.0	100.0
1957	116.6	104.1	122.6	104.6	117.0	111.0	111.0	114.0	111.6	111.1	116.0	111.0
1958	114.1	102.7	120.6	103.7	118.0	113.0	114.6	114.4	114.4	111.0	117.0	114.0
1959	112.0	107.0	120.0	101.9	118.7	114.7	115.0	116.0	116.0	114.0	118.0	115.0
1960	118.4	109.0	123.0	103.1	125.9	118.9	117.8	120.0	121.0	118.0	120.0	118.0
1961	124.1	116.8	141.7	109.8	128.8	123.0	121.0	125.0	121.0	120.0	127.1	123.0
1962	123.0	111.7	144.4	107.1	133.8	123.6	121.0	126.0	121.0	122.0	126.0	124.0
1963	129.4	117.0	150.9	107.0	135.6	129.2	127.1	126.7	127.7	127.1	129.0	124.0
1964	127.4	113.6	141.0	104.4	130.6	128.0	124.1	121.1	127.0	121.0	128.0	120.0

STATE AND COMMONWEALTH BASIC WAGE RATES

At End December	State Basic Wage		Commonwealth Basic Wage—Male Rates (a)							Weighted Average for Capital Cities
	Per Annum (A)		Per Annum	By Hours	Mel- bourne	Brisbane	Adelaide	Sydney		
	Male	Female								
1871	1 6 0	1 0 0	1 6 0	1 1 0	1 6 0	1 6 0	1 6 0	1 6 0	1 6 0	
1874	1 7 0	1 1 0	1 10 0	1 1 0	1 7 0	1 7 0	1 7 0	1 7 0	1 7 0	
1877	1 8 0	1 2 0	1 12 0	1 1 0	1 8 0	1 8 0	1 8 0	1 8 0	1 8 0	
1878	1 9 0	1 3 0	1 13 0	1 1 0	1 9 0	1 9 0	1 9 0	1 9 0	1 9 0	
1879	2 0 0	1 4 0	1 14 0	1 1 0	2 0 0	2 0 0	2 0 0	2 0 0	2 0 0	
1880	2 1 0	1 5 0	1 15 0	1 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	
1881	2 2 0	1 6 0	1 16 0	1 1 0	2 2 0	2 2 0	2 2 0	2 2 0	2 2 0	
1882	2 3 0	1 7 0	1 17 0	1 1 0	2 3 0	2 3 0	2 3 0	2 3 0	2 3 0	
1883	2 4 0	1 8 0	1 18 0	1 1 0	2 4 0	2 4 0	2 4 0	2 4 0	2 4 0	
1884	2 5 0	1 9 0	1 19 0	1 1 0	2 5 0	2 5 0	2 5 0	2 5 0	2 5 0	
1885	2 6 0	2 0 0	2 0 0	1 1 0	2 6 0	2 6 0	2 6 0	2 6 0	2 6 0	
1886	2 7 0	2 1 0	2 1 0	1 1 0	2 7 0	2 7 0	2 7 0	2 7 0	2 7 0	
1887	2 8 0	2 2 0	2 2 0	1 1 0	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0	
1888	2 9 0	2 3 0	2 3 0	1 1 0	2 9 0	2 9 0	2 9 0	2 9 0	2 9 0	
1889	3 0 0	2 4 0	2 4 0	1 1 0	3 0 0	3 0 0	3 0 0	3 0 0	3 0 0	
1890	3 1 0	2 5 0	2 5 0	1 1 0	3 1 0	3 1 0	3 1 0	3 1 0	3 1 0	
1891	3 2 0	2 6 0	2 6 0	1 1 0	3 2 0	3 2 0	3 2 0	3 2 0	3 2 0	
1892	3 3 0	2 7 0	2 7 0	1 1 0	3 3 0	3 3 0	3 3 0	3 3 0	3 3 0	
1893	3 4 0	2 8 0	2 8 0	1 1 0	3 4 0	3 4 0	3 4 0	3 4 0	3 4 0	
1894	3 5 0	2 9 0	2 9 0	1 1 0	3 5 0	3 5 0	3 5 0	3 5 0	3 5 0	
1895	3 6 0	3 0 0	3 0 0	1 1 0	3 6 0	3 6 0	3 6 0	3 6 0	3 6 0	
1896	3 7 0	3 1 0	3 1 0	1 1 0	3 7 0	3 7 0	3 7 0	3 7 0	3 7 0	
1897	3 8 0	3 2 0	3 2 0	1 1 0	3 8 0	3 8 0	3 8 0	3 8 0	3 8 0	
1898	3 9 0	3 3 0	3 3 0	1 1 0	3 9 0	3 9 0	3 9 0	3 9 0	3 9 0	
1899	4 0 0	3 4 0	3 4 0	1 1 0	4 0 0	4 0 0	4 0 0	4 0 0	4 0 0	
1900	4 1 0	3 5 0	3 5 0	1 1 0	4 1 0	4 1 0	4 1 0	4 1 0	4 1 0	
1901	4 2 0	3 6 0	3 6 0	1 1 0	4 2 0	4 2 0	4 2 0	4 2 0	4 2 0	
1902	4 3 0	3 7 0	3 7 0	1 1 0	4 3 0	4 3 0	4 3 0	4 3 0	4 3 0	
1903	4 4 0	3 8 0	3 8 0	1 1 0	4 4 0	4 4 0	4 4 0	4 4 0	4 4 0	
1904	4 5 0	3 9 0	3 9 0	1 1 0	4 5 0	4 5 0	4 5 0	4 5 0	4 5 0	
1905	4 6 0	4 0 0	4 0 0	1 1 0	4 6 0	4 6 0	4 6 0	4 6 0	4 6 0	
1906	4 7 0	4 1 0	4 1 0	1 1 0	4 7 0	4 7 0	4 7 0	4 7 0	4 7 0	
1907	4 8 0	4 2 0	4 2 0	1 1 0	4 8 0	4 8 0	4 8 0	4 8 0	4 8 0	
1908	4 9 0	4 3 0	4 3 0	1 1 0	4 9 0	4 9 0	4 9 0	4 9 0	4 9 0	
1909	5 0 0	4 4 0	4 4 0	1 1 0	5 0 0	5 0 0	5 0 0	5 0 0	5 0 0	
1910	5 1 0	4 5 0	4 5 0	1 1 0	5 1 0	5 1 0	5 1 0	5 1 0	5 1 0	
1911	5 2 0	4 6 0	4 6 0	1 1 0	5 2 0	5 2 0	5 2 0	5 2 0	5 2 0	
1912	5 3 0	4 7 0	4 7 0	1 1 0	5 3 0	5 3 0	5 3 0	5 3 0	5 3 0	
1913	5 4 0	4 8 0	4 8 0	1 1 0	5 4 0	5 4 0	5 4 0	5 4 0	5 4 0	
1914	5 5 0	4 9 0	4 9 0	1 1 0	5 5 0	5 5 0	5 5 0	5 5 0	5 5 0	
1915	5 6 0	5 0 0	5 0 0	1 1 0	5 6 0	5 6 0	5 6 0	5 6 0	5 6 0	
1916	5 7 0	5 1 0	5 1 0	1 1 0	5 7 0	5 7 0	5 7 0	5 7 0	5 7 0	
1917	5 8 0	5 2 0	5 2 0	1 1 0	5 8 0	5 8 0	5 8 0	5 8 0	5 8 0	
1918	5 9 0	5 3 0	5 3 0	1 1 0	5 9 0	5 9 0	5 9 0	5 9 0	5 9 0	
1919	6 0 0	5 4 0	5 4 0	1 1 0	6 0 0	6 0 0	6 0 0	6 0 0	6 0 0	
1920	6 1 0	5 5 0	5 5 0	1 1 0	6 1 0	6 1 0	6 1 0	6 1 0	6 1 0	
1921	6 2 0	5 6 0	5 6 0	1 1 0	6 2 0	6 2 0	6 2 0	6 2 0	6 2 0	
1922	6 3 0	5 7 0	5 7 0	1 1 0	6 3 0	6 3 0	6 3 0	6 3 0	6 3 0	
1923	6 4 0	5 8 0	5 8 0	1 1 0	6 4 0	6 4 0	6 4 0	6 4 0	6 4 0	
1924	6 5 0	5 9 0	5 9 0	1 1 0	6 5 0	6 5 0	6 5 0	6 5 0	6 5 0	
1925	6 6 0	6 0 0	6 0 0	1 1 0	6 6 0	6 6 0	6 6 0	6 6 0	6 6 0	
1926	6 7 0	6 1 0	6 1 0	1 1 0	6 7 0	6 7 0	6 7 0	6 7 0	6 7 0	
1927	6 8 0	6 2 0	6 2 0	1 1 0	6 8 0	6 8 0	6 8 0	6 8 0	6 8 0	
1928	6 9 0	6 3 0	6 3 0	1 1 0	6 9 0	6 9 0	6 9 0	6 9 0	6 9 0	
1929	7 0 0	6 4 0	6 4 0	1 1 0	7 0 0	7 0 0	7 0 0	7 0 0	7 0 0	
1930	7 1 0	6 5 0	6 5 0	1 1 0	7 1 0	7 1 0	7 1 0	7 1 0	7 1 0	
1931	7 2 0	6 6 0	6 6 0	1 1 0	7 2 0	7 2 0	7 2 0	7 2 0	7 2 0	
1932	7 3 0	6 7 0	6 7 0	1 1 0	7 3 0	7 3 0	7 3 0	7 3 0	7 3 0	
1933	7 4 0	6 8 0	6 8 0	1 1 0	7 4 0	7 4 0	7 4 0	7 4 0	7 4 0	
1934	7 5 0	6 9 0	6 9 0	1 1 0	7 5 0	7 5 0	7 5 0	7 5 0	7 5 0	
1935	7 6 0	7 0 0	7 0 0	1 1 0	7 6 0	7 6 0	7 6 0	7 6 0	7 6 0	
1936	7 7 0	7 1 0	7 1 0	1 1 0	7 7 0	7 7 0	7 7 0	7 7 0	7 7 0	
1937	7 8 0	7 2 0	7 2 0	1 1 0	7 8 0	7 8 0	7 8 0	7 8 0	7 8 0	
1938	7 9 0	7 3 0	7 3 0	1 1 0	7 9 0	7 9 0	7 9 0	7 9 0	7 9 0	
1939	8 0 0	7 4 0	7 4 0	1 1 0	8 0 0	8 0 0	8 0 0	8 0 0	8 0 0	
1940	8 1 0	7 5 0	7 5 0	1 1 0	8 1 0	8 1 0	8 1 0	8 1 0	8 1 0	
1941	8 2 0	7 6 0	7 6 0	1 1 0	8 2 0	8 2 0	8 2 0	8 2 0	8 2 0	
1942	8 3 0	7 7 0	7 7 0	1 1 0	8 3 0	8 3 0	8 3 0	8 3 0	8 3 0	
1943	8 4 0	7 8 0	7 8 0	1 1 0	8 4 0	8 4 0	8 4 0	8 4 0	8 4 0	
1944	8 5 0	7 9 0	7 9 0	1 1 0	8 5 0	8 5 0	8 5 0	8 5 0	8 5 0	
1945	8 6 0	8 0 0	8 0 0	1 1 0	8 6 0	8 6 0	8 6 0	8 6 0	8 6 0	
1946	8 7 0	8 1 0	8 1 0	1 1 0	8 7 0	8 7 0	8 7 0	8 7 0	8 7 0	
1947	8 8 0	8 2 0	8 2 0	1 1 0	8 8 0	8 8 0	8 8 0	8 8 0	8 8 0	
1948	8 9 0	8 3 0	8 3 0	1 1 0	8 9 0	8 9 0	8 9 0	8 9 0	8 9 0	
1949	9 0 0	8 4 0	8 4 0	1 1 0	9 0 0	9 0 0	9 0 0	9 0 0	9 0 0	
1950	9 1 0	8 5 0	8 5 0	1 1 0	9 1 0	9 1 0	9 1 0	9 1 0	9 1 0	
1951	9 2 0	8 6 0	8 6 0	1 1 0	9 2 0	9 2 0	9 2 0	9 2 0	9 2 0	
1952	9 3 0	8 7 0	8 7 0	1 1 0	9 3 0	9 3 0	9 3 0	9 3 0	9 3 0	
1953	9 4 0	8 8 0	8 8 0	1 1 0	9 4 0	9 4 0	9 4 0	9 4 0	9 4 0	
1954	9 5 0	8 9 0	8 9 0	1 1 0	9 5 0	9 5 0	9 5 0	9 5 0	9 5 0	
1955	9 6 0	9 0 0	9 0 0	1 1 0	9 6 0	9 6 0	9 6 0	9 6 0	9 6 0	
1956	9 7 0	9 1 0	9 1 0	1 1 0	9 7 0	9 7 0	9 7 0	9 7 0	9 7 0	
1957	9 8 0	9 2 0	9 2 0	1 1 0	9 8 0	9 8 0	9 8 0	9 8 0	9 8 0	
1958	9 9 0	9 3 0	9 3 0	1 1 0	9 9 0	9 9 0	9 9 0	9 9 0	9 9 0	
1959	10 0 0	9 4 0	9 4 0	1 1 0	10 0 0	10 0 0	10 0 0	10 0 0	10 0 0	
1960	10 1 0	9 5 0	9 5 0	1 1 0	10 1 0	10 1 0	10 1 0	10 1 0	10 1 0	
1961	10 2 0	9 6 0	9 6 0	1 1 0	10 2 0	10 2 0	10 2 0	10 2 0	10 2 0	
1962	10 3 0	9 7 0	9 7 0	1 1 0	10 3 0	10 3 0	10 3 0	10 3 0	10 3 0	
1963	10 4 0	9 8 0	9 8 0	1 1 0	10 4 0	10 4 0	10 4 0	10 4 0	10 4 0	
1964	10 5 0	9 9 0	9 9 0	1 1 0	10 5 0	10 5 0	10 5 0	10 5 0	10 5 0	
1965	10 6 0	10 0 0	10 0 0	1 1 0	10 6 0	10 6 0	10 6 0	10 6 0	10 6 0	
1966	10 7 0	10 1 0	10 1 0	1 1 0	10 7 0	10 7 0	10 7 0	10 7 0	10 7 0	
1967	10 8 0	10 2 0	10 2 0	1 1 0	10 8 0	10 8 0	10 8 0	10 8 0	10 8 0	
1968	10 9 0	10 3 0	10 3 0	1 1 0	10 9 0	10 9 0	10 9 0	10 9 0	10 9 0	
1969	11 0 0	10 4 0	10 4 0	1 1 0	11 0 0	11 0 0	11 0 0	11 0 0	11 0 0	
1970	11 1 0	10 5 0	10 5 0	1 1 0	11 1 0	11 1 0	11 1 0	11 1 0	11 1 0	
1971	11 2 0	10 6 0	10 6 0	1 1 0	11 2 0	11 2 0	11 2 0	11 2 0	11 2 0	
1972	11 3 0	10 7 0	10 7 0	1 1 0	11 3 0	11 3 0	11 3 0	11 3 0	11 3 0	
1973	11 4 0	10 8 0	10 8 0	1 1 0	11 4 0	11 4 0	11 4 0	11 4 0	11 4 0	
1974	11 5 0	10 9 0	10 9 0	1 1 0	11 5 0	11 5 0	11 5 0	11 5 0	11 5 0	
1975	11 6 0	11 0 0	11 0 0	1 1 0	11 6 0	11 6 0	11 6 0	11 6 0	11 6 0	
1976	11 7 0	11 1 0	11 1 0	1 1 0	11 7 0	11 7 0	11 7 0	11 7 0	11 7 0	
1977	11 8 0	11 2 0	11 2 0	1 1 0	11 8 0	11 8 0	11 8 0	11 8 0	11 8 0	
1978	11 9 0	11 3 0	11 3 0	1 1 0	11 9 0	11 9 0	11 9 0	11 9 0	11 9 0	
1979	12 0 0	11 4 0	11 4 0	1 1 0	12 0 0	12 0 0	12 0 0	12 0 0	12 0 0	
1980	12 1 0	11 5 0	11 5 0	1 1 0	12 1 0	12 1 0	12 1 0	12 1 0	12 1 0	
1981	12 2 0	11 6 0	11 6 0	1 1 0	12 2 0	12 2 0	12 2 0	12 2 0	12 2 0	
1982	12 3 0	11 7 0	11 7 0	1 1 0	12 3 0	12 3 0	12 3 0	12 3 0	12 3 0	
1983	12 4 0	11 8 0	11 8 0	1 1 0	12 4 0	12 4 0	12 4 0	12 4 0	12 4 0	
1984	12 5 0	11 9 0	11 9 0	1 1 0	12 5 0	12 5 0	12 5 0	12 5 0	12 5 0	
1985	12 6 0	12 0 0	12 0 0	1 1 0	12 6 0	12 6 0	12 6 0	1		

APPENDIX

CHAPTER I—HISTORICAL REVIEW

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Summary of Events of 1964

Demography. Sharp decline in crude birth rate, to 21.11 per thousand of mean population, the lowest recorded since 1942. Death rate highest since 1956 and rate of natural increase of population, lowest since 1945. Continued rise in number of marriages; marriage rate highest since 1953. Infant mortality rate, 19.66 per thousand live births, the lowest ever recorded.

Public Finance. State deficit for year ended 30th June, £1.40 million (expenditure £85.3 million, revenue £83.9 million). Budget for 1964-65 presented 6th October; estimated deficit £0.80 million (expenditure £91.1 million, revenue £90.3 million). Federal budget, presented 11th August, provided for general increase of 5s. per week in age pension, widows', war and service pensions and tuberculosis allowances (increase of 10s. in Special Rate war pension, and in tuberculosis allowance payable to married sufferers with dependent wife). Increase of 6d. in the £ in rates of tax payable on incomes of companies for 1963-64; rebate of five per cent. of tax on incomes of individuals, which had applied to incomes of the years 1961-62 to 1963-64, discontinued in respect of income of 1964-65. Sales tax on motor vehicles raised from 22½ per cent. to 25 per cent. Increases in customs and excise duties on tobacco products, in television viewers' licence fees and in telephone charges. As provided by Stamp Act Amendment Act (No. 2, 1963) (54th), duty imposed from 1st January on motor vehicle licences issued in transferred, rate of duty 10s. for every £100, or part of £100, of the value of the vehicle. From 14th January, endowment for each child after the second, under 16 years of age, increased from 10s. to 13s. per week, and introduction of payment, at 15s. per week, for each student child aged 16 but under 21 years. From 28th May, operation of Home Savings Grant Act 1964 (10th Amendment), providing grants for home purchase or building, up to a maximum of £200, at the rate of £1 for every £3 of "acceptable" savings of certain classes of insured persons. Release by Federal Treasurer 24th August of design of the six coins, a demonstration of ten, 2, 5, 10, 20 and 50 cents, to be put into circulation on 14th February, 1966, the proposed date for conversion of Australian currency to decimal system.

Private Finance. Personal income for year ended 30th June, £427.7 million (wages, salaries and superannuations £270.8 million, farm income £41.2 million, income from dwelling rent £13.8 million, other benefits from public authorities £38.5 million, all other income £63.4 million) or £547 per head of mean population. From 6th April, maximum interest rates on fixed deposits with trading banks increased from 3½ per cent. to 3½ per cent. per annum on deposits for 3 months but less than 12 months, and from 3½ per cent. to 4 per cent. on those for 12 months to 18 months; also from 3½ per cent. interest payable at a maximum rate of 3½ per cent. per annum on deposits of £10,000 and over for periods of 30 days but less than 3 months. From 26th September, extension from 18 months to 24 months of maximum period for which trading banks permitted to accept fixed deposits; maximum rate on deposits for 12 months to 18 months, 4 per cent. per annum, and on those for more than 18 months up to 24 months, 4½ per cent. From 27th April, maximum rate of interest on overdrafts with trading banks increased from 6½ per cent. to 7 per cent. per annum. From 1st June, interest rate increased from 3½ per cent. to 3½ per cent. per annum on deposits of amounts up to £1,000 held by savings banks other than The State and Industries Bank of Western Australia which increased its rate from 3½ per cent. to 3½ per cent. Total value of retail sales £299.7 million, an increase of £14.1 million over previous year. Balances outstanding at end of December on hire purchase agreements and other instalment credit for retail sales amounted to £55.6 million, compared with £55.9 million at end of 1963.

External Trade. Value of imports for year ended 30th June, £221.4 million, and of exports, £194.5 million, resulting in adverse balance of £23.6 million compared with deficit of £40.0 million for 1962-63. Total value of external trade £421.3 million, more than 9 per cent. higher than in previous year; over 100 imports greater by £4.52 million, overseas exports by £20.3 million, interstate exports by £4.73 million and interstate imports by £5.11 million. Improvement in favourable balance on overseas trading from £21.0 million to £8.4 million; interstate trade deficit £110.6 million, compared with £111.0 million in 1962-63. Average 1963 value of gross wool exported, 73.19 pence per lb., the highest since 1956-57. Average 1963 value of wheat 14s. 1½d. per bushel, 1d. per bushel less than in 1962-63. Quantity of gross wool exported, 159.3 million lbs. and value, £45.6 million, the highest ever recorded. Shipments of refined petroleum oils and spirits, 576 million gallons, greater by 13 million gallons than the previous largest annual total, recorded in 1961-62. Among other principal export commodities showing an increase in

volume were wheat 4.3 per cent, barley 5.4 per cent, frozen and chilled meats (including poultry) 2.7 per cent, frozen fish (including shellfish) 8.4 per cent, livestock concentration 43.7 per cent, and value index 20.3 per cent. These which showed a decrease included gold bullion 2.2 per cent, iron ore and concentrates 1.6 per cent, manganese ore and concentrates 47.9 per cent, asbestos fibre 36.9 per cent, apples 22.3 per cent, potatoes 45.9 per cent, cane 34.9 per cent, timber 1.9 per cent, and sheep skins 5.2 per cent.

Transport and Communications. The fourth consecutive year, operating revenues of Western Australian Government Railways exceeded operating expenses, a record for year ended 30th June (£1.47 million over-paid) with £1.14 million in 1962-63, and deficit (including depreciation and interest charges) £3.34 million, less by £9.9 million than in 1961-62. Publication of regulations under Railways (Que-Que-Bell and other Railways) Discontinuance Act of 1960 officially closing a further 104 miles of line formerly operated by Western Australian Government Railways, of total length of 670 miles authorized for closure under the Act, 603 miles officially proclaimed closed on 31st December, leaving only Rossmore-Flinders Bay railway (67 miles in length) not proclaimed. Services in Armadale-Jandakot railway discontinued in January. On 1st August, the only private railway in Western Australia open for general rail passenger traffic, the Midland Railway of 277 single miles between Midland and Wailaway, officially transferred to Western Australian Government Railways Commission in terms of The Midland Railway Company of Western Australia Limited Acquisition Agreement Act, 1963; the company's road passenger and freight service also officially transferred to the Commission on 1st August. Official opening in September of new steel and concrete railway bridge across Swan River at North Fremantle, to replace existing bridge and second harbour wharves. Passage of Commonwealth financial assistance to the States in relation to roads extended to 30th June, 1965 by means of new Commonwealth Aid Roads Act. Registration of new motor vehicles (including motorcycles) 20,729, a decline of 1,314 from unprecedentedly high number of 22,043 recorded in 1963. Appointment in May of first members of Taxi Control Board established under Transport Administration and Control Act, 1963 for coordination and control of taxi cars in Metropolitan Traffic Area and other areas as prescribed. Commencement in March of first of a number of voyages around Australia to be undertaken during a trial period by units of State Shipping Service fleet; voyages designed to offset decline in revenue from cargo consigned southward from ports on north-west and northern coast. Name of Fremantle Harbour Trust changed to "Fremantle Port Authority" with effect from 27th November. Official opening 14th September of new bulk grain terminal for handling wheat, barley and oats at Port of Fremantle, storage capacity a million bushels, cost of construction £2.71 million. New fishing boat factory at Fremantle completed in December. Launched both at port of Bunbury officially opened 10th April. Inauguration 7th November of direct services by jet aircraft between Perth and other State capital cities. Completion in September of annual cable between Perth and Bunbury to provide additional telecommunication facilities and a television relay channel. Work commenced in May at Port Augusta (South Australia) to provide additional services on aerial trunk telephone route of more than 1,000 miles between Port Augusta and Kalbarri. Broadcasting services began 19th February from regional station W.A. of Carnarvon, beginning to use the name of station operated in Western Australia by Australian Broadcasting Commission. Announcement by Minister (General) 17th February of Government's approval of license for second commercial television station at Perth. Provision made for Commonwealth grant to Western Australia of an amount of £165,000 as contribution towards expenditure incurred by the State in developing a township at Bernmouth in connection with establishment by United States Government of extra radio transmission station at North West Cape. Publication (weekly) commenced of 34th (October) Edition of 118,803 compared with 104,017 at end of 1963.

Rural Industry. Area sown to wheat for grain 13,131,267 acres; exceeded 5 million acres for the first time. Production of wheat 63.7 million bushels and average yield 12.2 bushels per acre, compared with 62.3 million bushels and 12.3 bushels per acre in previous season. Continued decline in production of oats (14.6 million bushels) and of barley (2.70 million bushels), to each equal the lowest since 1951. Number of sheep (including stubbs) at 31st March, 20,044,888 compared with 18,777,124 at same date in 1963. Increase of 1,267,764 the greatest recorded in any year. Wool production for 1964-65 season 208 million lb, a decline of 8.6 million lb from unprecedentedly high level of previous season, decrease from 6.8 lb to 5.6 lb in average weight per fleece shorn from sheep and lambs. Fourteen more farms admitted to Old irrigation area. Planting during May and June of first crops of cotton grown on the first five farms, allowed in 1962, growing of Kalamunda officially opened 1st May. Presentation to State Government of preliminary report on prospect for growing sugarcane on the River, recommending a three year programme

of research on cane to be grown on a pilot farm. Following cyclone damage to plantations at Carnarvon, first claims lodged for compensation payable from Banana Industry Compensation Trust Fund established under legislation of 1961.

Fisheries—Total take of fish for year ended 30th June 62 4 million lb., slightly less than in 1961-62. Crayfish catch 18.6 million lb., the smallest since 1958-59. Greatly expanded production of prawns, from 1.02 million lb. in 1961-62 to 2.12 million lb. in 1962-63. Presentation to State Parliament in November of report of Honorary Royal Commission appointed in February, in succession to a Select Committee appointed in November, 1961, to inquire into the operation of the Fisheries Act and its application to the crayfishing industry in particular; recommendations included deletion from the Fisheries Act of all reference to crustaceans and establishment of a Fisheries (Crustacean Species) Authority with powers to control and regulate the taking of such species.

Mining—Four discoveries of iron ore during year, three from wells drilled on Barrow Island, 60 miles northward from Onslow, and the fourth from Yardarine No. 2 well about eight miles east of Dongara; natural gas obtained from Yardarine No. 1 well, from three wells on Barrow Island and from a well drilled in Bonaparte Gulf Basin in the Kimberley. Amendment to Petroleum Search Subsidy Act passed by Commonwealth Parliament extending to 30th June, 1964 the period during which search operations may qualify for subsidy, and widening the area to which subsidy applies to include the sea bed and subsoil of the continental shelf. Continued decline in quantity of gold ore; total production 712,847 fine ounces, the lowest since 1951. Coal production 987,620 tons, the highest in any year except 1954 when 1,018,343 tons were produced. Production of iron ore (1,357,713 tons) and asbestos fibre (11 150 tons) maintained at about the same level as in 1961; great expansion in production of ilmenite concentrates, from 195,000 tons to nearly 300,000 tons, and of manganese ore, from 34,600 tons to more than 60,000 tons. Iron ore production began 1960-61 year at Koolan Island, where mining, crushing and loading facilities had been under development since 1960. Acts passed by State Parliament ratifying agreements with a number of companies relating to mining and export of iron ore, secondary processing of ore and export of processed products (see later section *Legislation and Administration*). Negotiations proceeding between iron ore mining development companies and steel manufacturers in overseas countries, principally Japan, for the supply of iron ore and pellets. Shipments from Derby of steel lead-pipe are following revival of lead mining in West Kimberley. Copper mining at Wagon Creek discontinued in March after a revival which began in September, 1962.

Secondary Industry—Continued expansion in factory activity during year ended 30th June; average number of persons employed 14,705 and net production £115.3 million, compared with 53,435 and £108.2 million in 1961-62. First shipment of alumina from refinery at Kwinana, to Victoria in February; exports to Japan began in March. Contracts let by State Electricity Commission for provision of two more units of power station being built at Meek, west of Perth; complete project to consist of four units, each of 60,000 kilowatts capacity. Official opening in November of superphosphate fertiliser works at Esperance with annual capacity of 60,000 tons. In September a factory for muzzing of sea mullet began operations at Geraldton. Passage of legislation ratifying agreements between State Government and private interests for the disposal of land for industrial purposes, at Kwinana for establishment of plant to manufacture ammonia, nitrogenous fertilisers and other products, and at Mattington for development of an industrial estate. Value of all new buildings completed £48.6 million, more than 16 per cent greater than in previous year.

Water Supply—With effect from 1st July, Metropolitan Water Supply, Sewerage, and Drainage Board, consisting of seven members and having its own borrowing powers, replaced the former Department as the authority responsible for provision and maintenance of metropolitan water supplies and sewerage and drainage services. In February, vote submitted by State Government for Commonwealth financial assistance in completing the Irrigation Project; amount sought £26 million, payable over a period ending with financial year 1979-80. In response to request made by State Government in 1961, agreement by Commonwealth to provide financial assistance in extending comprehensive water supply scheme by means of repayable interest bearing advances to consumers in 1965-66 and aggregating £5.25 million, equivalent to half the estimated cost of proposed extensions. Agreement by Commonwealth Government to provide financial assistance to the States for accelerated programmes of surface water measurement and investigation of underground water resources; payments to be made over period of three years commencing with financial year 1964-65. Coldfield and Agricultural Water Supply extended northward from main pipeline to site of iron-ore deposits at Koolbarrabing. Great Southern Towns Water Supply extended

from Katanning south-eastward through Broomehill to Unswagerup and from Narragin north-eastward to Wirkegin; work begun on construction of pipeline from Collie to Muja to serve power station being built by State Electricity Commission.

Health—From 1st June, increase from 6s. to 8s. in amount of Commonwealth benefit payable under Medical Benefits Scheme in respect of each general practitioner consultation or visit. States Grants (Mental Health Institutions) Act passed by Commonwealth Parliament repealing similar legislation of 1957; continuation to 30th June, 1965 of financial assistance on basis of recap of one-third of a State's expenditure incurred in building and equipping mental health institutions, but without imposition of a limit on maximum assistance as specified in the earlier Act. Health legislation passed by State Parliament included the Clean Air Act establishing an Air Pollution Control Council comprising the Commissioner of Public Health, as chairman, and thirteen other members, and a Scientific Advisory Committee of seven members to advise and assist the Council; the Poisons Act providing for regulation and control of the possession, use and sale of poisons and other substances, and constituting a Poisons Advisory Committee; and the Chiropractors Act providing for the training, qualification and registration of chiropractors.

Education—Substantial rise in University tuition fees in respect of 1964 academic year; fees increased by 50 per cent. for some years of a course and for some units of study. Submission to responsible Minister 27th August of first two volumes of report of the Committee on the Future of Tertiary Education in Australia sponsored by the Prime Minister in August, 1963, under the chairmanship of Sir Leslie Martin, "to consider the pattern of tertiary education in relation to the needs and resources of Australia and to make recommendations to the Australian Universities Commission on the future development of tertiary education." In February, investigation begun by Dr. J. A. Petch, an English educational authority engaged by the University to inquire into and report upon the public examinations system in Western Australia. Enactment by Commonwealth Parliament of States Grants (Science Laboratories and Technical Training) Act authorizing payment, during the financial year 1964-65, of grants to the States for laboratories and equipment for use in science teaching at secondary schools and for buildings and equipment for use in trade training and technical education; annual amounts of grants to Western Australia £333,800 and £337,200 respectively. First awards of scholarships provided by Commonwealth Government for secondary and technical education, in connection with the 1965 school year. In September fourth "school of the air," to supplement correspondence tuition, given by Education Department, began regular transmission from Port Hedland over radio network of Royal Flying Doctor Service.

Prices, Wages and Employment—Consumer Price Index for Perth 122.7 compared with 122.7 in 1963, representing a rise of 2.4 per cent., the greatest proportional increase in any year since 1960. After comprehensive inquiry, Western Australian Industrial Commission decided basic wage rates of £15 8s. for adult males and £11 11s. for adult females, to operate from 22nd September and to apply throughout the State, thus discontinuing the declaration of separate rates for each of three divisions of the State. State basic wage payable to adult male workers in metropolitan area increased during year from £15 1s. 6d. to £15 11s. 2d., a rise of 8s. 8d. per week, the largest increment in any year since 1960. Decision announced 9th June by Commonwealth Conciliation and Arbitration Commission granting increases in weekly basic wage rates of £1 for adult males and 11s. for adult females, the first since 1961; from beginning of first pay-period commencing on or after 19th June, Commonwealth basic wage of £15 8s. per week payable to adult males in Perth. Average weekly earnings per employed male unit for year ended 30th June 123.59 compared with 122.12 in 1962-63. Average number of wage and salary earners in civilian employment (excluding employees in rural industry and private domestic service) 223,800, an increase of 8,000 over average for 1963. Average number of persons receiving unemployment benefit during year 2,213, the lowest since 1960; number on benefit at end of year 1,332, compared with 1,843 at end of 1963. Commencement 13th November of Long Service Leave Act Amendment Act (No. 2), 1964, reducing from 20 years to 15 years the requirement of continuous service with the same employer in order to entitle an employee to 13 weeks' long service leave. Operation from 14th December of Workers' Compensation Act Amendment Act of 1964 providing, among other things, for general extension of compensation provisions to include injuries sustained in accidents in the course of travel between place of residence and place of employment, formerly compensable only in the case of restricted classes of workers on certain specified journeys. Completion in April of report of committee appointed by Minister for Education in 1962 to inquire into the apprenticeship system in Western Australia; recommendations included the encouragement of employers willing to train apprentices, the provision of financial assistance to those taking apprentices, and the establishment of an Apprenticeship Council responsible for the general administration of

apprenticeship scheme. Twenty-six industrial disputes involving 115 workdays resulted in a loss of 7,115 working days, principally in transport services and related trades; estimated total loss in wages £11,300.

Legislation and Administration. Parliamentary session opened 30th July, ended 27th November. Legislation included the Agricultural Products Act Amendment Act authorizing an inspector to take samples of agricultural products to determine whether a product complies with the requirements of the Act; the Agreement Protection Board Act Amendment Act removing the limit of £165,000 in the amount to be appropriated annually from the Consolidated Revenue Fund to the Agriculture Protection Board Fund; the Bush Fires Act Amendment Act limiting to three years the term of office of members of the Bush Fires Board other than the chairman; the Cheong-Hilton Hotel Agreement Act Amendment Act authorizing the Perth City Council to sell to the Commonwealth Government land formerly intended to be used as the site of a hotel and tourist centre in terms of the agreement contained in the principal Act; the Christ-precious Act providing for the training, qualification and registration of persons as interpreters; the Clean Air Act constituting an Air Pollution Control Council comprising the Commissioner of Public Health, as chairman, and thirteen other members, and a Scientific Advisory Committee of seven members to advise and assist the Council; the Coal Mine Workers (Personal) Act Amendment Act amending the provision relating to the period during which a worker, having accepted a lump sum payment under the Workers' Compensation Act in respect of incapacity arising from injury, is disqualified from pension benefits, and restoring the pension rights of certain retrenched workers subsequently re-employed in the coal mining industry; the Country Areas Water Supply Act Amendment Act amending a revised system of charges for the supply of water in areas outside the metropolitan area as constituted under the Metropolitan Water Supply, Sewerage, and Drainage Act; the Criminal Code Amendment Act authorizing a person in command of an aircraft on a flight to use such reasonable force as is deemed necessary for maintaining good order and discipline, and prescribing penalties for certain offences in relation to aircraft; the Damage by Aircraft Act enabling a person not guilty of contributory negligence who suffers loss or damage caused by an aircraft, or anything falling from an aircraft, to recover damages from the owner; the Debt Collectors Licensing Act providing that every debt collector other than specified persons and institutions expressly exempted, shall be the holder of a licence under the Act; the Door to Door (Sales) Act enabling a purchaser or bailee, having made a credit purchase agreement with respect to personal goods, including books, magazines, and pictures, to terminate the agreement by notice given within seven days of the making of the agreement; the Education Act Amendment Act extending the period of compulsory school attendance, with effect from the 1st January, 1960, to the end of the year in which the child attains the age of 15 years; the Electoral Act Amendment Act extending compulsory enrolment and compulsory voting provisions to include elections for the Legislative Council, and making the qualifications for an elector of the Legislative Council the same as those for an elector of the Legislative Assembly; the Electoral Act Amendment Act (No. 2) amending the provision relating to disqualification as an elector of the Legislative Council and the Legislative Assembly; the Fisheries Act Amendment Act enabling the Governor, on the recommendation of the Minister, to declare a specific portion of the State south of 32° S. latitude to be a "game-fished fishing zone" during any specified time in any specified year or during a specified portion of every year; the Forestry Act Amendment Act requiring that a copy of any Order in Council dedicating land as a State Forest shall be laid on the Table of each House of Parliament, and enabling the Parliament by a resolution of each House to disallow any such Order; the Fremantle Harbour Trust Act Amendment Act altering the title of the Fremantle Harbour Trust Commission to "Fremantle Port Authority," increasing the limit of £7,000 on the cost of any single project in the nature of port works which the Authority may undertake subject to the approval of the Minister, and extending the borrowing powers of the Authority to include borrowings from any bank approved by the Treasurer; the Friendly Societies Act Amendment Act permitting registered friendly societies to build and equip hospitals for the accommodation and treatment of members and their dependents, authorizing friendly societies' dispensaries which were registered under the National Health Act (Commonwealth) before the 24th April, 1964 to trade with members of the general public, and requiring that the rules of a friendly society, and amendments to rules, shall be approved by the Minister before registration; the Government Employees' Housing Act making provision for adequate and suitable housing accommodation for employees of the State Government and for salaried government employees; Housing Authority of four members; the Industrial Labour Relations Amendment Act approving an agreement between the State Government and BP Refinery (Kwinana) Employees' Union and CSBP & Fisons Ltd. relating to the disposition of land at Kwinana for the establishment of plant for the manufacture

of ammonia, nitrogenous fertilizers and other products; the Industrial Land (Maddington) Agreement Act approving an agreement between the State Government and Davison Estates Pty. Ltd. for the sale to the company of land at Maddington for the establishment of industries; the Iron Ore (Cleveland-Cliffs) Agreement Act ratifying an agreement between the State Government and Basin Materials Pty. Limited relating to the development of iron ore deposits of lower grade in the Robe River area east of Onslow, and the production and export of iron-ore pellets and iron ore from those deposits; the Iron Ore (Hamersley Range) Agreement Amendment Act approving an agreement supplementary to that contained in the principal Act; the Iron Ore (Mount Goldsworthy) Agreement Act repealing the Iron Ore (Mount Goldsworthy) Agreement Act, 1962-1963, and ratifying a revised agreement between the State Government and the joint venturers; the Iron Ore (Mount Newman) Agreement Act approving an agreement between the State Government and Mt. Newman Iron Ore Company Limited for the mining and export of iron ore from deposits at Mount Newman, 225 miles to the south of Port Hedland, and making provision for the secondary processing of the ore and the establishment of an integrated iron and steel industry; the Iron Ore (Tallering Peak) Agreement Act repealing the Iron Ore (Tallering Peak) Agreement Act, 1961-1962 and incorporating a revised agreement between the State Government and Western Mining Corporation Limited; the Iron Ore (The Broken Hill Proprietary Company Limited) Agreement Act ratifying an agreement between the State Government and The Broken Hill Proprietary Company Limited relating to the development of iron ore deposits of lower grade in the Deepdale area about 80 miles east of Onslow, and making provision for the secondary processing of the ore and the export of iron ore and processed products; the Land Agents Act Amendment Act requiring that, in order to qualify for the grant of a licence as a land agent, an applicant shall have passed a prescribed examination, shall have held a licence in another State, or shall have been engaged in business as a land agent or as a land salesman for a specified period prior to the application; the Long Service Leave Act Amendment Act (No. 2) reducing from 26 years to 15 years the period of continuous service with the same employer in order to entitle an employee to 13 weeks' long service leave, specifying that entitlement for each succeeding 10 years shall be 8½ weeks and amending *pro rata* conditions accordingly; the Milk Act Amendment Act empowering the Milk Board of Western Australia to require that before any milk or cream is delivered for sale for human consumption in any district which the Board may specify it shall be pasteurized and, if for sale to households, shall also be bottled and sealed or placed in a carton; the Motor Vehicle (Third Party Insurance) Act Amendment Act reducing from 7½ per cent. to 5 per cent. the amount of the dividend which may be credited to participating insurers from any annual surplus of The Motor Vehicle Insurance Trust, requiring that the remaining surplus shall be applied firstly against a deficit incurred in any previous year and then by transfer to a Disaster Reserve Fund, and authorizing the Trust to withdraw from the Fund the amount necessary to satisfy any claim or judgment exceeding £50,000; the Museum Act Amendment Act enabling any historic wreck to be tested in The Western Australian Museum Board, requiring a person finding a historic wreck to report the matter to the Board, and prohibiting unauthorized interference with wrecks; the National Trust of Australia (W.A.) Act establishing The National Trust of Australia (W.A.) for the preservation of historic buildings and the protection of areas of natural beauty and interest; the Natives (Citizenship Rights) Act Amendment Act (No. 2) providing for the issue of Certificates of Citizenship, on the attainment of 21 years of age, to persons whose names as children of their responsible parents have been included in Certificates granted or issued to those parents; the Parliamentary Superannuation Act Amendment Act providing for increased pensions and raising from £268 to £312 the annual contribution of a Member of Parliament to the Parliamentary Superannuation Fund, and from £16,540 to £21,960 the amount to be paid annually to the Fund from the Consolidated Revenue Fund; the Pharmacy Act consolidating and amending the law relating to pharmacy and the registration of pharmaceutical chemists and of pharmacists; the Poisons Act providing for regulation and control of the possession, sale and use of poisons and other substances, and constituting a Poisons Advisory Committee; the Police Act Amendment Act prescribing increased penalties for a large number of offences under the Act; the Police Assistance Compensation Act providing for the payment of compensation to persons injured while assisting police officers in the execution of their duty, and to the dependants of such persons; the Radioactive Substances Act Amendment Act enabling stricter control of the use of irradiating apparatus; the Real Property (Foreign Governments) Act Amendment Act authorizing the lease to the Government of the United States of America of land in the townsite of Exmouth up to a maximum of 100 acres; the State Housing Act Amendment Act raising from £2,600 to £3,000 the limit on the cost of any house to be built by The State Housing Commission and also on the amount of the advance available to a worker to enable him to acquire a house; the Statute Law Revision Act revising the Statute Law by repealing spent,

necessary or suspended payments; the Surtax Fund Act establishing a Surtax Fund for the purpose of indemnifying litigants for legal costs ordered to be paid in particular circumstances, and constituting an Appeal Costs Board of three members to control and manage the Fund; the Traffic Act Amendment Act authorising the making of regulations to empower licensing authorities to impose limitations on the use of a vehicle for which a particular class of licence is issued; the Traffic Act Amendment Act (No. 2) authorising each local government authority outside the Metropolitan Traffic Area to continue to retain the revenue collected each year from vehicle licence fees up to the limit of the amount of its collections in the "base year" 1938-39, deleting the provision whereby an authority could elect to pay to the Central Road Trust Fund the amount of revenue in excess of its collections in the base year by requiring that, in all cases, such amounts shall be paid to the Fund, making provision for each authority to receive from the Fund a grant equal to the amount of its payment to the Fund together with an addition of 75 per cent. instead of 60 per cent. as formerly, allowing for a similar increase in the total amount to be allocated, in the form of grants, among local government authorities in the Metropolitan Traffic Area, and requiring that the whole of the grant made from the Central Road Trust Fund to any such authority shall be spent on road construction; the Used Car Dealers Act making better provision for the licensing and control of dealers in used motor vehicles; the Wills Act Amendment Act raising the limit on the rate which may be levied upon the Act from 30, to 50, in the 1 of the unimproved capital value in the case of land held under pastoral lease; the Weights and Measures Act Amendment Act requiring that drugs shall be sold by metric weight or metric measure of capacity instead of by apothecaries' weight as formerly prescribed by the Act; the Wills (Formal Validity) Act facilitating the validation of wills executed in other Australian States and Territories or in another country and incorporating additional rules which relate to wills executed on board ships or air-craft; the Workers' Compensation Act Amendment Act raising the limit on amounts of compensation payable under the Act, and extending an employer's liability, on account of injury sustained in the course of a journey, to include travel between the worker's place of residence and the place of employment or place of work and between his place of residence and any trade, technical or other training school that he is required, by the terms of his employment or as an apprentice, to attend; and the Youth Service Act providing for the development of a youth service and for assistance to youth organisations and clubs, and establishing The Youth Council of Western Australia and The Youth Service Assistance Fund.

Official opening 23rd March of additions to Parliament House, Perth.

Commission issued 31st March appointing Electoral Commissioners to divide the State into 15 Electoral Divisions for representation in the Legislative Council, instead of 10 Divisions as formerly; final determinations published 25th May in *Government Gazette of Western Australia*.

Death in March of Sir Ross McDonald, Q.C., LL.B., first elected to the Legislative Assembly in 1933 as Member for West Perth; Cabinet Minister holding various portfolios from 1947 until resignation in 1949. Death in June of Mr. R. E. Clothier, formerly M.L.A. for Maylands; Member of the Senate from 1938 to 1950. Death in June of Hon. E. R. Gray, formerly M.L.C. for West Province; Minister without Portfolio from 1936 to 1947.

Commencement on 1st February of Industrial Arbitration Act Amendment Act (No. 2), 1953 substituting for the former Court of Arbitration two authorities: The Western Australian Industrial Commission consisting of a Chief Industrial Commissioner and three other Commissioners, and the Western Australian Industrial Appeal Court of three Judges.

Appointment in March of Royal Commission with wide terms of reference relating to the safety of vessels, including the adequacy of existing legislation and regulations concerning seaworthiness and the provision of life-saving equipment, the administration of the legislation, the qualifications required of masters and other crew, the organisation of search and rescue operations, and the safety generally of ships and those aboard them while at sea; report submitted in November.

Appointment in July of members of Parole Board established under Prisoners Probation and Parole Act, 1953 to succeed the Indeterminate Sentences Board constituted under the Prison Act.

Operation from 1st July of Licensing Act Amendment Act (No. 4), 1953, as a result, restrictions formerly imposed on consumption of alcoholic liquor by aboriginal natives no longer applicable in the South-West Land Division.

Death 29th November of Senator V. S. Vincent (Liberal Party); on 26th November, Legislative Council and Legislative Assembly, at joint sitting held in accordance with requirements of Commonwealth of Australia Constitution Act, elected Mr. J. P. Soss (Liberal Party) to fill vacancy in Senate.

As result of election held 26th December, Liberal-Country Party Government representation in the Senate from 1st July, 1953 reduced from 11 to 30, thus terminating Government's majority.

Provision for reintroduction of national service training made by amendment to National Service Act (Commonwealth) requiring males aged 20 years to register for military service.

Misadventures—In August, serious floods at a number of places in the south-west of the State, causing widespread disruption of rail and road services and isolation of some towns. Town of Harvey evacuated, extensive damage at Lefke, Dunsbury and Nannup.

Official opening in March of O'Connor Museum established at Sandhurst West by Tourist Development Authority; historical exhibits housed in old No. 1 pumping station of the Goldfields Water Supply system, depicting origin and development of the scheme devised by C. Y. O'Connor, a former Engineer-in-Chief, to deliver water from Moorabool Weir to Coolgardie and Kalbarrie by means of a 346-mile pipeline completed in 1903.

CHAPTER III—CONSTITUTION AND GOVERNMENT

Place facing page 96

Governor Stirling's Commission

The full text of Governor Stirling's Commission, parts of which are shown in the plate facing page 96, is reproduced below. The courtesy of The Library Board of Western Australia in providing the text and in giving permission for its reproduction here is gratefully acknowledged.

WILLIAM THE FOURTH BY THE GRACE OF GOD of the United Kingdom of Great Britain and Ireland King Defender of the Faith TO our trusty and wellbeloved JAMES STIRLING Esquire Captain in our Royal Navy greeting: KNOW YOU that we reposing especial trust and confidence in the prudence courage and loyalty of you the said James Stirling of our especial grace certain knowledge and mere motion have thought fit to constitute and appoint and by these presents do constitute and appoint you the said James Stirling to be our GOVERNOR AND COMMANDER IN CHIEF in and over our Territory called WESTERN AUSTRALIA extending from Cape Landseerry in latitude thirteen degrees forty four minutes south to West Cape Howe in latitude thirty five degrees eight minutes south and from the Flinders-Island on the western coast in longitude one hundred and twelve degrees fifty two minutes to one hundred and twenty three degrees of east longitude reckoning from the meridian of Greenwich including all the islands adjacent in the Indian and Southern Oceans within the latitudes aforesaid of thirteen degrees forty four minutes south and thirty five degrees eight minutes south and within the longitudes aforesaid of one hundred and twelve degrees fifty two minutes and one hundred and twenty three degrees east from the said meridian of Greenwich and of all forts and garrisons erected and established or which shall be erected and established within the said Territory or any of the said islands AND WE hereby require and command you to do and execute all things in due manner that shall belong to your said command and the trust we have reposed in you according to the several powers and directions granted or appointed you by this present Commission and the instructions and authorities herewith given to you or according to such further powers instructions and authorities as shall at any time hereafter be granted or appointed you under our signet and sign manual or by our order in our Privy Council or by us through one of our principal Secretaries of State and according to such laws and ordinances as are now in force or as hereafter shall be made under and by virtue of a certain Act of Parliament made in the tenth year of the reign of His late Majesty King George the Fourth intitled "An Act to provide until the thirty first day of December one thousand eight hundred and thirty four for the government of His Majesty's settlements in Western Australia on the western coast of New Holland." AND OUR WILL AND PLEASURE is that you the said James Stirling as soon as may be after the publication of these our Letters Patent do take the oaths appointed to be taken by an Act passed in the first year of the reign of King George the First intitled "An Act for the further security of His Majesty's person and Government and the succession of the Crown in the heirs of the late Princess Sophia being protestants and for extinguishing the hopes of the Pretended Prince of Wales and his open and secret abettors" as altered and explained by an Act passed in the sixth year of the reign of our late Royal Father intitled "An Act for altering the Oath of Allegiance and the Assurances and for inserting so much of an Act of the seventh year of His late Majesty Queen Anne intitled "An Act for the Improvement of the Union of the two Kingdoms" as after the time therein limited requires a delivery of certain bills and copies therein mentioned to persons indicted of High Treason or Mis-prison of Treason" or in lieu thereof the oath required to be taken by an Act passed in the tenth year of the reign of His late Majesty King George the Fourth intitled "An Act for the relief of His Majesty's Roman Catholic Subjects" according as the said former Acts or the said last mentioned Act shall be applicable to your case and likewise that you take the usual oath for the due execution of the office and trust of our Governor and Commander in Chief in and over the said Territory and its Dependencies and for the due and impartial administration of justice and further that you take the oath required to be taken by Governors in the Plantations to do their utmost that the several laws relating to trade and the plantations be duly observed, which said oaths the senior or any other member of the Executive Council of Government of Western Australia is hereby authorised and empowered to tender and administer unto you and in your absence to our Lieutenant Governor which being duly performed you shall administer to our Lieutenant Governor if there be any upon the place and also to the persons nominated and appointed to be members of the Executive Council of Government in our instructions under the Royal Sign Manual and Signet herewith given to you each of the said oaths mentioned in the said several Acts as shall be applicable to the case of the individual taking the same and also the usual oath for the due execution of their places and trusts respectively all which oaths shall also be administered by the Governor or person administering the Government of our said Territory for the time being to all such persons as shall hereafter be appointed to be members of our said Executive Council before they respectively enter upon the execution of the duties of such their office AND WE DO hereby authorise and empower you to keep and use the public Seal appointed for the sealing of all things whatsoever that shall pass the Seal of our said Territory and its Dependencies AND WHEREAS it has been deemed expedient that an Executive Council should be appointed to consist of the persons nominated in our instructions herewith given to you under our Royal Sign Manual and Signet or who shall hereafter be nominated or appointed by us any two of whom (together with yourself or in your absence together with the member presiding) shall constitute a quorum to advise and assist in the administration of the Government in our said Territory and its Dependencies we do hereby give and grant unto you full power and authority to suspend any of the members of our said Executive Council from sitting voting or assisting therein if you shall find cause for so doing And it is shal at any time

happen that by the death resignation or departure from the said Territory and its Dependencies of any of the said Council there shall be a vacancy or vacancies in our said Council you are hereby authorised and required by a warrant or commission under the Seal of our said Territory and its Dependencies to appoint to be members of our said Council so many fit and proper persons as shall make up the number present to be four and no more. It being nevertheless our will and pleasure that you do signify to us by the first opportunity every such vacancy with the causes thereof as also the names and qualifications of the persons appointed by you to the intent that such appointments may be either disallowed or confirmed by us and until such disallowance or confirmation by us shall be signified and made known to you the persons so appointed by you shall be to all intents and purposes Councilors within our said Territory and Dependencies. And if in consequence of the suspension of any of the members of our said Council or their inability to attend from any temporary cause there should not be a sufficient number of Councilors to form a quorum you are hereby authorised provided the nature of the case shall be your judgment render it necessary to postpone from time to time under the Seal of our said Territory and its Dependencies as aforesaid such persons as you shall deem best qualified to act during the temporary incapacity of such Councilors so that the number present may be two and no more. And the persons so nominated by you shall be deemed Councilors until the members originally appointed are enabled to resume their seats or until others are appointed in their stead. WE DO further give and grant unto you the said James Stirling full power and authority from time to time and at any time hereafter by yourself or by any other to be authorised by you in that behalf to administer and give such of the said oaths in the said several Acts beforementioned contained as shall be applicable to the case of the individual to whom the same shall be administered to all and every such person or persons as you shall think fit who shall hold any office or place at that or prior or who shall at any time or times pass into our said Territory and its Dependencies or shall be resident or residing therein. AND WE DO hereby authorize and empower you to constitute and appoint Justices of the Peace Clerks Constables and other necessary Officers and Ministers in our said Territory and its Dependencies for the better administration of Justice and putting the Law in execution and to administer or cause to be administered unto them such oath or oaths as are usually given for the due performance and execution of their offices and places. AND WE DO hereby give and grant unto you full power and authority where you shall see cause or shall judge any offender or offenders in any criminal matters or for any loss or forfeitures due unto us in respect of our money to pardon all such offenders and to remit all such offences fines and forfeitures treason and well if purposely excepted in which cases you shall likewise have power upon extraordinary occasion to grant reprieves to the offenders until and to the intent our Royal pleasure may be known therein. AND WE DO hereby give and grant unto you the said James Stirling by yourself or by your Captains or Commanders by you to be authorised full power and authority to levy arm master command and employ all persons whatsoever residing within our said Territory and its Dependencies under your Government and as commands shall serve to attach them from one place to another or to embark them for the resisting or withholding all customs duties and rebates both at sea and on land and such customs duties and rebates if there shall be occasion to pursue and prosecute in or out of the limits of our said Territory and its Dependencies and if it shall so please God them to manfully apprehend and take and to execute martial law in time of invasion or at other times when by law it may be executed and to do and execute all and every other thing or things which to our Governor and Commander in Chief do or ought of right to belong. AND WE DO hereby give and grant unto you the said James Stirling full power and authority with the advice and consent of our said Executive Council to issue a proclamation dividing our said Territory of Western Australia and its Dependencies into Districts Counties Hundreds Towns Townships and Parishes and appoint the limits thereof respectively AND WE DO hereby give and grant unto you full power and authority with the advice and consent of our said Executive Council to erect raise and build in our said Territory and its Dependencies such and so many Forts Phalaries Castles Cities Burroughs Towns and Fortifications as you shall judge necessary and the same or any of them to fortify and furnish with ordnance and ammunition and all such stores and necessaries for the security and defence of the same and the same again or any of them to demolish or dismantle as may be most convenient and for as much as diverse mutinous and disorders may happen by persons shipped and employed at sea during the time of War. AND to the end that such persons as shall be shipped and employed at sea during the time of War may be better governed and ordered we do hereby give and grant unto you the said James Stirling full power and authority to constitute and appoint Captains Lieutenants Masters of Ships and other Commanders and Officers to execute the Law Martial during the time of War according to the directions of an Act passed in the twenty second year of the reign of His late Majesty King George the Second intitled "An Act for amending explaining and reducing into one Act of Parliament the laws relating to the government of His Majesty's Ships Vessels and Forces by Sea" as the same is altered by an Act passed in the nineteenth year of the reign of our late Royal Father intitled "An Act to amend and explain an Act made in the twenty second year of the reign of His late Majesty King George the Second intitled "An Act for amending explaining and reducing into one Act of Parliament the laws relating to the government of His Majesty's Ships Vessels and Forces by Sea" and to use such proceedings authorities punishments corrections and executions upon any offender or offenders who shall be mutinous seditious disorderly or any way unruly either at sea or during the time of their ships or residences in any of the ports harbours or bays of our said Territory and its Dependencies as the case shall be found to require according to Martial Law and the said directions during the time of war as aforesaid. PROVIDED that nothing herein contained shall be construed to the enabling you or any by your authority to hold plea or have any jurisdiction of any offence cause matter or thing committed or done upon the High Seas or within any of the havens rivers or creeks of our said Territory and its Dependencies under your Government by any Captain Commander Lieutenant Master

Officer Seaman Soldier or other person whatsoever who shall be in our actual service and pay in or on board any of our Ships of War or other Vessels acting by immediate Commission or warrant from our Commissioners for executing the office of our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being or from our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being under the Seal of our Admiralty but that such Captain Commander Lieutenant Master Officer Seaman Soldier or other person so offending shall be left to be proceeded against and tried as their offences shall require either by our Supreme Court of Western Australia in pursuance of the provisions in that behalf contained in the said Act of Parliament made and passed in the tenth year of the reign of His said late Majesty or by Commission under our Great Seal of this Kingdom as the statute of the twenty eighth of King Henry the Eighth directs or by Commission from our Commissioners for executing the office of our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being or from our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being according to the aforesaid Act passed in the twenty second year of the reign of King George the Second as altered by the said Act passed in the nineteenth year of the reign of our late Royal Father PROVIDED never theless that all disorders and misdemeanours committed on shore by any Captain Commander Lieutenant Master Officer Seaman Soldier or any other person whatsoever belonging to any of our Ships of War or other Vessels acting by immediate Commission or warrant from our Commissioners for executing the office of our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being or from our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being under the Seal of our Admiralty may be tried and punished according to the laws of the place when any such disorders offences and misdemeanours shall be committed on shore notwithstanding such offender be in our actual service and borne in our pay on board any such our Ship of War or other Vessels acting by immediate Commission or warrant from our Commissioners for executing the office of our High Admiral of our said United Kingdom of Great Britain and Ireland for the time being as aforesaid so as he shall not receive any protection for the avoiding of justice for such offences committed on shore from any pretence of his being employed in our service at sea OUR WILL AND PLEASURE is that all public monies which shall be raised be issued out by warrant from you for the support of the Government or for such other purposes as shall be particularly directed and not otherwise AND WE DO hereby give and grant unto you full power and authority with the advice of our Executive Council of our said Territory and its Dependencies to agree for such Lands Tenements and Hereditaments as shall be in our power to dispose of and them to grant to any person or persons upon such terms and services and acknowledgements to be thereupon reserved unto us according to such instructions as shall be given to you under our Sign Manual which said Grants are to pass and be sealed with the Seal of our said Territory and its Dependencies and being entered upon Record by such officer or officers as shall be appointed thereunto shall be good and effectual in law against us our heirs and successors AND WE DO hereby give you the said James Stirling full power to appoint Ports Harbours and also such and so many Ports Harbours Bays Havens and other places for the convenience and security of shipping and for the better loading and unloading of goods and merchandise within our said Territory and its Dependencies as by you with the advice of our Executive Council shall be thought fit and necessary AND WE DO hereby require and command all Officers and Ministers Civil and Military and all other inhabitants of our said Territory and its Dependencies to be obedient aiding and assisting to you the said James Stirling in the execution of this our Commission and of the powers and authorities herein contained AND in case of your death or absence out of our said Territory and its Dependencies or in case from any especial circumstances we shall judge it expedient by warrant under the Royal Sign Manual or otherwise to provide for the Civil Administration of the Government notwithstanding your actual presence in our said Territory and its Dependencies to be obedient aiding and assisting unto such person as shall be appointed by us to be our Lieutenant Governor or Commander in Chief or to administer the Government of our said Territory and its Dependencies to whom we do therefore by these presents and in either of such cases give and grant all and singular the powers and authorities herein granted to be by him executed and enjoyed during our pleasure and if upon your death or absence out of our said Territory and its Dependencies there be no person upon the place commissioned and appointed by us to be our Lieutenant Governor of our said Territory and its Dependencies or especially appointed by us to administer the Government OUR WILL AND PLEASURE is that the Executive Council whose name is first placed in our said instructions to you and who shall be at the time of your death or absence residing within our said Territory and its Dependencies shall take upon him the administration of the Government and execute this our Commission and instructions and the several powers and authorities therein contained in the same manner and to all intents and purposes as if our Governor or Commander in Chief should or ought to do in case of your absence until your return or in all cases until our further pleasure be known therein It is nevertheless our will and pleasure that no Judge of any of our Courts of Judicature shall in any case take upon him the administration of the Government AND WE DO hereby declare ordain and appoint that you the said James Stirling shall and may hold execute and enjoy the office and place of our Governor and Commander in Chief in and over our said Territory and its Dependencies together with all and singular the powers and authorities hereby granted unto you for and during our will and pleasure IN WITNESS whereof we have caused these our Letters to be made Patent WITNESS ourself at Westminster the fourth day of March in the first year of our Reign.

BY WRIT OF PRIVY SEAL

HATHURST

CHAPTER V—SOCIAL CONDITION

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

pages 180-188

Commonwealth Benefits

The following table and letterpress relate to the most important variations in social service and repatriation benefits during 1965.

RATES OF BENEFIT—INCREASES DURING 1965

Benefit	Rate per week 31st December, 1964	Increase during 1965	Total	Date of Operation
Pensions—	£ s. d.	£ s. d.	£ s. d.	
Age—				
Married pensioner whose wife receiving wife's allowance	£ 10 0	15 4	£ 10 0	7th October
Wife having the rate of a child or children under 16 years of age (a)—				
Wife's Allowance	15 4	1 0 0	1 0 0	"
Each dependent child under 16 years of age (a)	15 4	1 0 0	1 0 0	"
Invalid—				
Married pensioner whose wife receiving wife's allowance	£ 10 0	15 4	£ 10 0	"
War—				
Incapacitated ex-servicemen—				
Intermediate Rate (b)	15 4	10 2 8	15 2 8	14th October
Subsistence Allowance	£ 0 0	5 5 0	5 5 0	"
Service—				
Married pensioner whose wife receiving a wife's service pension	£ 10 0	10 0	£ 10 0	"
Pensioner receiving pension on the ground of age—				
Wife's Pension (f)	15 4	5 0 0	5 0 0	"
Each child, other than the first, under 16 years of age (a)	15 4	1 0 0	1 0 0	"
Child's Pension—				
First child under 16 years of age (a)	15 4	1 0 0	1 0 0	"
Each additional child (a) under 16 years of age (a)	15 4	1 0 0	1 0 0	"
Guardian's Allowance (c)	nil	£ 0 0	£ 0 0	7th October
Supplementary Assistance—				
Age, Invalid or Service Pensioner—				
Married pensioner whose spouse not receiving pension or allowance	10 0	10 0	10 1 0 0	"
Husband whose wife receiving wife's allowance or wife's service pension	nil	1 0 0	10 1 0 0	"
Single pensioner	15 4	10 0	10 1 0 0	"
Widow Pensioner	10 0	10 0	10 1 0 0	5th October
Funeral Benefit—				
Pensioner responsible for funeral expenses (d)	10 0 0	10 0 0	20 0 0	7th October

(a) Including a student child (or student children) aged 16 years but under 21 years, see hereafter *Student Children* below.
 (b) Before 7th October, 1965, payable only to the wife (with or without children) of a pensioner permanently incapacitated for work or permanently blind.
 (c) Before 7th October, 1965, payable only where the pensioner was an invalid.
 (d) Before 14th October, 1965, payable only where the pensioner was a service pensioner or a pensioner receiving a wife's allowance or a pensioner receiving a child's pension.
 (e) Before 14th October, 1965, payable only where the pensioner was a service pensioner or a pensioner receiving a wife's allowance or a pensioner receiving a child's pension.
 (f) Payable only where there are one or more dependent children, including a student child or children.
 (g) Before 14th October, 1965, payable only where the pensioner was a service pensioner or a pensioner receiving a wife's allowance or a pensioner receiving a child's pension.
 (h) Payable only to a single person receiving age, invalid or service pension and having the care of a dependent child or children (including student children).
 (i) Maximum rate; payable by application of a means test.
 (j) Increased benefit payable where an age, invalid, widow or service pensioner or a pensioner receiving a wife's allowance, means funeral costs in respect of a spouse, a dependent child or a pensioner.

Student Children—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 16 and 18 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 18 years. The Acts made provision for payment in respect of student children of permanently incapacitated age pensioners, invalid pensioners, widow pensioners and service pensioners. The benefit was extended to

include also students 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 18 years, has been extended until the twenty-first birthday.

CHAPTER VIII—PRODUCTION

PART I—PRIMARY PRODUCTION

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Mining and Quarrying

The following table gives particulars of mine and quarry production in Western Australia during 1964

RECORDED MINE AND QUARRY PRODUCTION—1964

Item	Quantity	Value
	ton or	£
Gold (oz)	112,451	11,582,781
silver (oz)	224,571	111,581
Asbestos	ton	—
Chrysotile	10,514	1,082,100
Theropsid	538	41,681
Barium	171	683
Beryl	65	9,005
Bismuth	lb	—
	100	—
Fluorite—(a) Lumps (b)	52,471	267,276
Lead	157,125	8,391,491
Copper (ton)	1,812	274,034
Uranium Ore (oz)	1,197	133,286
Vanadium	1,095	3,785
Other Metal	14,217	7,129
Alumina	11,568	51,778
Alumina Concentrates	2,211	1,403,006
Iron Ore	1,387,714	1,368,481
Lead and Silver-lead Ore and Concentrates	3,111	93,434
Limonite Concentrates	8,111	11,330
Limonite and High-magnesian iron-bearing stone not including building stone	147,762	246,065
Manganese	1,274	15,020
Manganese Ore	11,181	707,894
Manganese Concentrates	1,221	48,047
Nickel	324	1,842
Pyrite Ore and Concentrates	14,111	654,639
Sulfur Concentrates	819	21,076
Stone, Building and Miscellaneous—		
Granite, Limestone, Gneiss, etc.	144,204	114,710
Lime, Crushed and Broken (c)	1,756,141	2,868,766
Gneiss, Limestone, Quartzite—blocks	1,471	71,052
Talc	lb	—
	12,891	13,201
Various Concentrates (including Talc, Silica Concentrate)	ton	816,321
Tin Ore and Concentrates	ton	—
Uranium Ore and Concentrates—		
Uranium	4	1,174
Other Concentrates	21,111	211,750
Other (Value only)	—	£ 496,268
Total Value	—	14,882,336

(a) The value shown is expressed in terms of Australian currency and includes an amount of £11,709 realized by the Ores Producers Association Ltd. on sale of Western Australian gold. It also includes an amount of £21,507, being Commonwealth not actually sold to gold producers. (b) By-product from treatment of uriferous ore and contains silver contained in silver-lead and copper ores and concentrates included. (c) Includes production of limestone. (d) For facilities of including limestone. (e) Includes the value of boulders and tail produced.

NOTE ON STATISTICAL DIVISIONS

Western Australia is divided into a number of statistical districts for the purposes of local government administration. At the 1st January, 1964 there were 146 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 basis. For this reason, the municipal districts are combined into eleven Statistical Divisions which provide a significant area for the publication of statistics in a convenient and easily appreciable summary form.

The partitioning of the Australian States into Statistical Divisions originated from a resolution of a conference in 1928 between the Federal Health Council of Australia and the Statisticians of the Commonwealth and the States concerning the need for the detection of trends appropriate for the purposes of statistical tabulation. They first became operative in 1930 after consultation between the Commonwealth Statisticians, 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 recognized at once and it soon came to have general application to areas where consideration of geographical areas was necessary.

The Statistical Divisions of Western Australia and their constituent local government districts as at the 1st January, 1964 are listed on the following pages and are shown on the map of the State following the Index. The population of each Division as recorded at each of the three most recent Population Censuses is shown in the following table, together with estimates as at the 30th June, 1964. The areas of the Divisions at that date are also given.

STATISTICAL DIVISIONS: POPULATION ⁽¹⁾ AND AREA

Statistical Division	Population at Census of 1961 (2)			Estimated Population at 30th June, 1964	Area at 30th June, 1964
	1947	1954	1961		
	persons	persons	persons	persons	SQUARE MILES
Metropolitan	275,353	349,647	479,111	467,000	133
Perth	59,869	66,691	112,661	112,670	13.6
South West	11,671	22,163	71,947	14,210	11,625
Southern Agricultural	16,949	29,162	41,823	44,010	25,079
Central Agricultural	11,790	16,914	27,194	34,196	26,547
Northern Agricultural	11,000	12,000	20,700	27,304	51,740
Eastern Pastoral	11,717	11,679	21,144	19,100	246,016
Central	8,210	4,701	5,551	3,960	211,011
North West	5,618	4,931	4,664	6,500	75,725
Wheat	1,011	3,860	7,143	3,825	171,101
Timberley	1,114	3,648	5,094	6,740	101,001
WHOLE STATE	(a) 502,480	(a) 634,711	(a) 1,000,000	1,014,100 (b)	377,995

(1) Excludes full blood aborigines. (2) Includes "migratory" population. Migratory population comprises persons both transient and non-transient who, at midnight on 1st January, were not based at any of the following 15 long-distance towns or areas. (3) Resident population at the Census of 30th June, 1967 plus natural increase and net migration since that date, subject to revision after the 1967 Census.

LIST OF LOCAL GOVERNMENT DISTRICTS

14 Jan. January, 1964

[illegible]

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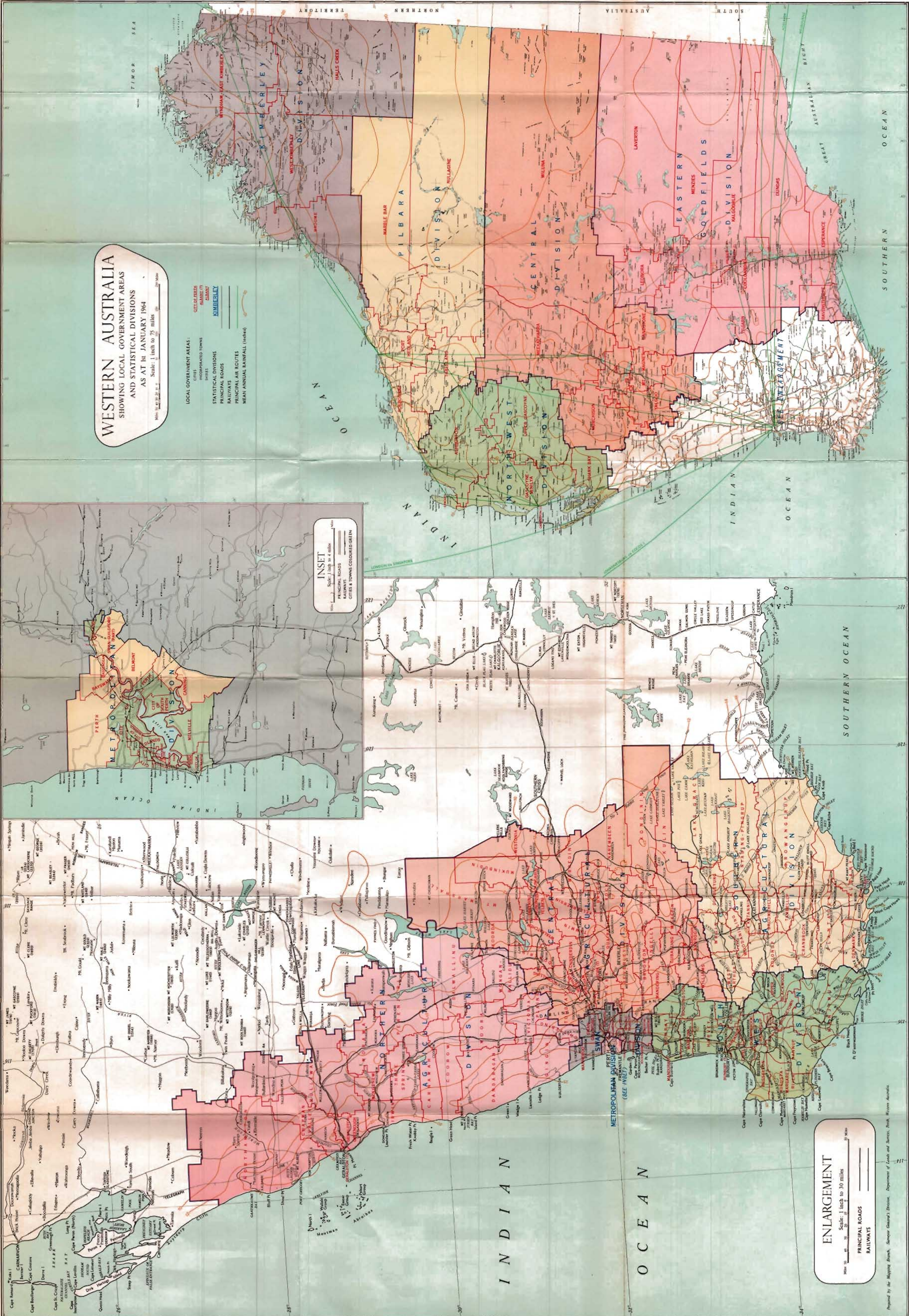
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