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WESTERN AUSTRALIAN
YEAR BOOK
1967



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FESTIVAL OF PERTH, 1966
Pageant of Sound and Light

B41-48



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COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
WESTERN AUSTRALIAN OFFICE

WESTERN AUSTRALIAN YEAR BOOK

No. 6-1967



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Deputy Commonwealth Statistician
and
Government Statistician

ALEX. B. DAVIES, Government Printer, Western Australia

PREFACE

This issue of the *Western Australian Year Book* is the sixth 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, 1965, 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 Hamersley Iron Pty. Limited, the Department of Industrial Development, the Department of Mines, 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 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.

The material in the Year Book has been carefully checked throughout, but I shall be grateful to those who will be kind enough to point out defects or make suggestions.

Readers requiring the main statistical information of the Year Book in a concise form are referred to the *Western Australian Pocket Year Book*.

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Commonwealth Bureau of Census and Statistics
Western Australian Office
PERTH, W.A.
12th June, 1967

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AUSTRALIAN DECIMAL CURRENCY

On the 14th February, 1966, as provided by the Currency Act 1965 a dollar (\$) /cent (c) decimal currency system, with one dollar equal to 100 cents, was introduced in Australia.

The relationship between pounds, shillings and pence, and dollars and cents, as prescribed in Section 8 of the Act is as follows :

1 pound	=	2 dollars (\$2)
1 shilling	=	10 cents (10c)
1 penny	=	$\frac{5}{8}$ ths of a cent ($\frac{5}{8}$ c)

In this publication, all monetary amounts have been converted to their equivalents in the new system.

The Australian dollar (\$A) is equivalent in value to eight shillings sterling or \$US 1.12.

Further information on this subject appears in the section *Currency* in Chapter VI, Part 2, and conversion tables are supplied in the *Appendix*.

ROUNDING OF FIGURES

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

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GENERAL MAP OF WESTERN AUSTRALIA (inside back cover)

Including : LOCAL GOVERNMENT AREAS
STATISTICAL DIVISIONS
PRINCIPAL AIR ROUTES
ISOHYETS

CORRIGENDUM

Page 141, tenth line—*for* rates per thousand *read* rates per hundred thousand.

CHAPTER I - 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 "Cygnet." 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 Cygnet 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 Rottnest 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 Kalmescott 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 \$500,000. 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 \$6,000 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 \$2 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 \$2 to \$1 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 \$10,000 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.

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. 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 townships. B. C. Wood elected first Mayor of Fremantle.

1884—Opening of second section of Eastern Railway between Guildford and Chidlows 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 Chidlows 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 Walla 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 (Western 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. (\$8.50) for males and £2 5s. 11d. (\$4.59) 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 (\$250) = £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 22.9 cents per bushel, wool 6.7 cents 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 £ (1.875c 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. (\$6.80) 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. (\$8.50) 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. Pearling 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. (51c) to £4 (\$8) 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 11·979 cents 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 \$230,000 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. (45c) to £4 14s. 11d. (\$9.49) 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. (70c). 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. (50c) 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, \$1.75 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 \$4.3 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 \$21.52 to \$30.98 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. (\$2) in the basic rate for males and 15s. (\$1.50) 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 50c 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, 119.525 cents 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. (\$3.92) 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 \$4·3 million to \$8 million. Appeal for funds launched 1st September with target of \$800,000 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.

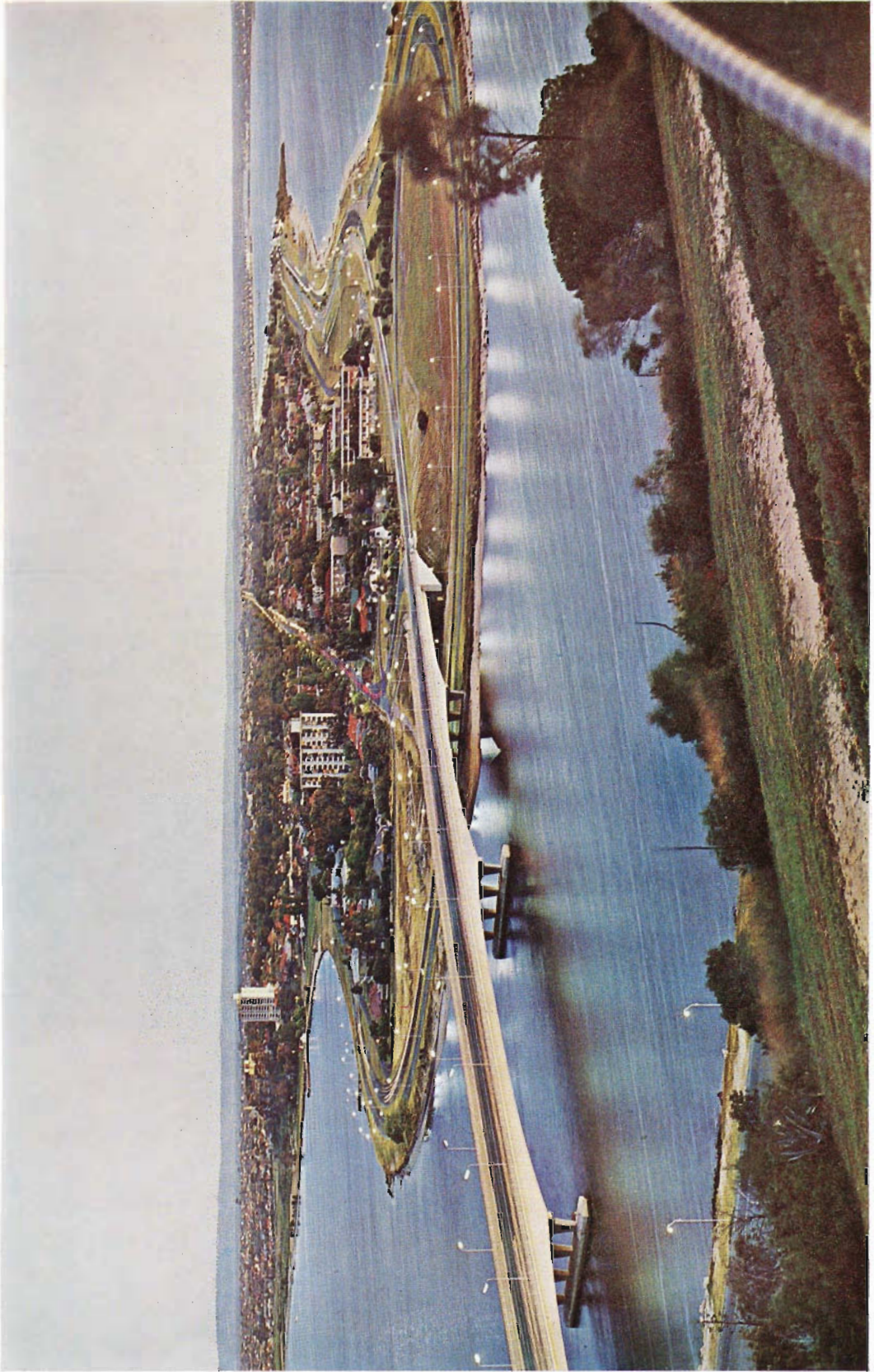
1956—Great decline in migration. Four new savings banks established, three by private trading banks and one by the Rural and Industries Bank. An area of four square miles at Brecknock Harbour, 130 miles north-east of Derby, leased by the State for three years to a company for growing culture pearls. 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 \$29.1 million, the highest since 1941. Generation of electricity at Bunbury power station commenced in May. Completion of first stage of \$18 million Serpentine Dam project; work begun on main reservoir. Provision by Commonwealth, under the Western Australia Grant (Water Supply) Act, of \$2 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 \$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 \$10 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.



SOUTH PERTH VIEWED FROM KING'S PARK
Narrows Bridge and Swan River in foreground

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 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. 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. 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. Barley production 8.5 million bushels, the highest ever recorded. 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. 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. Official opening in June of Saint Catherine's College, the University's first residential college for women students. First report of the Australian Universities Commission presented to Commonwealth Parliament in November, reviewing university development and recommending Commonwealth grants to the States aggregating \$220 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. In August, first women jurors empanelled under the Juries Act, 1957. In November, Mangles' Kangaroo Paw (*Anigosanthos Manglesii*) officially declared to be State's floral emblem. From 2nd February all aboriginals, other than the nomadic or primitive, eligible for age, invalid and widows' pensions and maternity allowances. From 1st March charge of 50c 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. Value of imports for year ended 30th June, \$356.0 million and of exports \$409.5 million resulting in favourable trading balance, the first since 1956-57, amounting to \$53.5 million. Quantity of gold bullion shipped, 2,532,438 fine ounces, and value, \$79.3 million, the greatest ever recorded. First overseas export of rice grown in Kimberley. Provision in Federal budget for expenditure by Commonwealth Government of an amount of \$300,000 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. Western Australian Government Railways deficit (including depreciation and interest charges) for year ended 30th June \$6.5 million, almost \$2.3 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. 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 \$1,000,000 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. First pile driven 24th November for new railway bridge across Swan River at Fremantle. 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. 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. 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. Announcement by Minister for National Development in November of extensive iron-ore deposits in the Pilbara. Completion of power station at Bunbury; last of four units, each of 30,000 kilowatts capacity, brought into operation in July. Construction of lubricating oil refinery at Kwinana begun in November. 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. 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. 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. (18c) in State basic wage for adult males in metropolitan area, the first decrease since 1958; total increase in wage during year 4s. 2d. (42c), the smallest annual increase since 1958. 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. 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. 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—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. 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 \$20 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 \$50 million to the spending resources of the States in 1961-62; from 7th February, increase from \$5,500 to \$7,000 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, 75c per week for an adult or married minor and for dependent spouse, and 30c per week for first or only child, and introduction from that date of benefit, at the rate of \$1.50 per week, for each child other than the first. From 1st January, entertainments tax abolished. 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. Restrictions on export of iron and steel scrap lifted by Federal Government from 29th August. 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. 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. 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 \$6.9 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. Second stage of oversea passenger terminal at Port of Fremantle officially opened in May. 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. Announcement in May of agreement between Australian and United States Governments for construction of a naval radio communications station at North West Cape. Wheat harvest 72.5 million bushels; area sown 4.8 million acres. 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. New prawn-fishing enterprise in Shark Bay area began operations in May. 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. 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. 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. 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. State basic wage rates unaltered during year, the first year since 1954 in which no variation occurred; Commonwealth basic wage rates also unchanged. Legislation passed by State Parliament included the Agricultural Products Act Amendment Act constituting an Apple Sales Advisory Committee to investigate production and marketing of apples; 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 \$5 to \$10 per week the maximum amount to be paid by near relatives for the maintenance of a child; 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 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; and the Iron Ore (Talling 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. Amendment to Commonwealth Electoral Act extending to aboriginal natives the right to vote at Federal elections.

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 began 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. 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, \$1.50 million (expenditure \$158.7 million, revenue \$157.2 million). Budget for 1963-64 presented 26th September; estimated deficit \$1.43 million (expenditure \$167.6 million, revenue \$166.2 million). Federal budget, presented 13th August, provided for increased social service and repatriation benefits. Increase of \$1 per week in pension payable to "single" age and invalid pensioners (including those where the spouse does not receive a pension or allowance); \$1.25 in allowance payable to the wife of an invalid pensioner or permanently incapacitated age pensioner, and 50c on account of each child of such pensioners other than the first; 50c in pension for widows with one or more dependent children, and introduction of mother's allowance of \$4 and payment of \$1.50 on account of eldest or only dependent child; \$1 for widows without dependent children; \$1 in pension payable to totally and permanently incapacitated war pensioners; 75c in domestic allowance for war widows; \$1 in pension payable to single service pensioners, 50c for each of the second and subsequent children of permanently unemployable pensioners, and \$1.25 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 \$7 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 \$2 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 \$2 or more but less than \$10, increasing to 2.5c the duty payable on receipts for amounts of \$10 or more but less than \$100, 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 ten shillings in the currency to be replaced.

Private Finance—Personal income for year ended 30th June, \$780.0 million (wages, salaries and supplements \$492.8 million; farm income \$70.6 million; income from dwelling rent \$26.8 million; cash benefits from public authorities \$71.2 million; all other income \$118.6 million) or \$1,020 per head of mean population. Depositors' balances held by savings banks exceeded \$200 million for the first time; amount on deposit at 31st December, \$226.4 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 \$552.3 million, an increase of \$32.2 million over previous year. Balances outstanding at end of December on hire purchase agreements and other instalment credit for retail sales amounted to \$111.2 million, or \$7.8 million more than at end of 1962.

External Trade—Value of imports for year ended 30th June \$426.4 million and of exports \$346.4 million, resulting in adverse trading balance of \$80.0 million, the highest since 1954–55. Oversea imports increased by \$12.46 million over 1961–62 and interstate imports by \$68.5 million. Decline of \$42.3 million in value of oversea exports, but increase of \$7.01 million in interstate exports. Further reduction in favourable balance on oversea trading, from \$196.8 million to \$142.1 million, and increase in interstate trade deficit from \$160.6 million to \$222.1 million. Average f.o.b. values of greasy wool and of wheat exported during year slightly higher than in 1961–62; wool 50.525 cents per lb. and wheat \$1.4229 per bushel, compared with 49.8 cents per lb. and \$1.4125 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 cinders) 32.2 per cent.

Transport and Communication—Initial instalment of Commonwealth financial assistance for rail standardization; amount received during year ended 30th June \$4,325,114, of which \$2,811,324 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, \$2.28 million, considerably lower than in 1961–62 due mainly to smaller returns from haulage of grain, and deficit (including depreciation and interest) \$6.87 million compared with \$4.82 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 \$2.4 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 \$14 million. First payment by Commonwealth, amounting to \$600,000 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, 1915 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 $\frac{1}{3}$ d. (.42c) 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 \$1 million the amount of bounty payable to processors on products exported during 1963-64, compared with \$700,000 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 \$200 million for the first time; value, \$216.4 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. Sawn 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, \$84.5 million, greater by \$0.52 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 \$10.5 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 \$2 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 \$302 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 \$44.24 compared with \$43.02 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 \$2,728,000 as Western Australia's share of grant of \$35 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 \$252,400.

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 \$4,000 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 £ (1·25c and ·208c respectively, 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 \$48 to \$80 the maximum amount payable in respect of any pig destroyed ; the Prisons Act Amendment Act repealing sections relating to the former Indeter-

minate 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 \$24 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 \$1 for every \$200, or part of \$200, 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 £ (·416c in the \$) on sales of cattle or carcasses up to a maximum of 5s. (50c) 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 \$1 to \$4 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 \$300 to \$400 the maximum amount of medical expenses payable in respect of an injured worker, and from \$500 to \$650 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 \$4 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 \$94,000 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.

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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 1955. Infant mortality rate, 19.66 per thousand live births, the lowest ever recorded.

Public Finance—State deficit for year ended 30th June, \$2.80 million (expenditure \$170.7 million, revenue \$167.9 million). Budget for 1964-65 presented 6th October ; estimated deficit \$1.60 million (expenditure \$182.1 million, revenue \$180.5 million). Federal budget, presented 11th August, provided for general increase of 50c per week in age, invalid, widows', war and service pensions and tuberculosis allowances (increase of \$1 in Special Rate war pension, and in tuberculosis allowance payable to married sufferer with dependent wife). Increase of 6d. in the £ (2.5c 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 (State), duty imposed from 1st January on motor vehicle licences issued or transferred ; rate of duty \$1 for every \$200, or part of \$200, of the value of the vehicle. From 14th January, endowment for each child after the second, under 16 years of age, increased from \$1 to \$1.50 per week, and introduction of payment, at \$1.50 per week, for each student child aged 16 but under 21 years. From 28th May, operation of Homes Savings Grant Act 1964 (Commonwealth), providing grants for home purchase or building, up to a maximum of \$500, at the rate of \$2 for every \$6 of "acceptable" savings of certain classes of married persons. Release by Federal Treasurer 24th August of designs of the six coins, in denominations of 1 cent, 2, 5, 10, 20 and 50 cents, to be put into circulation on 14th February, 1966, the date for conversion of Australian currency to decimal system.

Private Finance—Personal income for year ended 30th June, \$855.4 million (wages, salaries and supplements \$541.6 million ; farm income \$82.4 million ; income from dwelling rent \$27.6 million ; cash benefits from public authorities \$77.0 million ; all other income \$126.8 million) or \$1,094 per head of mean population. From 8th April, maximum interest rates on fixed deposits with trading banks increased from 3½ per cent. to 3¾ 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 15 months ; also from 8th April, interest payable at a maximum rate of 3¾ per cent. per annum on deposits of \$100,000 and over for periods of 30 days but less than 3 months. From 29th September, extension from 15 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 3 per cent. to 3½ per cent. per annum on deposits of amounts up to \$6,000 held by savings banks other than The Rural and Industries Bank of Western Australia which increased its rate from 3¼ per cent. to 3½ per cent. Total value of retail sales \$580.4 million, an increase of \$28.1 million over previous year. Balances outstanding at end of December on hire purchase agreements and other instalment credit for retail sales amounted to \$111.5 million, compared with \$111.3 million at end of 1963.

External Trade—Value of imports for year ended 30th June \$444.9 million and of exports \$397.7 million, resulting in adverse balance of \$47.2 million compared with deficit of \$80.0 million for 1962-63. Total value of external trade \$842.5 million, more than 9 per cent. higher than in previous year ; over-sea imports greater by \$9.04 million, over-sea exports by \$41.1 million, interstate imports by \$9.46 million and interstate exports by \$10.25 million. Improvement in favourable balance on over-sea trading, from \$142.1 million to \$174.1 million ; interstate trade deficit \$221.3 million, compared with \$222.1 million in 1962-63. Average f.o.b. value of greasy wool exported, 60.99 cents per lb., the highest since 1956-57. Average f.o.b. value of wheat \$1.4146 per bushel, .83c per bushel less than in 1962-63. Quantity of greasy wool exported, 159.3 million lb., and value, \$97.2 million, the highest ever recorded. Shipments of refined petroleum oils and spirits, 576 million gallons, greater by 15 million gallons than the previous largest annual total, recorded in 1961-62. Among other principal export commodities showing an increase in

volume were wheat 8·5 per cent., barley 5·4 per cent., frozen and chilled meats (including poultry) 2·7 per cent., frozen fish (including crayfish) 8·9 per cent., ilmenite concentrates 43·7 per cent., and cattle hides 20·3 per cent. Those which showed a decrease included gold bullion 7·7 per cent., iron ore and concentrates 8·6 per cent., manganese ore and concentrates 47·9 per cent., asbestos fibre 36·0 per cent., apples 22·5 per cent., potatoes 45·0 per cent., oats 31·6 per cent., timber 3·9 per cent., and sheep skins 5·2 per cent.

Transport and Communication—For fourth successive year, operating revenues of Western Australian Government Railways exceeded operating expenses; excess for year ended 30th June \$2·94 million compared with \$2·28 million in 1962–63, and deficit (including depreciation and interest charges) \$6·69 million, less by \$0·18 million than in 1962–63. Publication of proclamations under Railways (Cue-Big Bell and other Railways) Discontinuance Act of 1960 officially closing a further 194 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 at 31st December, leaving only Busselton-Flinders Bay railway (67 miles in length) not proclaimed. Services on Armadale-Jandakot railway discontinued in January. On 1st August, the only private railway in Western Australia open for general and passenger traffic, the Midland Railway of 277 route-miles between Midland and Walkaway, 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 permit harbour extensions. Provision of Commonwealth financial assistance to the States in relation to roads extended to 30th June, 1969 by means of new Commonwealth Aid Roads Act. Registrations of new motor vehicles (including motor cycles) 30,720, a decline of 1,314 from unprecedentedly high number of 32,034 recorded in 1963. Appointment in May of first members of Taxi Control Board established under Taxi-cars (Co-ordination and Control) Act, 1963 for co-ordination 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 4 million bushels, cost of construction \$6·5 million. New fishing boat harbour at Fremantle completed in December. Land-backed berth at port of Bunbury officially opened 10th April. Inauguration 7th November of daily services by jet aircraft between Perth and other State capital cities. Completion in September of coaxial 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 circuits on aerial trunk telephone route of more than 1,000 miles between Port Augusta and Kalgoorlie. Broadcasting services begun 26th February from regional station 6CA at Carnarvon, increasing to nine the number of stations operated in Western Australia by Australian Broadcasting Commission. Announcement by Postmaster-General 27th February of Government's approval of licence for second commercial television station at Perth. Provision made for Commonwealth grant to Western Australia of an amount of \$1,130,000 as contribution towards expenditure incurred by the State in developing a township at Exmouth in connexion with establishment by United States Government of naval radio communications station at North West Cape. Television viewers' licences at 31st December numbered 118,801 compared with 104,017 at end of 1963.

Rural Industry—Area sown to wheat for grain (5,151,267 acres) exceeded 5 million acres for the first time. Production of wheat 63·1 million bushels and average yield 12·2 bushels per acre, compared with 52·3 million bushels and 11·3 bushels per acre in previous season. Continued decline in production of oats (14·0 million bushels) and of barley (3·70 million bushels), in each case the lowest since 1957. Number of sheep (including lambs) at 31st March, 20,164,868 compared with 18,727,124 at same date in 1963, an increase of 1,437,744. 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 9·8 lb. to 8·6 lb. in average weight per fleece shorn from sheep and lambs. Fourteen more farms allotted in Ord irrigation area. Harvesting during May and June of first crops of cotton grown on the first five farms, allocated in 1962; ginnery at Kununurra officially opened 1st May. Presentation to State Government of preliminary report on prospects for growing sugar on Ord 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 32·4 million lb., slightly less than in 1962–63. Crayfish catch 18·0 million lb., the smallest since 1958–59. Greatly expanded production of prawns, from 1·02 million lb. in 1962–63 to 2·12 million lb. in 1963–64. Presentation to State Parliament in November of report of Honorary Royal Commission appointed in February, in succession to a Select Committee appointed in November, 1963, 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 flow oil during year, three from wells drilled on Barrow Island, 60 miles northward from Onslow, and the fourth from Yardarino No. 3 well about eight miles east of Dongara; natural gas obtained from Yardarino 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, 1968 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 won; total production 712,847 fine ounces, the lowest since 1951. Coal production 987,420 tons, the highest since 1954 when 1,018,343 tons were produced. Production of iron ore (1,357,715 tons) and asbestos fibre (11,150 tons) maintained at about the same level as in 1963; great expansion in production of ilmenite concentrates, from 195,000 tons to nearly 300,000 tons, and of manganese ore, from 34,800 tons to more than 60,000 tons. Iron ore production begun late in 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 between iron-ore mining development companies and steel manufacturers in oversea countries, principally Japan, for the supply of iron ore and pellets. Shipment from Derby of silver-lead-zinc ore following revival of lead mining in West Kimberley. Copper mining at Whim Creek discontinued in March after a revival which began in September, 1963.

Secondary Industry—Continued expansion in factory activity during year ended 30th June; average number of persons employed 55,705 and net production \$230·5 million, compared with 53,435 and \$216·4 million in 1962–63. First shipment of alumina from refinery at Kwinana, to Victoria in February; exports to Japan begun in March. Contracts let by State Electricity Commission for provision of two more units of power station being built at Muja, near Collie; complete project to consist of four units, each of 60,000 kilowatts capacity. Official opening in November of superphosphate fertilizer works at Esperance with annual capacity of 60,000 tons. In September a factory for canning 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 fertilizers and other products, and at Maddington for development of an industrial centre. Value of all new buildings completed \$98·0 million, more than 16 per cent. greater than in previous year.

Water Supplies—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, case submitted by State Government for Commonwealth financial assistance in completing Ord Irrigation Project; amount sought \$60 million, payable over a period ending with financial year 1979–80. In response to request made by State Government in 1963, agreement by Commonwealth to provide financial assistance in extending comprehensive water supply scheme by means of repayable interest-bearing advances to commence in 1965–66 and aggregating \$10·5 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. Goldfields and Agricultural Water Supply extended northward from main pipeline to site of iron-ore deposits at Koolyanobbing. Great Southern Towns Water Supply extended

from Katanning south-eastward through Broomehill to Gnowangerup and from Narrogin north-eastward to Wickopin ; 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 60c to 80c 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 1955 ; continuation to 30th June, 1967 of financial assistance on basis of recoup 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, sale and use 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 appointed by the Prime Minister in August, 1961, 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 amount of grants to Western Australia \$707,600 and \$714,400 respectively. First awards of scholarships provided by Commonwealth Government for secondary and technical education, to commence 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 125.7 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, The Western Australian Industrial Commission declared basic wage rates of £15 8s. (\$30.80) for adult males and £11 11s. (\$23.10) 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. (\$30.15) to £15 11s. 2d. (\$31.12), a rise of 9s. 8d. (97c) 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 (\$2) for adult males and 15s. (\$1.50) 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. (\$30.80) per week payable to adult males in Perth. Average weekly earnings per employed male unit for year ended 30th June \$47.18 compared with \$44.24 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 1,832, compared with 2,843 at end of 1963. Commencement 12th 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 schemes. Twenty-six industrial disputes involving 6,165 workers resulted in a loss of 7,148 working days, principally in transport services and stevedoring; estimated total loss in wages \$62,600.

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 Agriculture Protection Board Act Amendment Act removing the limit of \$210,000 on 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 Chevron-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 Chiropractors Act providing for the training, qualification and registration of persons as chiropractors; 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 (Pensions) 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 introducing 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 requiring 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 prescribed goods, including books, engravings 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, 1966, 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. 3) 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 "proclaimed fishing zone" during any specified time in any specified year or during a specified portion of every year; the Forests 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," removing the limit of \$4,000 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 dependants, authorizing friendly society dispensaries which were approved 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 establishing a Government Employees' Housing Authority of four members; the Industrial Lands (Kwinana) Agreement Act approving an agreement between the State Government and BP Refinery (Kwinana) Proprietary Limited and CSBP & 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 ; the Industrial Lands (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 Basic 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 (Talling Peak) Agreement Act repealing the Iron Ore (Talling 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 60 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 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, 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 householders, 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 \$60,000 ; the Museum Act Amendment Act enabling any historic wreck to be vested 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 or 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 \$416 to \$624 the annual contribution of a Member of Parliament to the Parliamentary Superannuation Fund, and from \$33,280 to \$49,920 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 pharmacies ; 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 \$5,000 to \$6,000 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 home ; the Statute Law Revision Act revising the Statute Law by repealing spent,

unnecessary or superseded enactments ; the Suitors' Fund Act establishing a Suitors' 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 authorizing 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) authorizing 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, 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 50 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 local 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 Vermin Act Amendment Act raising the limit on the rate which may be levied under the Act from 3d. to 6d. in the £ (1.25c to 2.5c in the \$) 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 aircraft ; 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 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 ; and the Youth Service Act providing for the development of a youth service and for assistance to youth organizations 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 5th March appointing Electoral Commissioners to redivide the State into 15 Electoral Provinces for representation in the Legislative Council, instead of 10 Provinces as formerly ; final determinations published 29th 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. H. 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), 1963 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 organization 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 Offenders Probation and Parole Act, 1963 to succeed the Indeterminate Sentences Board constituted under the Prisons Act.

Operation from 1st July of Licensing Act Amendment Act (No. 4), 1963 ; as a result, restrictions formerly imposed on consumption of alcoholic liquor by aboriginal natives no longer applicable in the South-West Land Division.

Death 9th 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. Sim (Liberal Party) to fill vacancy in Senate.

As result of election held 5th December, Liberal-Country Party Government representation in the Senate from 1st July, 1965 reduced from 31 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.

Miscellaneous—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 Collie, Bunbury and Nannup.

Official opening in March of O'Connor Museum established at Mundaring Weir 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 Mundaring Weir to Coolgardie and Kalgoorlie by means of a 346-mile pipeline completed in 1903.

CHAPTER II—PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA

PART 1—PHYSICAL FEATURES AND GEOLOGY

Contributed by

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The development of any country depends on its natural resources and the industry of its people, and there can be few more important investigations for any country than those dealing with the productive capacity of its territory. Natural resources—be they power, mineral, or soil resources—are dependent entirely on the climate, physical features and geology. Looking at the pattern of development of Western Australia we see that for nearly seventy years after the foundation of the Swan River Colony in 1829 agricultural production barely kept pace with the requirements of the small population. The discovery of gold in the 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

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 (monadnoeks, which are remnants of a previous cycle of erosion) rise above the general surface of the plateau.

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

In the area of exterior drainage the dominant feature of the extreme south-west and the northern part of the plateau is a reticulate pattern of rather deeply-incised watercourses. In the southern part of the State these deeply-incised watercourses where they pass from the plateau to the coastal plains are of great significance (as has already been mentioned) in connexion 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 generally blown from the damp surface of the dried-up lake and deposited as dunes of "seed gypsum" on the leeward (eastern) side of the lake. These dunes are utilized, for example at Lake Seabrook north of Yellowdine, as a source of gypsum for plasters. Common salt, which separates later, forms a crust on the floor of the lake when it has been completely dried up and such salt deposits are exploited, for example at Lake Lefroy near Widgiemooltha. In a few of the Western Australian salt lakes significant deposits of alunitic clay have been discovered which have been worked as a source of potash.

Over a large portion of the interior drainage part of the Great Plateau there are extensive sand-plain soils overlying a hard laterite ("ironstone") layer, which is of the order of up to fifteen feet in thickness, below which lies an intensely weathered zone from which most of the nutrient elements so important for plant growth have been leached. These more recent geological formations will be discussed in the section of this Part dealing with geology, but we may note here the significance of this lateritic profile (sandy soils near the surface, "ironstone" a few feet below, and completely kaolinized rocks still deeper) so far as soil fertility is concerned. This lateritic profile is the result of long-continued weathering processes which have resulted in almost complete leaching of the valuable nutrients and as a result soils developed in any part of this profile are generally very poor in character. It is only where erosion has cut through the lateritic profile and still younger soils have been formed by weathering of the underlying rocks that the better soils are found. As has been mentioned, however, with recent studies of trace element deficiencies much can be done with these "light" soils by the addition of 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 extensive monotonously level plain standing at a height of about 600 feet above sea-level. The Western Australian part of the Nullarbor Plain is bordered to the

south by a narrow coastal plain but further east, at the head of the Great Australian Bight, in South Australia, this coastal plain is absent and the southern edge of the Plain is truncated by cliffs which rise almost sheer for 200 to 400 feet above sea-level.

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

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

The Coastal Plains

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

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

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

GEOLOGY

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

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

The distribution of the solid rocks (omitting superficial deposits) is shown in the accompanying map (see page 38).

The Precambrian Basement

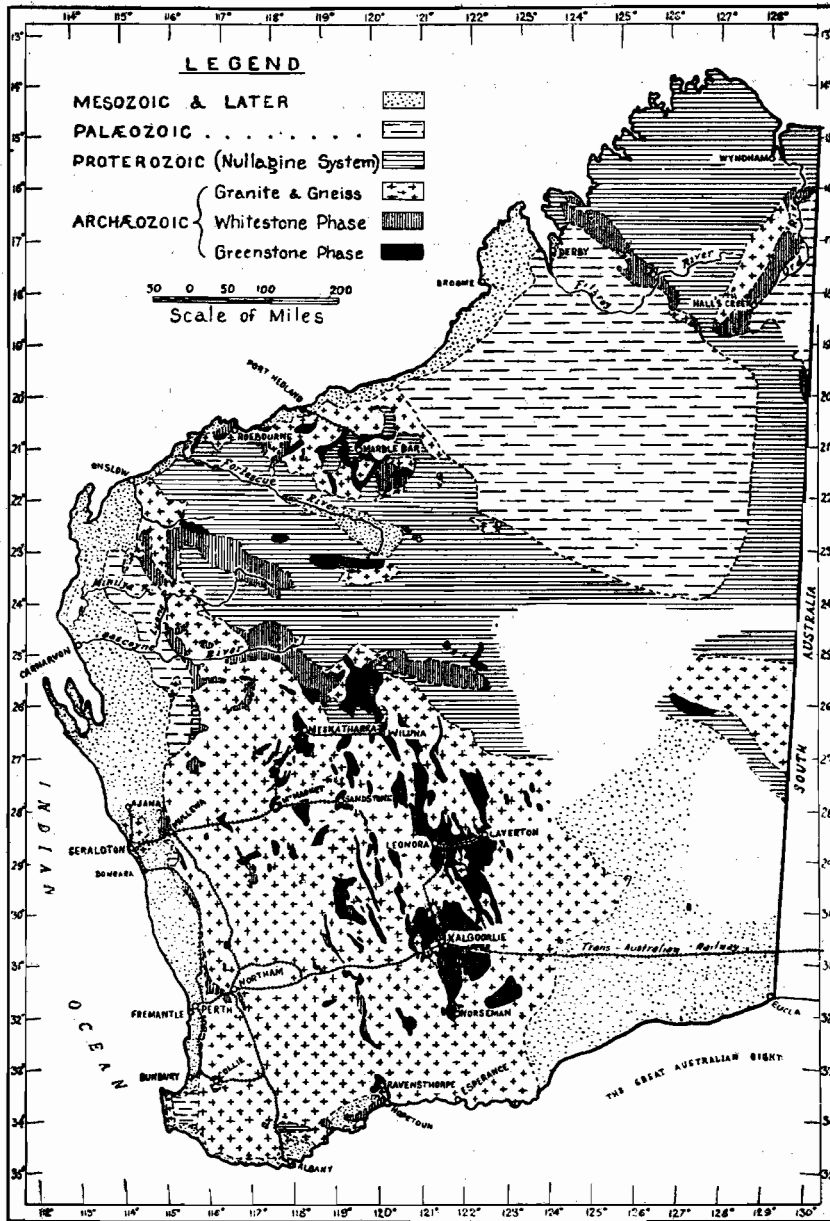
This includes the Archaean and Proterozoic rocks. The Archaean is a complex of crystalline igneous and metamorphic rocks, dominantly granites and gneisses with minor amounts of basic igneous and schistose metasedimentary formations. In places, particularly in the North-West and Kimberley Divisions, this Archaean complex is overlain unconformably by sedimentary and volcanic rocks of Proterozoic age which do not exhibit the extensive metamorphism so characteristic of the older Archaean complex. 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 auriferous ore deposits, and these are overlain by un-metamorphosed sediments with basic igneous intrusives. The Precambrian age of all these rocks is evidenced by the fact that in the East Kimberley they are overlain by sedimentary rocks containing fossils of Cambrian age. This is the only area in Western Australia where the Precambrian age of the rocks of this crystalline complex can definitely be proved on stratigraphical evidence alone. In the southern part of the State we find a similar sequence of crystalline schists with intrusive granites and by lithological correlation (which is not a very sound method) we assume that they are Precambrian although they cannot actually be traced through from the Kimberley. We do know that in the Carnarvon Basin these gneisses, schists and granites are older than the Devonian, which unconformably overlies them, and in the Perth Basin they are older than the Permian. During recent years the Precambrian age of these rocks has been confirmed by actual age determinations based on the decay of radioactive elements which occur in them. This work indicates that the bulk of the massive granitic intrusions of the southern part of the State crystallized from a molten state some 2,700 million years ago. Some, however, such as those in the vicinity of Albany and along the south coast, are much younger, being emplaced approximately 1,100 million years ago.

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

The *Warrawoona Succession*, which consists mainly of greenstones and green schists which were, prior to the intense folding and metamorphism to which they were subjected after deposition, basaltic lavas and tuffs with interbedded chemically deposited secondary rocks (jaspilites or banded iron formations) in the upper part of the sequence. These jaspilites have been the protore of important iron-ore deposits such as those of Mount Goldsworthy. The Warrawoona Succession is unconformably overlain by a succession (the *Mosquito Creek Succession*) of sedimentary rocks which have also been intensely folded and metamorphosed to various types of platy-structured schists, slates and quartzites. Both the Warrawoona and Mosquito Creek Successions are invaded by granitic igneous rocks emplaced approximately 2,700 million years ago and both carry auriferous ore-bodies. All of these rocks in the North-West Division—the Warrawoona and Mosquito Creek Successions and the granites intrusive into them—are therefore of Archaean age and have been called the Pilbara System. A still younger System (the *Nullagine 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 Pilbara System. The thick Nullagine succession consists of a number of distinct groups. The three lower groups (the *Fortescue*, *Hammersley* and *Wyloo Groups*) are of Lower Proterozoic age as the youngest (the Wyloo Group) is intruded by granite aged approximately 1,700 million years. The two upper groups (the *Breshnahan* and *Bangemall Groups*) are of Middle and Upper Proterozoic age respectively. Of these Proterozoic rocks the Hammersley Group is most important economically since most of the iron-ore deposits of the Hammersley 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 Proterozoic rocks have not suffered the intense folding that affected the older rocks and consequently they are flat-dipping to horizontally bedded unmetamorphosed sediments. Such sediments cover very extensive areas in the North-West (see Geological Map of Western Australia on page 38) and they are similar in many respects to the flat-dipping Proterozoic sediments which cover the plateau country of the North Kimberley. The final episode in the Precambrian history of the North-West was the intrusion of dolerite dykes and sills into all of the earlier rocks.

Coming to the southern half of the State we find a similar sequence to that in the North-West. In the part of the Precambrian shield extending south of latitude 26° S. the oldest rocks that are recognized are the greenstones of the various goldmining fields which occur in comparatively narrow belts elongated in a general N.N.W. direction (see Map, page 38). These greenstones, which are for the most part



GEOLOGICAL MAP OF WESTERN AUSTRALIA

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

metamorphosed basaltic lavas, contain interbedded jaspilites and are overlain by metamorphosed sedimentary rocks (generally referred to as whitestones). This System of rocks is the *Kalgoorlie-Yilgarn System*. From the mining point of view it is most important since the auriferous ore deposits of the main mining fields are confined to it 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 Pilbara 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 this 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. Barren Ranges along the south coast. As in the North-West all of these Precambrian rocks are intruded by dolerite dykes.

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

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

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

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

Finally, in Proterozoic (Nullagine) 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 Nullagine System have not suffered the intense earth movements which affected the older rocks, and so are practically un-metamorphosed. Important blue asbestos deposits in these rocks are exploited at Wittenoom Gorge in the Hamersley Range of the West Pilbara. The deposits occur in banded ironstone formations which also contain large iron-ore deposits. Although the rocks of the Nullagine System cover extensive areas in the northern parts of the State

they have largely been stripped off the southern half by erosion. The final episode in the Precambrian history of this State was the widespread intrusion of dolerite dykes approximately 550 million years ago.

The Sedimentary Basins

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

Apart from the superficial deposits the economic significance of these basins is confined to their possibilities for the occurrence of artesian water, coal, oil and natural gas. A prime requisite for the occurrence of artesian and sub-artesian water is the occurrence of interbedded strata of varying porosity and permeability. These conditions are met in a number of the sedimentary basins in Western Australia and the development of the pastoral industry in the arid or semi-arid parts of these basins has been largely dependent on the occurrence of artesian water. In the metropolitan area, artesian bores are an important source of water supplies. Coal deposits are also confined to areas of sedimentary rocks and occur in the Permian rocks of two of the minor basins, viz., the *Collie* and the *Irwin River Basins*, and in the Lower Jurassic sediments of the Perth Basin (at Eneabba, where a seam 100 feet thick has been found at a depth of 6,000 feet in a borehole sunk in search for oil, and as indicated in shallow shot-holes in the Hill River area). Up to the present (1966) the coal deposits of the lacustrine Permian beds of the Collie Basin have constituted the only power source in Western Australia, since oil of commercial significance has just now been proved and the gently undulating topography combined with low rainfall make the hydro-electric resources insignificant. So far as oil is concerned the first occurrence of flow oil in Australia was encountered in Rough Range Bore No. 1, in the Carnarvon Basin, late in 1953. This discovery of flow oil has resulted in an increase in the rate of geological exploration of all the major sedimentary basins. The results of extensive geological mapping, geophysical surveys and exploratory drilling have to date been rather disappointing. However, a commercial field has now (1966) been proved at Barrow Island off the north-west coast. Smaller oil occurrences have been located at various localities in the Perth Basin and this indicates the presence of suitable source material and conditions for oil formation and preservation. Moreover, oil search drilling operations have located some widely-spaced finds of natural gas in considerable quantities, which may ultimately prove to be of commercial significance. The possibilities, therefore, of locating other commercial oilfields in the Carnarvon, Canning and Perth Basins are by no means exhausted 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 Geological Society of Australia, volume 4, part 2, pp. 1-161, 1958*). It is proposed here merely to indicate the main features of the various basins.

The *Bonaparte Gulf Basin*, in the East Kimberley, extends into the Northern Territory. 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. 16° 15' S. and lat. 18° 30' S., reaching westward from the border for 15 to 75 miles. The Cambrian consists of basalts at the base of the sequence, overlain by Middle Cambrian fossiliferous limestones, shales and sandstones. There is a small development of sandstones which are considered to be of Lower Ordovician age, following which there is a big time gap and the next youngest formations are sandstones and limestones of Upper Devonian and Lower Carboniferous age. Upper Carboniferous and Lower Permian formations are absent, the next marine transgression being in the Middle Permian when there was a thick sequence of conglomerates, sandstones, and limestones deposited. The only other sedimentary rocks in this basin are freshwater sediments (siltstones, marls and cherts containing freshwater fossils) of late Tertiary age.

The *Canning Basin* (formerly named the Desert Artesian Basin), in the West Kimberley, extends from the coast between Derby and the De Grey River in a south-easterly direction almost to the 128° meridian (see Map, page 38). The north-east or Fitzroy part of this basin contains sediments ranging in age from Ordovician to Triassic and in the larger Canning Desert portion, to the south of the Fitzroy River, the sediments range from Permian to Lower Cretaceous in age. Most of the Canning Desert section of the basin is unexplored but the Fitzroy section is comparatively well known. It was in this area that the early bores seeking oil were first drilled in Western Australia, following the discovery in 1919 of traces of oil in a water bore on Gogo Station.

The oldest Palaeozoic sediments in the Fitzroy portion of the basin are richly fossiliferous limestones of Ordovician age outcropping near Price's Creek. These are overlain by Devonian reef limestones, sandstones and conglomerates, followed by Carboniferous sandy limestones. These in turn are followed by a thick Permian sequence of sandstones (of marine glacial origin deposited from floating ice), fossiliferous calcareous shales and limestones, and in Upper Permian times fossiliferous ferruginous siltstones and sandstones. All of these formations dip gently in a general south-westerly direction towards the centre of the basin but these regional dips are interrupted by local folding. Shale and sandstone beds of Triassic age occur in the Fitzroy section of the basin. The youngest rocks in this area are igneous intrusions in the form of intrusive sheets, dykes, and volcanic necks which have been found intruding all rocks of the sequence from the Precambrian granitic basement to the youngest sediments (Triassic) present. These igneous rocks, from direct geological evidence, are of post-Triassic age, and radioactive age determinations made in 1959 indicate that they were formed 180 million years ago (*i.e.*, in Jurassic times). This is one of the two areas in the whole of Western Australia where post-Cambrian igneous activity is known.

In the Canning Desert section of the basin the Palaeozoic rocks are not well exposed and the greater part of this portion of the basin (where not obscured by superficial unconsolidated sands) is occupied by Mesozoic sediments ranging in age from Lower Jurassic to Lower Cretaceous. 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 Onslow near the mouth of the Ashburton River as far south as the mouth of the Murchison River (see Map, page 38), the maximum width of the basin being 125 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	.....	.....	5,120 feet

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

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

To the west the Permian rocks are unconformably overlain by Cretaceous sandstones, shales, marls and limestones attaining a total thickness of 2,000 feet. It is the basal formation, the *Birdrong Sandstone*, of the Cretaceous sequence that is the oil sand encountered in Rough Range Bore No. 1. Another Cretaceous formation, the Windalia Formation, is one of the important oil reservoirs of the Barrow Island Oilfield. The Cretaceous rocks outcrop in a north-south belt averaging 50 miles wide between the Palaeozoic and Precambrian rocks on the east and the Tertiary limestones to the west. The only other Mesozoic formation exposed at the surface in this basin is a Jurassic sandstone 25 feet thick. However, a deep well (Cape Range No. 2) drilled in search of oil at Exmouth Gulf, after passing through the base of the Cretaceous at 3,707 feet, entered the Lower Jurassic which extended to the depth of 15,169 feet at which the bore was discontinued, thus proving a thickness of at least 11,462 feet of Lower Jurassic strata in this area. It is apparent that there is a marked thickening of the Mesozoic formations from east to west in this area. The westernmost belt of the Carnarvon Basin is occupied by Tertiary strata, mainly

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

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

The *Perth Basin* (formerly called the Coastal Plain Artesian Basin) is a narrow elongated basin on the western border of Western Australia extending from Geraldton in the north to Cape Leeuwin in the south. At Geraldton it is 30 miles wide and is flanked both to the west and east by Precambrian crystalline rocks (mainly gneisses). The maximum width of the basin is approximately 50 miles at Watheroo and it narrows again to the south being approximately 30 miles wide in the sunkland between Busselton and Augusta. At this southern end it is again flanked both to the east and west by Precambrian rocks. The surface of the basin is mostly covered by Recent sands but occasional outcrops of rocks as old as the Permian occur in places. The only evidence available regarding the structure, thickness and age of the sediments in the basin is that provided by geophysical surveys and some deep bores sunk in the search for oil and a number of water bores up to 2,400 feet deep in the metropolitan area. Gravity surveys indicate that there is a very considerable thickness of sediments, perhaps exceeding 30,000 feet, and it is probable that in this basin we have a complete succession from the Younger Proterozoic (*Cardup Group*), which outcrops along the Darling Scarp, to the Recent sands. Other than the Proterozoic of the Darling Scarp, the oldest sediments exposed are the gently folded Permian marine sediments of the *Eradu* and *Irwin River Basins* at the north end of the main basin. The Permian sediments of the Irwin River area have a total thickness of 4,000 feet and vary from marine glacial beds at the base (as in the Carnarvon and Canning Basins) through fossiliferous marine shales and limestones to lacustrine sandy sediments with coal seams in the upper part of the sequence. Marine and continental Jurassic limestones and sandstones outcrop east of Geraldton and Jurassic beds, overlain by Cretaceous chalks and greensands, occur near Gingin and Dandaragan. In the southern part of the Perth Basin the oldest rocks exposed (if we except the Permian of the separate minor *Collie Basin* which is situated well to the east of the Darling Scarp in a glacially-gouged trough) are the Cretaceous *Donnybrook Sandstones*.

In the vicinity of Perth, artesian bores to a maximum depth of 2,400 feet expose a sequence varying from Jurassic sandstone at depth, through Cretaceous and Eocene shales. The *King's Park Shale* of Eocene (older Tertiary) age is overlain by Pleistocene aeolian sandstones of the *Coastal Limestone Formation*, the base of which is approximately 100 feet below sea-level. There is therefore a big gap in the succession here between the Eocene and Pleistocene. Up to May, 1966 thirty-seven 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 3,360 feet and 4,860 feet. The sediments thicken further inland, as evidenced by the increasing depth to the Precambrian basement in Cadda No. 1 (9,002 feet), Woolmulla No. 1 (9,218 feet) and Arrowsmith No. 1 (11,220 feet). Very thick sedimentary sequences have been disclosed by Eneabba Bore No. 1 (which bottomed in Lower Triassic at 13,712 feet) and Gingin No. 1 (in Lower Jurassic at 14,908 feet). To the south of Perth two deep wells have been drilled, namely Pinjarra No. 1 (the second deepest well yet drilled in Western Australia) which bottomed in Upper Triassic sandstone at 15,001 feet and in the far south (near the south coast) Sue No. 1 which encountered Precambrian granulites at 10,021 feet.

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

Very little is known about the structure of this basin. It is bounded to the east by a large fault or monoclinical fold. The evidence available indicates that the main structural character of the deeper part is a regional dip to the east (of 15° to 20°) traversed by North-South trending faults with down-

throws to the west. There is an unconformity (Upper Jurassic to Lower Cretaceous) at a depth of approximately 2,000 feet above which the Cretaceous and Tertiary sediments are almost horizontal.

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

The *Collie Coal Basin*—Of the minor basins and isolated occurrences of post-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.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 mudstone containing granite pebbles lies on an ice-planed surface of the Precambrian granitic rocks. This suggests that the Collie Basin, formerly considered to be a block of the Permian downfaulted into the Precambrian basement, is actually a glacially-gouged trough formed by terrestrial glaciation in the Permian and since filled with Permian lacustrine sediments. Coal occurs at three horizons and the seams, which average six feet in thickness, persist over fairly long distances. From the associated plant fossils these coal measures appear to be comparable in age with 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, soils, and, in the salt lake country, by thin evaporite deposits.

Laterite—In the southern half of the State the remnants of the Darling Plateau are covered by a thin layer up to 10 or 15 feet thick of a reddish brown rock composed of spherical pebbles tightly or loosely cemented together by a lighter-coloured earthy matrix. This material in its poorly consolidated state is popularly referred to as "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 for distances up to 100 feet before encountering fresh unweathered rock. This laterite crust and the underlying highly weathered country rock were developed on a gently undulating surface during a period of warmer, more humid, climatic conditions. These tropical conditions probably existed in Late Tertiary (Pliocene) times when a great part of Western Australia had been reduced by long-continued erosion to a peneplain lying close to sea level, or soon after, when this peneplain had been uplifted to form the *Darling Plateau*. This uplift, judged by the elevation of the laterite-capped hills and the occurrence of fossiliferous marine Eocene sediments 900 feet above sea-level at Norseman, was of the order of 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 Wundowie) as an iron ore. The main constituents of the laterite are the insoluble products of intense rock weathering—iron oxide, alumina and silica. In many places the alumina content is sufficiently high to call them bauxites. Bauxites are the main source of aluminium, and the bauxite laterites of the Dwellingup area in the Darling Range near Perth are being exploited as aluminium ore.

The mid-Tertiary land surface of the Southern half of Western Australia on which the laterite profile was developed at a time when this country was subjected to a tropical climate extends into the northern part of the State. In the Hamersley Iron Province of the North-West Division this old land surface

truncated the Lower Proterozoic banded iron formations of the Hamersley Group. On this old land surface, (the *Hamersley Surface*) which can be traced without tectonic break from sea-level to elevations of 4,000 feet, there was a secondary concentration of the iron of the Lower Proterozoic rocks resulting in extensive rich iron-ore deposits which make this area one of the richest iron provinces in the World.

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

Soils and drift sands—Western Australia, an area of 975,920 square miles extending from lat. 14°S. to lat. 35°S., although having little variety in its broad physical features, has very considerable variation in climates from the tropical areas of summer rainfall in the north through a central and inland province of low rainfall to the temperate areas of winter rainfall in the south. Moreover, throughout this enormous area there is very considerable variation in the nature of the country rocks. The nature of the soils developed is dependent on these two factors—climate and parent rock—so it will be apparent that there will be very considerable variation in the soils over this extensive area. L. J. H. Teakle has recognized the following major soil zones of Western Australia :—

- A. Grey, yellow and red podsolised, or leached, soils of the temperate sclerophyll forests.
- B. Red brown earths of the eucalyptus-acacia woodlands.
- C. Grey and brown calcareous, solonised soils of the low rainfall eucalyptus woodlands— (“mallee” soil zone of Prescott).
- D. Red and brown acidic soils 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 Nullarbor Plain desert shrub steppes.
- G. Pinkish brown calcareous soils of the acacia semi-desert scrub, mallee and salt bush-blue bush zone.
- H. Brown soils of the tropical woodlands, savannahs and grasslands.
- I. Red sands of the central desert sandhills—spinifex with desert acacias, desert gums and mallees (*Eucalyptus spp.*)

Each of these major soil zones may be subdivided into one or more soil regions and the reader is referred to a paper “A Regional Classification of the Soils of Western Australia” by L. J. H. Teakle (*Jour. Roy. Soc. West. Aust. XXIV*, pp. 123–195) for details concerning the soil characteristics of these various zones and regions.

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

Coastal sand deposits are of considerable economic importance. At various places along the south and west coasts there are beach sand deposits in which there is a considerable natural concentration of heavy minerals such as zircon, monazite, rutile and ilmenite. Such deposits are at present being exploited at Capel and Bunbury for their ilmenite content, which is valuable because of its low chrome content. 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 youngest of the geological formations developed—indeed they are in course of formation at the present time. They are evaporite deposits resulting from the evaporation of lake waters in the areas of internal drainage. Soluble salts produced by rock weathering are leached out by rain and running water and transported by streams to these lakes. During the long dry summers most of these lakes dry up and the soluble salts are deposited, yielding accumulations of gypsum and common salt. In a few of these lakes hydrated potassium aluminium sulphate (alunite), which is a valuable source of potash for fertilizers, has been formed but its actual mode of formation has not yet been satisfactorily explained.

Conclusion

From the foregoing summary of the geology of Western Australia we see that, although nowhere do we find the complete geological succession, somewhere in the State there are deposits representative of every Period. The geological history of Western Australia begins with the basaltic igneous activity

of the Early Archaeozoic some 3,000 million years ago, followed by sedimentation, intense mountain building activity and associated granitization and granite intrusions leading to the formation of the major deposits of economically important minerals. In post-Archaeozoic times there is a record of sedimentation throughout all the main geological periods. Igneous activity ceased in the Lower Palaeozoic and only re-occurred during the late Mesozoic, yielding the basaltic lavas of the far South-West and the volcanic rocks of the West Kimberley. By mid-Tertiary times much of Western Australia had been reduced by denudation to a gently undulating peneplained land surface on which, under tropical climatic conditions, there was an extensive development of laterite which in places constitutes valuable aluminium 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 35°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 west coast, it exerts a marked influence on the rainfall, causing a rapid increase from the coastal plain to the higher land. Elsewhere the effect of topography is less marked and its main influence is seen in the general decrease of rainfall with increasing distance from the coast.

PROVISION OF METEOROLOGICAL SERVICES ⁽¹⁾

In May, 1829 Captain James Stirling, R.N., then Lieutenant-Governor of the Colony, issued instructions to the Colonial Surgeon, Mr. Charles Simmons, in the following terms, "A Meteorological Journal is to be kept of the weather and heights 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, since Captain Stirling addressed a letter on the 14th July, 1829 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 in existence a weather record which was compiled continuously in the Survey Department from April, 1830.

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 1830 and 1875 contain entries of pressure, temperature, wind and weather only, but the Meteorological Report for 1876 shows that in that year the observations included dry and wet bulb maximum and minimum temperature readings, terrestrial and solar radiation, rainfall, evaporation and ozone 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, 1893 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 1896, 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. 6 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 authority

⁽¹⁾ A brief account of the historical development of meteorological services in Western Australia is given on pp. 34-35 of the *Official Year Book of Western Australia*, No. 2—1960 (*New Series*) and on pp. 36-37 of the succeeding issue, No. 3, 1962.

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 (1966) 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 reporting 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 radio direction-finding stations has also been developed for locating areas of thunderstorm 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 Observatory Building in Perth, at Perth Airport, and at Pearce 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 issue 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 aviation and shipping routes. Advice is also furnished, as required, to the community generally.

The foregoing services are of limited value unless information can be made available where and when required. It is obvious that every user cannot in person collect what he seeks. In order to achieve 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 forecasting and warning coverage of the whole State and of air and shipping lanes to other 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 national 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 in an east-west direction across the continent for about six months of the year.

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

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

Towards the end of winter the anticyclonic belt moves southward, and the westerlies are confined more to the lower south-west and the south coastal districts. By summer the anticyclonic belt has moved so far south that its 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 this region. Wind circulation round this system causes easterlies on its southern or inland side, but in the coastal districts north-east from Onslow, and in parts of the Kimberley, westerlies prevail. Winds in both the north and the south of the State are then in the opposite direction to those prevailing during the winter.

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

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 widespread rain which generally accompanies them. The heaviest fall ever recorded in one day in Western Australia, 29.41 inches, was received at Whim Creek from a cyclone in 1898.

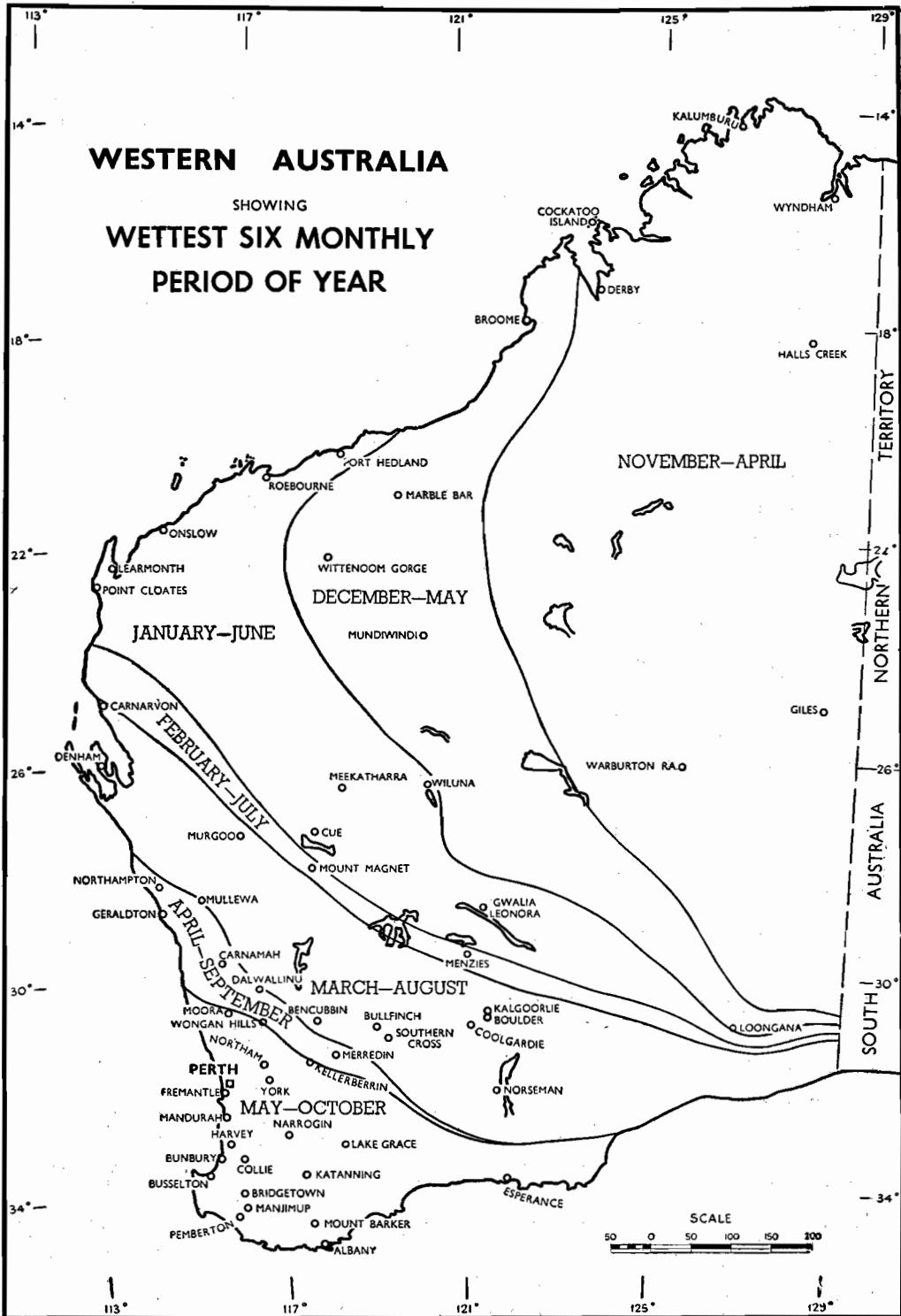
RAINFALL

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

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

From the map on page 49, which shows the wettest six-monthly period of the year, it can be seen that summer rains extend southward from the Kimberley to the Trans-Australian Railway, where there is a rapid change to the winter rainfall regime of the south coast. However, the difference between summer and winter totals decreases southward, and the southern part of this region is one of almost uniform rainfall.

Proceeding northward from the winter rainfall area of the south-west of the State, the wet period occurs earlier during the year. Across a belt Carnarvon-Menzies-Eucla, there is a more rapid change,



and this belt divides the winter rainfall area from that which receives most of its rain in the first six months of the year. Further north, the change is more gradual but continuous, and in the Kimberley most of the year's rainfall is received in the summer months, which in the southern parts of the State are the driest of the year.

The mean annual rainfall for the State is shown on the map 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, Wheat Belt and Other Inland)

Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
COASTAL													
<i>Wyndham</i> (23 feet)†—													
Rainfall—Average (points)	749	649	470	109	30	20	17	2	8	45	185	434	2,718
Highest (points)	2,842	2,058	1,758	2,027	347	473	524	84	136	334	558	1,088	5,634
Lowest (points)	51	54	0	0	0	0	0	0	0	0	3	28	1,438
Highest one day (points)	1,212	590	1,250	1,732	247	445	338	42	136	225	335	383	1,732
Wet days—Average number	13	12	9	3	1	1	1	0	0	2	6	10	58
<i>Broome</i> (37 feet)†—													
Rainfall—Average (points)	410	559	299	128	137	66	35	8	7	5	34	115	1,803
Highest (points)	3,256	2,358	2,360	1,019	700	973	283	374	86	48	1,095	1,449	4,307
Lowest (points)	11	6	0	0	0	0	0	0	0	0	0	0	544
Highest one day (points)	1,400	1,191	1,062	714	346	563	216	147	82	28	553	680	1,400
Wet days—Average number	10	10	7	3	2	2	2	0	1	1	1	5	44
<i>Port Hedland</i> (25 feet)†—													
Rainfall—Average (points)	193	365	176	74	130	58	46	17	4	6	9	86	1,164
Highest (points)	1,969	1,432	1,716	1,096	873	696	384	584	99	129	336	1,023	4,013
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	125
Highest one day (points)	600	955	1,113	469	638	560	185	364	85	127	304	900	1,113
Wet days—Average number	4	6	4	2	3	2	2	1	1	1	0	1	27
<i>Roebourne</i> (40 feet)†—													
Rainfall—Average (points)	247	240	283	124	116	102	56	21	6	3	7	38	1,243
Highest (points)	1,448	1,278	1,607	2,173	887	734	530	385	158	120	120	507	4,173
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	13
Highest one day (points)	911	666	1,032	1,144	660	325	530	172	90	115	66	383	1,144
Wet days—Average number	3	4	4	2	2	2	1	1	0	0	0	2	21
<i>Onslow</i> (14 feet)†—													
Rainfall—Average (points)	106	291	305	26	186	203	87	18	2	2	15	11	1,252
Highest (points)	1,028	1,498	1,633	1,100	1,020	908	872	421	49	61	237	241	4,265
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	57
Highest one day (points)	932	1,079	1,238	617	937	436	355	251	27	29	117	198	1,238
Wet days—Average number	2	4	3	2	4	4	4	2	1	0	1	1	28
<i>Carnarvon</i> (15 feet)†—													
Rainfall—Average (points)	21	95	65	31	168	198	168	70	18	17	8	3	862
Highest (points)	614	719	520	647	800	865	593	355	96	198	75	483	2,536
Lowest (points)	0	0	0	0	0	5	6	0	0	0	0	0	266
Highest one day (points)	358	441	470	197	410	475	322	193	63	104	28	469	475
Wet days—Average number	2	3	2	3	6	7	7	5	2	3	1	1	42
<i>Geraldton</i> (13 feet)†—													
Rainfall—Average (points)	33	51	38	107	278	423	406	268	105	60	21	28	1,818
Highest (points)	379	517	666	457	1,292	1,292	958	952	412	429	157	230	3,365
Lowest (points)	0	0	0	0	0	132	70	33	0	0	0	0	902
Highest one day (points)	310	324	369	270	307	430	201	365	169	280	140	202	430
Wet days—Average number	2	3	3	6	10	14	16	12	9	7	4	2	88
<i>Perth—Observatory</i> (197 ft.)†—													
Rainfall—Average (points)	32	44	81	181	497	722	688	557	319	216	82	59	3,478
Highest (points)	217	655	571	585	1,213	1,875	1,673	1,253	784	787	278	317	5,267
Lowest (points)	0	0	0	0	77	216	242	46	34	15	0	0	2,000
Highest one day (points)	174	343	303	262	300	390	300	291	182	173	154	184	390
Wet days—Average number	3	3	4	8	14	17	18	18	14	12	6	4	121
<i>Pinjarra</i> (32 feet)†—													
Rainfall—Average (points)	33	49	81	195	542	792	742	608	366	246	98	60	3,812
Highest (points)	167	862	331	730	998	2,104	1,571	1,494	916	1,017	368	291	5,879
Lowest (points)	0	0	0	0	127	199	323	47	33	11	0	0	2,030
Highest one day (points)	145	443	240	560	337	367	400	350	189	211	196	164	560
Wet days—Average number	2	2	4	6	13	16	18	16	13	11	6	3	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—<i>continued</i>													
<i>Bunbury</i> (17 feet)†—													
Rainfall—Average (points)	38	47	93	183	515	732	690	501	325	216	97	54	3,491
Highest (points)	340	405	330	690	1,047	1,620	1,640	1,187	793	769	331	316	6,374
Lowest (points)	0	0	0	0	38	287	194	82	0	26	0	0	1,904
Highest one day (points)	222	338	258	240	317	472	372	263	227	154	205	104	472
Wet days—Average number	3	3	4	7	14	18	18	17	14	11	6	4	119
<i>Pemberton</i> (565 feet)†—													
Rainfall—Average (points)	103	69	180	353	662	831	902	730	488	390	241	156	5,105
Highest (points)	579	347	519	821	1,331	1,469	1,563	1,572	860	764	577	379	6,897
Lowest (points)	9	5	11	42	141	497	519	412	208	97	43	19	3,601
Highest one day (points)	252	133	309	284	310	248	280	181	163	210	222	137	310
Wet days—Average number	7	5	9	12	18	20	21	20	17	15	12	9	165
<i>Mount Barker</i> (829 feet)†—													
Rainfall—Average (points)	88	94	144	224	341	394	420	367	325	281	159	117	2,954
Highest (points)	706	702	505	920	957	824	1,027	683	618	630	532	343	4,326
Lowest (points)	4	3	14	15	64	170	88	131	72	64	13	5	1,688
Highest one day (points)	412	284	192	548	270	206	285	259	175	214	251	173	548
Wet days—Average number	7	7	10	12	17	19	20	19	17	16	11	9	164
<i>Albany</i> (41 feet)†—													
Rainfall—Average (points)	94	90	160	286	485	540	573	511	408	318	157	126	3,748
Highest (points)	854	635	653	921	1,140	1,152	1,060	1,124	796	736	671	459	5,484
Lowest (points)	4	0	10	19	174	159	205	198	80	56	19	6	2,507
Highest one day (points)	345	226	353	226	408	285	240	443	312	184	307	323	443
Wet days—Average number	7	7	10	13	18	20	20	20	18	16	11	9	169
<i>Esperance</i> (14 feet)†—													
Rainfall—Average (points)	68	79	107	181	322	401	417	375	280	217	114	92	2,653
Highest (points)	524	471	491	691	705	1,076	945	727	687	574	453	320	3,625
Lowest (points)	0	0	0	8	80	109	93	75	42	52	0	0	1,724
Highest one day (points)	274	154	175	496	178	416	218	232	455	179	200	279	496
Wet days—Average number	5	5	7	9	14	16	17	16	14	12	7	6	128
WHEAT BELT													
<i>Carnamah</i> (879 feet)†—													
Rainfall—Average (points)	42	54	84	85	200	312	283	219	117	68	42	35	1,541
Highest (points)	404	405	551	422	551	910	742	757	332	288	357	222	3,078
Lowest (points)	0	0	0	0	6	83	53	48	2	0	0	0	837
Highest one day (points)	380	226	299	350	290	241	170	260	129	157	280	197	380
Wet days—Average number	2	2	2	4	9	12	13	11	8	6	2	2	73
<i>Dalwallinu</i> (1,099 feet)†—													
Rainfall—Average (points)	55	68	92	83	170	273	241	180	95	65	44	32	1,398
Highest (points)	267	409	361	497	403	705	570	555	270	142	394	176	2,161
Lowest (points)	0	0	0	0	3	88	69	31	7	5	0	0	471
Highest one day (points)	262	313	248	437	217	373	158	234	79	112	206	158	437
Wet days—Average number	2	2	3	4	8	12	13	11	7	5	3	2	72
<i>Southern Cross</i> (1,170 feet)†—													
Rainfall—Average (points)	47	72	94	80	130	143	149	116	73	60	51	45	1,060
Highest (points)	389	538	665	504	469	371	420	346	418	312	293	232	1,957
Lowest (points)	0	0	0	0	0	20	42	2	0	0	0	0	464
Highest one day (points)	172	331	240	172	217	131	143	120	205	216	200	156	331
Wet days—Average number	3	2	4	4	7	8	9	9	6	5	3	2	62
<i>Merredin</i> (1,046 feet)†—													
Rainfall—Average (points)	39	50	87	89	161	203	216	156	101	77	51	54	1,284
Highest (points)	220	315	634	447	462	516	498	340	337	296	271	364	2,219
Lowest (points)	0	0	0	0	5	23	46	24	0	3	0	0	512
Highest one day (points)	157	260	325	235	194	160	181	132	176	105	144	101	325
Wet days—Average number	2	3	3	4	8	11	12	10	7	6	3	2	71

† 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
WHEAT BELT—<i>continued</i>													
<i>Norham</i> (490 feet)†—													
Rainfall—Average (points)	33	46	76	89	226	327	340	249	142	96	42	36	1,702
Highest (points)	219	747	744	304	555	916	871	669	506	395	162	259	2,798
Lowest (points)	0	0	0	0	4	40	77	12	10	0	0	0	764
Highest one day (points)	148	455	497	258	257	226	220	150	180	185	126	195	497
Wet days—Average number	2	2	3	5	10	14	15	13	10	7	3	2	86
<i>Narrogin</i> (1,114 feet)†—													
Rainfall—Average (points)	39	65	86	117	255	357	364	277	190	132	56	51	1,989
Highest (points)	270	934	502	495	599	1,182	957	729	478	483	212	373	2,917
Lowest (points)	0	0	0	0	38	99	115	62	26	6	0	0	1,056
Highest one day (points)	197	454	450	158	269	280	320	165	144	139	87	196	454
Wet days—Average number	2	2	4	6	11	13	15	14	11	8	4	3	93
<i>Lake Grace</i> (946 feet)†—													
Rainfall—Average (points)	54	71	100	90	187	219	206	165	119	93	54	50	1,408
Highest (points)	401	843	467	461	456	587	504	411	303	307	386	262	2,348
Lowest (points)	0	0	0	0	8	67	50	22	10	0	0	0	837
Highest one day (points)	324	378	355	168	204	185	238	142	128	91	231	175	378
Wet days—Average number	3	3	4	6	11	14	15	12	9	7	4	3	91
<i>Katanning</i> (1,016 feet)†—													
Rainfall—Average (points)	42	61	94	122	245	306	308	243	182	144	71	67	1,885
Highest (points)	341	884	525	638	583	721	685	681	484	450	355	283	3,077
Lowest (points)	0	0	0	2	28	84	86	51	14	17	0	0	1,072
Highest one day (points)	253	495	271	417	233	276	182	117	145	198	165	216	495
Wet days—Average number	3	3	5	7	12	15	17	15	13	10	5	4	109
OTHER INLAND													
<i>Halls Creek</i> (1,225 feet)†—													
Rainfall—Average (points)	528	463	156	76	51	22	33	10	9	52	120	251	1,771
Highest (points)	2,274	1,467	1,451	646	659	344	316	221	207	408	789	905	4,204
Lowest (points)	20	11	0	0	0	0	0	0	0	0	0	12	844
Highest one day (points)	831	510	685	578	241	143	189	205	123	142	198	471	831
Wet days—Average number	12	12	6	3	2	1	1	0	1	2	6	9	55
<i>Marble Bar</i> (595 feet)†—													
Rainfall—Average (points)	285	290	214	83	89	93	52	21	4	18	35	135	1,319
Highest (points)	1,219	924	1,530	947	588	625	527	135	95	458	242	957	2,920
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	280
Highest one day (points)	574	470	1,200	536	274	412	247	125	95	332	238	592	1,200
Wet days—Average number	7	6	4	2	2	2	2	1	0	0	2	4	32
<i>Mundivindi</i> (1,840 feet)†—													
Rainfall—Average (points)	177	181	193	86	84	76	33	31	14	32	42	107	1,056
Highest (points)	1,262	1,278	1,051	543	477	445	276	209	240	368	210	623	3,211
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	103
Highest one day (points)	274	278	688	223	219	159	168	152	135	210	227	450	688
Wet days—Average number	6	6	5	3	3	3	2	2	1	1	3	4	39
<i>Meekatharra</i> (1,676 feet)†—													
Rainfall—Average (points)	135	118	80	34	78	160	64	38	16	11	41	21	796
Highest (points)	841	526	608	542	514	615	200	304	143	101	371	411	2,031
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	191
Highest one day (points)	335	330	405	431	303	238	134	153	132	84	322	270	431
Wet days—Average number	5	4	4	3	5	7	6	3	2	1	1	2	43
<i>Kalgoorlie</i> (1,247 feet)†—													
Rainfall—Average (points)	73	143	64	82	88	108	99	76	68	36	61	45	943
Highest (points)	802	1,238	655	404	376	468	324	318	386	314	276	257	1,804
Lowest (points)	0	0	0	0	0	0	8	0	0	0	0	0	475
Highest one day (points)	379	700	279	282	315	225	147	137	174	246	254	199	700
Wet days—Average number	3	4	4	5	7	8	9	7	5	4	3	3	62
<i>Raukinnna</i> (607 feet)†—													
Rainfall—Average (points)	59	57	72	72	65	72	51	69	42	52	48	53	712
Highest (points)	828	483	336	448	317	513	207	609	334	250	317	461	1,956
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	310
Highest one day (points)	393	229	187	227	122	149	100	261	282	98	257	192	393
Wet days—Average number	2	2	3	3	4	5	4	4	3	3	3	2	38

†Height above mean sea-level.

TEMPERATURE

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

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 93.1°F. and the mean minimum for the coldest month is 66.2°F. At Marble Bar the yearly mean maximum of 96.2°F. is higher, but mean minimum temperatures are consistently lower, falling to 52.5°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 160 consecutive days.

Further 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 Eucla on the south coast.

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

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 period 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 54-56 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 100°F. and over. The average number of days with temperatures of 36°F. or below, which provides an indication of frost frequency, is also shown.

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 tornadic 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

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

Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
COASTAL													
<i>Wyndham—</i>													
Temperature :													
Mean max., °F.	95.9	95.5	95.3	94.7	90.1	85.8	85.0	88.5	93.5	96.9	98.5	97.6	93.1
Mean min., °F.	80.2	79.7	79.5	77.2	72.4	68.0	66.2	69.5	74.8	79.7	81.4	81.2	75.8
Highest max., °F.	113.5	111.0	108.0	106.0	103.0	97.5	96.0	102.0	106.0	111.0	113.6	112.0	113.6
Lowest min., °F.	67.0	62.0	65.0	63.0	52.0	50.0	48.0	47.0	60.1	65.0	58.0	65.0	47.0
Number of days 90° and over	29.2	25.6	29.1	26.3	23.2	11.7	13.4	24.1	29.5	30.6	29.3	29.0	304.0
Number of days 100° and over	17.3	12.3	15.6	7.2	0.7	0.0	0.0	0.4	4.3	16.8	21.9	18.3	114.8
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Broome—</i>													
Temperature :													
Mean max., °F.	91.3	91.8	93.1	93.3	88.0	82.5	81.8	85.0	88.8	90.5	92.7	93.2	89.3
Mean min., °F.	79.2	79.1	77.7	71.6	64.8	59.5	57.0	60.0	65.1	72.1	76.7	79.4	70.2
Highest max., °F.	111.5	108.8	107.0	107.0	101.0	97.2	95.0	100.5	103.5	109.1	111.8	112.7	112.7
Lowest min., °F.	64.0	59.0	55.0	54.0	45.1	43.4	37.9	40.6	48.0	52.8	58.5	63.0	37.9
Number of days 90° and over	27.5	25.6	28.5	26.2	14.5	4.2	4.4	9.8	15.8	19.4	25.1	28.5	229.5
Number of days 100° and over	3.0	1.5	5.3	2.6	0.0	0.0	0.0	0.1	0.8	5.9	3.3	3.5	26.0
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Port Hedland—</i>													
Temperature :													
Mean max., °F.	94.3	94.6	95.3	93.3	86.1	80.2	79.3	82.3	86.9	89.7	93.2	94.2	89.1
Mean min., °F.	79.4	79.1	77.6	71.2	63.7	57.9	55.6	58.4	62.5	68.1	73.5	77.5	68.7
Highest max., °F.	117.0	115.7	112.1	113.0	101.0	94.0	93.7	98.3	102.0	110.4	114.0	118.2	118.2
Lowest min., °F.	60.0	61.4	63.3	51.2	44.6	40.4	38.8	33.7	45.0	51.9	57.8	62.2	38.7
Number of days 90° and over	28.1	25.9	29.6	24.3	8.2	0.3	0.4	4.3	15.3	20.5	23.3	27.7	207.9
Number of days 100° and over	3.8	6.1	13.7	4.4	0.0	0.0	0.0	0.0	0.3	4.3	7.4	10.7	55.7
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Roebourne—</i>													
Temperature :													
Mean max., °F.	100.8	100.9	98.5	93.9	86.2	79.4	79.0	82.9	89.6	94.4	100.5	101.7	92.3
Mean min., °F.	79.2	79.3	77.4	70.6	64.0	58.2	55.4	57.5	61.5	66.6	73.2	76.7	68.3
Highest max., °F.	118.0	116.0	113.4	109.8	100.0	93.8	91.0	97.0	106.8	113.0	114.5	116.0	118.0
Lowest min., °F.	66.5	55.0	63.0	57.8	46.7	40.0	41.0	44.0	48.1	55.0	49.0	53.0	40.0
Number of days 90° and over	29.8	26.3	27.9	24.1	7.2	0.2	0.2	3.3	15.2	23.3	23.1	30.5	216.1
Number of days 100° and over	17.7	15.0	15.9	4.7	0.0	0.0	0.0	0.0	0.8	5.9	16.2	19.4	95.6
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Onslow—</i>													
Temperature :													
Mean max., °F.	96.4	96.4	95.4	91.9	84.3	78.0	77.3	80.0	85.1	88.9	93.5	95.4	88.5
Mean min., °F.	74.2	74.7	73.5	67.1	60.3	54.5	51.5	55.5	58.8	61.0	66.3	70.5	63.7
Highest max., °F.	117.8	119.0	115.6	110.9	101.0	90.0	90.2	95.6	101.0	112.2	115.0	117.5	119.0
Lowest min., °F.	60.5	61.9	58.4	50.0	42.0	37.3	37.5	40.0	41.9	45.4	50.0	54.5	37.3
Number of days 90° and over	25.8	24.1	27.8	16.7	2.8	0.1	0.0	0.8	5.2	13.3	19.1	25.2	180.9
Number of days 100° and over	9.1	7.0	8.8	1.5	0.0	0.0	0.0	0.0	0.2	2.0	5.7	9.8	44.1
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Carnarvon—</i>													
Temperature :													
Mean max., °F.	87.2	88.1	86.9	84.4	78.3	73.7	71.7	73.1	75.4	77.4	81.4	84.2	80.2
Mean min., °F.	72.1	72.4	71.6	65.8	58.8	54.0	51.6	53.4	57.2	61.1	65.8	69.2	62.7
Highest max., °F.	117.3	115.2	112.8	105.9	100.4	90.2	86.8	90.2	97.8	108.3	109.1	113.0	117.8
Lowest min., °F.	58.0	61.2	56.8	47.0	42.8	37.0	37.0	38.3	42.0	45.5	50.4	54.6	37.0
Number of days 90° and over	8.0	9.8	11.3	7.0	0.4	0.0	0.0	0.1	0.9	2.1	2.5	3.6	45.7
Number of days 100° and over	3.4	3.8	3.7	1.3	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.9	14.0
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Geraldton—</i>													
Temperature :													
Mean max., °F.	84.5	85.2	83.6	80.5	74.2	69.7	67.7	68.8	71.4	73.6	78.5	82.0	76.6
Mean min., °F.	66.3	66.5	65.0	60.9	56.9	53.8	51.7	52.1	53.0	55.4	60.0	63.4	58.7
Highest max., °F.	117.9	115.5	111.7	103.0	94.7	83.8	81.9	88.9	96.5	104.6	108.8	113.0	117.9
Lowest min., °F.	48.0	51.0	47.0	41.8	36.0	33.5	33.4	35.1	35.3	37.9	44.0	45.8	33.4
Number of days 90° and over	8.2	9.8	9.8	3.9	1.1	0.0	0.0	0.0	0.1	1.3	4.9	5.0	44.1
Number of days 100° and over	3.4	3.5	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.9	1.8	12.1
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.4
<i>Perth (Observatory)—</i>													
Temperature :													
Mean max., °F.	84.6	85.3	81.8	76.3	69.0	64.4	62.9	64.0	66.7	69.6	75.9	81.2	73.5
Mean min., °F.	63.2	63.6	61.4	57.3	52.6	49.7	48.0	48.3	50.1	52.4	56.7	60.5	55.3
Highest max., °F.	110.7	112.2	106.4	99.7	90.4	81.7	76.4	82.0	90.9	99.0	104.6	107.9	112.2
Lowest min., °F.	48.6	47.7	45.8	39.3	34.3	34.9	34.2	35.4	36.7	40.0	42.0	47.5	34.2
Number of days 90° and over	8.8	8.2	5.5	1.2	0.0	0.0	0.0	0.0	0.0	0.3	2.2	5.6	31.8
Number of days 100° and over	1.6	1.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	5.0
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2

TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
COASTAL—<i>continued</i>													
Bunbury—													
Temperature :													
Mean max., °F.	82.1	81.9	78.9	74.4	68.1	64.1	62.5	63.1	65.5	68.1	74.4	78.9	71.8
Mean min., °F.	59.1	59.1	57.1	53.6	50.8	48.6	47.1	47.4	48.8	50.4	54.0	56.8	52.7
Highest max., °F.	106.2	104.2	101.0	93.0	83.7	77.2	72.2	75.5	83.8	92.5	99.8	101.5	106.2
Lowest min., °F.	42.0	41.3	39.3	36.7	32.1	33.0	28.0	33.0	30.0	33.0	39.2	38.4	28.0
Number of days 90° and over	4.2	3.2	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	10.5
Number of days 100° and over	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Number of days 36° and under	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.2	0.3	0.3	0.0	0.0	1.6
Albany—													
Temperature :													
Mean max., °F.	73.8	74.2	72.3	70.3	65.9	62.2	60.9	61.7	63.6	65.7	69.2	72.0	67.6
Mean min., °F.	58.5	58.8	57.5	54.5	50.7	47.8	46.3	46.6	48.3	50.0	53.6	56.5	52.4
Highest max., °F.	107.0	112.6	105.4	99.9	95.3	76.2	73.5	81.0	87.0	97.2	106.0	106.0	112.6
Lowest min., °F.	42.3	41.0	38.7	39.5	35.1	35.0	32.2	34.3	34.0	36.2	40.6	41.2	32.2
Number of days 90° and over	0.8	0.3	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.9	4.0
Number of days 100° and over	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Esperance—													
Temperature :													
Mean max., °F.	76.6	77.5	75.4	72.2	67.4	63.6	62.1	63.5	66.4	68.4	71.9	74.5	70.0
Mean min., °F.	59.9	60.3	58.9	54.4	50.3	46.8	45.4	45.7	47.9	50.3	54.4	57.5	52.6
Highest max., °F.	117.0	111.4	110.5	102.0	91.5	81.0	78.8	88.7	96.0	103.8	108.0	109.0	117.0
Lowest min., °F.	40.8	40.8	39.0	38.0	35.0	32.0	31.0	32.0	34.3	33.9	39.0	40.0	31.0
Number of days 90° and over	3.1	3.1	2.6	0.8	0.1	0.0	0.0	0.0	0.1	0.6	1.6	2.5	14.5
Number of days 100° and over	1.2	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.8	3.8
Number of days 36° and under	0.0	0.0	0.0	0.0	0.1	0.8	0.9	0.5	0.2	0.0	0.0	0.0	2.5
WHEAT BELT													
Carnamah—													
Temperature :													
Mean max., °F.	95.7	95.5	89.4	82.3	72.2	67.2	64.2	67.0	71.6	77.9	85.3	90.8	79.9
Mean min., °F.	63.5	63.7	60.5	56.0	49.7	47.3	44.7	44.6	45.5	49.4	54.6	59.2	53.2
Highest max., °F.	114.1	114.0	111.0	102.0	91.0	82.0	82.0	85.0	95.1	104.0	109.5	111.0	114.1
Lowest min., °F.	41.1	48.0	37.0	35.0	35.0	32.0	33.0	34.3	33.9	34.0	39.0	44.0	32.0
Number of days 90° and over	23.8	22.2	18.7	6.5	0.0	0.0	0.0	0.0	0.6	3.5	8.8	16.8	100.9
Number of days 100° and over	12.2	9.4	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	5.9	33.4
Number of days 36° and under	0.0	0.0	0.0	0.0	0.1	0.5	0.8	0.8	0.3	0.0	0.0	0.0	2.5
Wongan Hills—													
Temperature :													
Mean max., °F.	92.7	90.4	87.9	78.4	67.2	62.4	60.4	61.9	68.6	73.5	80.2	85.6	75.8
Mean min., °F.	63.1	62.9	61.1	55.5	48.5	45.2	41.8	41.7	45.6	47.9	52.0	57.1	51.9
Highest max., °F.	112.0	109.6	108.5	98.6	89.2	74.2	76.3	79.6	90.3	99.5	104.2	111.6	112.0
Lowest min., °F.	47.9	49.1	45.4	37.1	34.2	33.0	32.2	31.5	32.3	35.0	39.7	41.5	31.5
Number of days 90° and over	18.3	15.5	14.5	2.7	0.0	0.0	0.0	0.0	0.0	1.0	5.2	10.7	67.9
Number of days 100° and over	6.7	4.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	13.9
Number of days 36° and under	0.0	0.0	0.0	0.0	0.2	0.8	2.5	2.7	1.1	0.0	0.0	0.0	7.3
Kellerberrin—													
Temperature :													
Mean max., °F.	93.0	92.3	86.4	79.1	69.3	63.4	61.3	64.0	70.2	76.1	85.0	90.5	77.5
Mean min., °F.	61.6	61.4	58.8	52.2	46.5	43.6	41.5	41.9	43.8	47.8	54.5	58.8	51.0
Highest max., °F.	115.0	116.0	112.0	102.6	96.0	80.4	76.0	82.6	97.7	103.0	109.5	113.0	116.0
Lowest min., °F.	45.0	43.0	40.7	34.0	28.0	26.5	26.0	27.6	30.0	32.5	39.0	42.0	26.0
Number of days 90° and over	19.9	16.7	11.3	2.7	0.2	0.0	0.0	0.0	0.2	1.8	8.5	15.0	76.3
Number of days 100° and over	6.9	5.5	1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.4	4.6	20.4
Number of days 36° and under	0.0	0.0	0.0	0.1	2.4	4.6	7.4	7.0	3.4	0.6	0.0	0.0	25.5
Southern Cross—													
Temperature :													
Mean max., °F.	94.3	93.0	87.0	78.9	69.5	63.0	61.7	64.7	72.0	77.7	86.5	92.3	78.4
Mean min., °F.	62.2	62.2	58.4	51.7	45.1	41.5	39.1	40.3	43.1	47.9	55.0	59.9	50.5
Highest max., °F.	115.0	117.0	112.0	103.2	92.0	81.5	80.0	85.9	94.6	102.8	110.2	114.6	117.0
Lowest min., °F.	42.0	42.0	38.2	30.0	28.0	24.3	23.0	25.0	26.0	30.6	35.6	40.8	23
Number of days 90° and over	21.5	17.3	12.7	3.2	0.0	0.0	0.0	0.0	0.4	2.7	10.6	18.5	86.9
Number of days 100° and over	9.1	7.2	2.5	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.0	6.4	27.4
Number of days 36° and under	0.0	0.0	0.0	0.6	2.4	7.1	8.6	9.6	3.5	0.4	0.0	0.0	32.2
Wandering—													
Temperature :													
Mean max., °F.	88.3	87.6	82.0	74.9	65.9	60.5	59.2	60.5	64.9	69.6	78.9	84.9	73.1
Mean min., °F.	56.5	55.9	53.6	47.5	43.6	40.5	39.0	39.3	41.4	43.8	48.9	53.5	47.0
Highest max., °F.	114.0	110.8	107.5	97.0	87.0	77.0	71.8	79.0	86.0	93.5	103.5	109.0	114.0
Lowest min., °F.	38.0	37.0	30.9	28.0	22.0	21.8	24.0	25.0	27.0	28.0	30.5	35.0	21.8
Number of days 90° and over	15.2	12.0	9.3	1.3	0.0	0.0	0.0	0.0	0.0	0.4	2.3	7.4	47.9
Number of days 100° and over	3.7	2.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	8.0
Number of days 36° and under	0.0	0.0	0.0	1.3	7.9	9.8	9.9	9.5	9.4	5.3	1.0	0.3	54.4

TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
WHEAT BELT—<i>continued</i>													
<i>Katanning—</i>													
Temperature :													
Mean max., °F.	86.0	85.1	79.3	73.2	64.7	59.7	57.9	59.5	64.1	68.8	77.6	82.8	71.6
Mean min., °F.	56.3	56.5	54.7	50.4	46.5	43.6	41.9	42.0	43.7	45.7	50.2	53.8	48.8
Highest max., °F.	110.9	112.3	107.0	96.2	88.4	75.3	71.0	88.0	87.0	100.0	106.0	110.0	112.3
Lowest min., °F.	41.0	37.9	35.0	33.0	30.0	28.3	25.0	28.1	29.8	31.0	35.0	37.6	25.0
Number of days 90° and over	12.3	7.5	5.3	1.1	0.0	0.0	0.0	0.0	0.0	0.3	2.0	5.9	34.4
Number of days 100° and over	2.6	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.2
Number of days 36° and under	0.0	0.0	0.0	0.2	1.8	3.6	4.4	4.5	2.8	1.1	0.2	0.0	18.6
OTHER INLAND													
<i>Halls Creek—</i>													
Temperature :													
Mean max., °F.	97.6	97.0	95.6	92.3	85.7	80.6	80.1	85.9	92.7	98.3	100.5	99.5	92.2
Mean min., °F.	75.4	74.2	71.2	63.0	56.0	50.5	47.6	52.1	59.0	69.5	74.2	75.5	64.0
Highest max., °F.	111.3	110.8	107.6	103.8	99.0	95.0	93.2	100.0	104.3	110.8	110.8	111.6	111.8
Lowest min., °F.	60.0	54.0	51.8	45.0	36.4	32.4	30.0	32.8	37.4	48.0	53.0	53.8	30.0
Number of days 90° and over	28.5	24.8	29.1	22.7	9.5	0.8	1.3	7.3	23.2	29.2	29.7	29.0	235.1
Number of days 100° and over	17.8	8.5	9.6	1.6	0.0	0.0	0.0	0.0	0.7	12.7	17.6	19.2	87.7
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.0	0.0	0.0	0.0	0.0	1.1
<i>Marble Bar—</i>													
Temperature :													
Mean max., °F.	106.2	105.5	102.9	97.0	88.0	80.9	80.6	85.8	93.8	100.1	105.9	107.5	96.2
Mean min., °F.	78.9	78.6	76.8	69.5	61.3	54.7	52.4	55.7	61.7	68.7	75.2	78.1	67.6
Highest max., °F.	120.5	119.0	116.0	113.0	103.0	93.0	95.0	99.0	108.7	114.0	117.0	119.0	120.5
Lowest min., °F.	66.0	57.0	59.6	52.0	42.0	34.0	36.0	39.0	42.0	50.0	58.0	63.0	34.0
Number of days 90° and over	30.3	26.5	28.8	26.0	10.1	0.5	0.8	7.3	22.6	26.3	30.0	30.5	239.7
Number of days 100° and over	27.9	22.1	18.9	8.8	0.2	0.0	0.0	0.0	2.0	12.6	24.2	28.7	145.4
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.0	0.0	0.0	0.0	1.0
<i>Mundivindi—</i>													
Temperature :													
Mean max., °F.	100.5	98.7	94.0	86.7	77.7	70.4	70.0	74.6	83.2	89.4	96.2	99.8	86.8
Mean min., °F.	73.6	72.7	69.0	60.3	51.2	43.4	41.4	45.0	51.3	58.6	66.7	71.2	58.7
Highest max., °F.	112.2	112.0	108.2	105.0	97.6	85.7	87.0	99.0	108.7	116.0	112.0	112.2	112.2
Lowest min., °F.	57.0	55.0	49.0	39.0	28.9	24.0	22.4	25.5	29.0	37.9	46.0	53.0	22.4
Number of days 90° and over	29.3	25.3	25.4	11.6	0.6	0.0	0.0	0.4	5.6	15.9	25.3	29.1	188.5
Number of days 100° and over	20.3	15.7	10.2	0.2	0.0	0.0	0.0	0.0	1.3	9.8	19.9	29.7	77.4
Number of days 36° and under	0.0	0.0	0.0	0.0	0.6	5.6	7.3	3.7	0.2	0.0	0.0	0.0	17.4
<i>Meekatharra—</i>													
Temperature :													
Mean max., °F.	100.4	99.7	93.9	85.7	76.0	68.6	67.5	71.2	78.6	84.8	92.9	98.2	84.8
Mean min., °F.	73.1	73.1	69.4	61.0	52.5	46.3	44.0	46.5	51.0	56.9	64.7	70.0	59.0
Highest max., °F.	113.0	114.1	110.4	104.2	94.4	85.0	81.7	90.7	97.0	103.0	109.1	110.6	114.1
Lowest min., °F.	54.0	54.1	52.2	42.4	33.0	26.4	31.6	34.0	34.0	40.2	43.0	51.9	26.4
Number of days 90° and over	28.8	24.3	21.7	9.8	0.3	0.0	0.0	0.1	1.8	8.3	17.9	25.6	138.6
Number of days 100° and over	18.6	13.7	6.2	0.3	0.0	0.0	0.0	0.0	0.0	0.4	3.5	10.6	53.3
Number of days 36° and under	0.0	0.0	0.0	0.0	0.2	0.9	1.3	0.1	0.0	0.0	0.0	0.0	2.5
<i>Kalgoorlie—</i>													
Temperature :													
Mean max., °F.	93.2	93.0	86.3	78.4	70.1	63.6	62.5	66.0	73.6	79.0	86.3	91.1	78.6
Mean min., °F.	64.2	64.4	61.3	55.2	48.9	44.6	42.9	43.9	48.2	52.7	58.3	62.3	53.9
Highest max., °F.	114.4	115.0	111.0	102.5	92.0	81.8	81.0	87.0	96.0	105.2	110.6	113.0	115.0
Lowest min., °F.	47.1	48.0	41.6	35.0	28.8	28.4	26.0	27.7	30.9	30.2	38.2	45.5	26.0
Number of days 90° and over	18.8	12.9	10.8	2.9	0.1	0.0	0.0	0.0	0.4	2.9	7.4	14.8	71.0
Number of days 100° and over	7.5	4.3	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.1	1.3	3.9	20.1
Number of days 36° and under	0.0	0.0	0.0	0.1	0.3	1.8	3.9	3.6	0.3	0.0	0.0	0.0	10.0
<i>Rawlinna—</i>													
Temperature :													
Mean max., °F.	90.0	89.8	84.4	78.0	71.2	65.3	64.2	67.3	74.4	79.0	84.4	88.8	78.1
Mean min., °F.	58.9	59.2	57.8	52.2	46.4	41.6	39.3	41.1	45.3	49.4	54.2	57.6	50.2
Highest max., °F.	118.0	115.5	112.0	104.0	95.0	88.3	85.0	93.0	102.7	107.0	112.2	114.3	118.0
Lowest min., °F.	42.0	41.0	42.9	35.0	32.0	29.2	27.8	26.2	31.6	33.2	36.4	41.2	26.2
Number of days 90° and over	14.8	10.8	10.3	2.8	0.5	0.0	0.0	0.0	1.7	3.6	7.9	13.3	65.7
Number of days 100° and over	6.8	3.5	3.2	0.2	0.0	0.0	0.0	0.0	0.1	0.8	2.5	5.7	22.8
Number of days 36° and under	0.0	0.0	0.0	0.0	1.2	3.5	5.3	4.4	0.8	0.2	0.0	0.0	15.4
<i>Collie—</i>													
Temperature :													
Mean max., °F.	86.4	85.7	80.4	74.3	65.9	61.3	59.8	61.0	64.8	68.8	77.2	83.0	72.4
Mean min., °F.	55.6	54.9	52.5	47.1	42.9	40.4	39.1	39.8	42.5	45.3	49.7	53.1	46.9
Highest max., °F.	112.0	110.2	105.4	98.0	86.8	76.0	73.0	79.0	86.6	97.4	101.8	106.2	112.0
Lowest min., °F.	37.7	35.2	32.3	29.6	28.0	24.8	25.0	26.2	28.0	31.0	32.6	35.6	24.8
Number of days 90° and over	13.0	11.3	8.0	1.2	0.0	0.0	0.0	0.0	0.0	0.3	2.1	5.7	41.6
Number of days 100° and over	2.2	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	5.5
Number of days 36° and under	0.0	0.0	0.1	0.8	5.3	7.8	7.9	6.6	5.9	1.8	0.3	0.1	36.6
<i>Manjimup—</i>													
Temperature :													
Mean max., °F.	78.3	79.4	74.8	69.5	62.8	59.3	57.4	58.7	61.4	64.7	71.0	75.3	67.7
Mean min., °F.	53.7	54.0	53.0	50.5	46.5	44.5	42.5	43.0	43.7	46.2	49.3	51.8	48.2
Highest max., °F.	107.0	105.0	102.0	92.0	81.0	72.0	71.0	78.4	82.5	92.0	99.3	100.0	107.0
Lowest min., °F.	42.0	40.0	38.0	35.0	34.0	33.0	27.0	30.0	31.0	33.0	35.0	40.0	27.0
Number of days 90° and over	5.7	4.3	3.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.0	16.1
Number of days 100° and over	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
Number of days 36° and under	0.0	0.0	0.0	0.1	0.5	1.3	2.3	3.2	2.1	0.1	0.0	0.0	9.6

INTERSTATE COMPARISONS—RAINFALL, HUMIDITY, TEMPERATURE

Reporting Station	Height above mean sea-level	Average Rainfall		Relative Humidity (a)		Average Daily Mean Temperature	
		May to October	November to April	May to October	November to April	May to October	November to April
		inches	inches	%	%	°F.	°F.
Bunbury	17	29.96	5.01	77	70	57.0	67.5
Sydney, New South Wales	138	21.53	23.27	66	69	58.2	69.3
Perth	197	30.24	4.80	69	55	58.2	70.8
Newcastle, New South Wales	112	20.56	20.80	70	74	58.7	69.7
Kalgoorlie	1,247	5.16	4.53	58	48	58.0	74.5
Cobar, New South Wales	822	5.88	6.73	59	46	56.3	75.2
Geraldton	13	16.04	2.39	67	62	62.3	73.0
Brisbane, Queensland	137	12.01	28.08	66	69	63.3	74.7
Wiluna	1,700	3.21	6.59	50	35	60.4	80.9
Charleville, Queensland	965	6.19	11.78	55	46	61.1	79.5
Carnarvon	15	6.48	2.60	63	63	65.5	77.4
Bundaberg, Queensland	45	10.86	31.51	73	74	64.5	75.7
Mnndiwindi	1,840	2.74	8.28	39	30	63.0	82.4
Longreach, Queensland	612	3.92	11.62	50	50	65.7	82.3
Onslow	14	4.45	4.88	55	56	69.3	82.9
Mackay, Queensland	35	11.49	51.67	78	80	66.8	77.7
Port Hedland	25	3.33	9.23	50	59	72.6	85.3
Townsville, Queensland	73	5.49	37.57	66	73	71.7	80.3
Derby	53	1.67	23.78	51	65	76.9	86.5
Innissfail, Queensland	22	35.88	103.27	85	85	69.7	78.1
Wyndham	23	1.13	25.51	43	59	80.9	88.0
Cooktown, Queensland	17	8.08	59.79	76	78	75.1	81.1
Albany	41	28.75	8.87	76	73	55.8	64.3
Adelaide, South Australia	140	14.42	6.67	64	45	56.5	69.6
Swan Hill, Victoria	230	7.88	5.21	70	54	53.4	69.8
Canberra, Australian Capital Territory	1,837	11.85	11.45	72	61	47.5	64.0

(a) Saturation = 100%.

CLIMATOLOGICAL DATA—PERTH OBSERVATORY

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

Month	Wind		Temperature				Relative Humidity (Saturation = 100%)		Sunshine	Cloud (Proportion of Sky Covered)	Evaporation		
	Prevaling Direction		Speed		Highest in Sun	Lowest Terrestrial	Mean	At 3 p.m.					
	9 a.m.	3 p.m.	Average	High-est					Mean Daily Amount	Mean of readings at 9 a.m., 3 p.m. and 9 p.m.	Mean Amount		
Number of years of observations	30 (a)		30 (a)	52	62	66	30 (a)		30 (a)	30 (a)	30 (a)		
January	E.	S.S.W.	m.p.h. 10.9	m.p.h. 50	°F. 177.3	date 22/1914	°F. 39.5	date 20/1925	% 53	% 43	hours 10.4	% 29	inches 10.37
February	E.N.E.	S.S.W.	10.7	54	173.7	4/1934	39.8	1/1913	52	43	9.8	31	8.63
March	E.	S.S.W.	10.1	70	167.0	19/1918	36.7	8/1903	57	46	8.8	35	7.52
April	E.N.E.	S.S.W.	8.5	63	157.0	8/1916	30.8	26/1960	60	48	7.5	42	4.62
May	N.E.	W.S.W.	8.4	74	146.0	4/1925	25.0	31/1964	68	58	5.7	54	2.80
June	N.	N.W.	8.4	80	135.5	9/1914	25.9	27/1946	72	63	4.8	59	1.82
July	N.N.E.	W.	8.8	85	133.2	13/1215	25.1	30/1920	73	63	5.4	56	1.76
August	N.	W.N.W.	9.4	97	145.1	29/1921	26.7	24/1935	71	60	6.0	58	2.37
September	E.N.E.	S.S.W.	9.4	68	153.6	29/1916	27.2	(b)	64	57	7.2	49	3.44
October	S.E.	S.W.	10.0	65	161.2	19/1954	29.8	16/1931	64	54	8.1	48	5.38
November	E.	S.W.	10.7	63	167.0	30/1925	35.0	3/1947	57	47	9.6	39	7.65
December	E.	S.S.W.	11.0	64	168.8	11/1927	38.0	29/1957	54	46	10.4	32	9.69
Year—													
Average	E.	S.S.W.	9.7						62	52	7.8	44	
Extremes				97	177.3	22/1/14	25.0	31/5/64					
Total													66.05

(a) Standard 30 years' normal (1911-1940).

(b) Recorded on 8th September, 1952 and 6th September, 1956.

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 8 inches in the northern tropics. In January, when evaporation is highest, it totals about 5 inches on the far south coast and reaches 14 inches in the East Gascoyne and North-Eastern Meteorological Districts. Further north, evaporation is reduced by the moister air over the tropics at this time of the year.

The map on page 59 shows total annual evaporation throughout the State.

GROWING SEASON

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

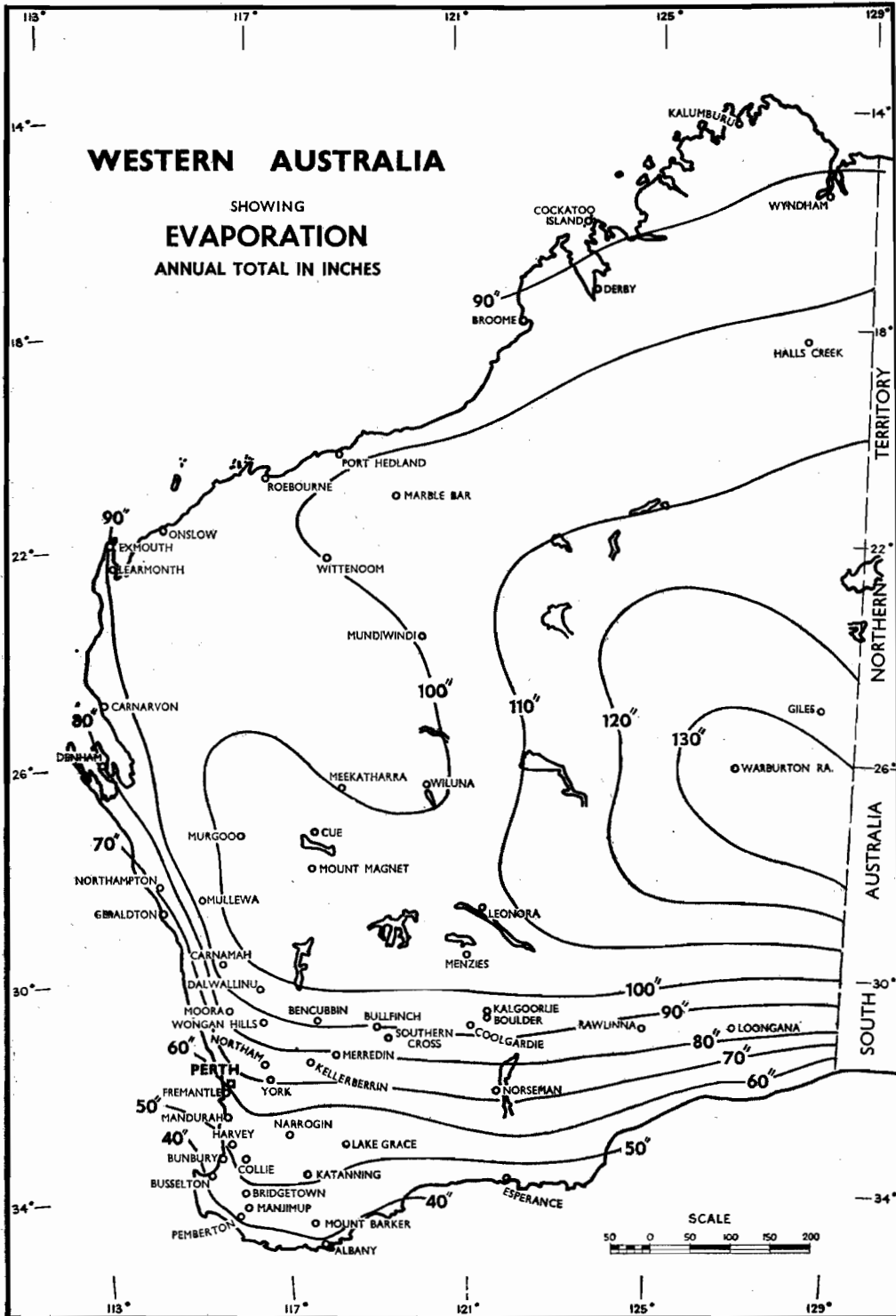
That part of the year during which rainfall is greater than this minimum amount (the "effective rainfall"), may be taken as the *growing season*. The map on page 60 shows the length of this season in the agricultural area of the State. It is based on average monthly rainfall and effective rainfall, the latter being calculated from the formula $P = 0.54 \times E^{0.7}$ (after Prescott), where P is effective rainfall and E is evaporation (both in inches per month).

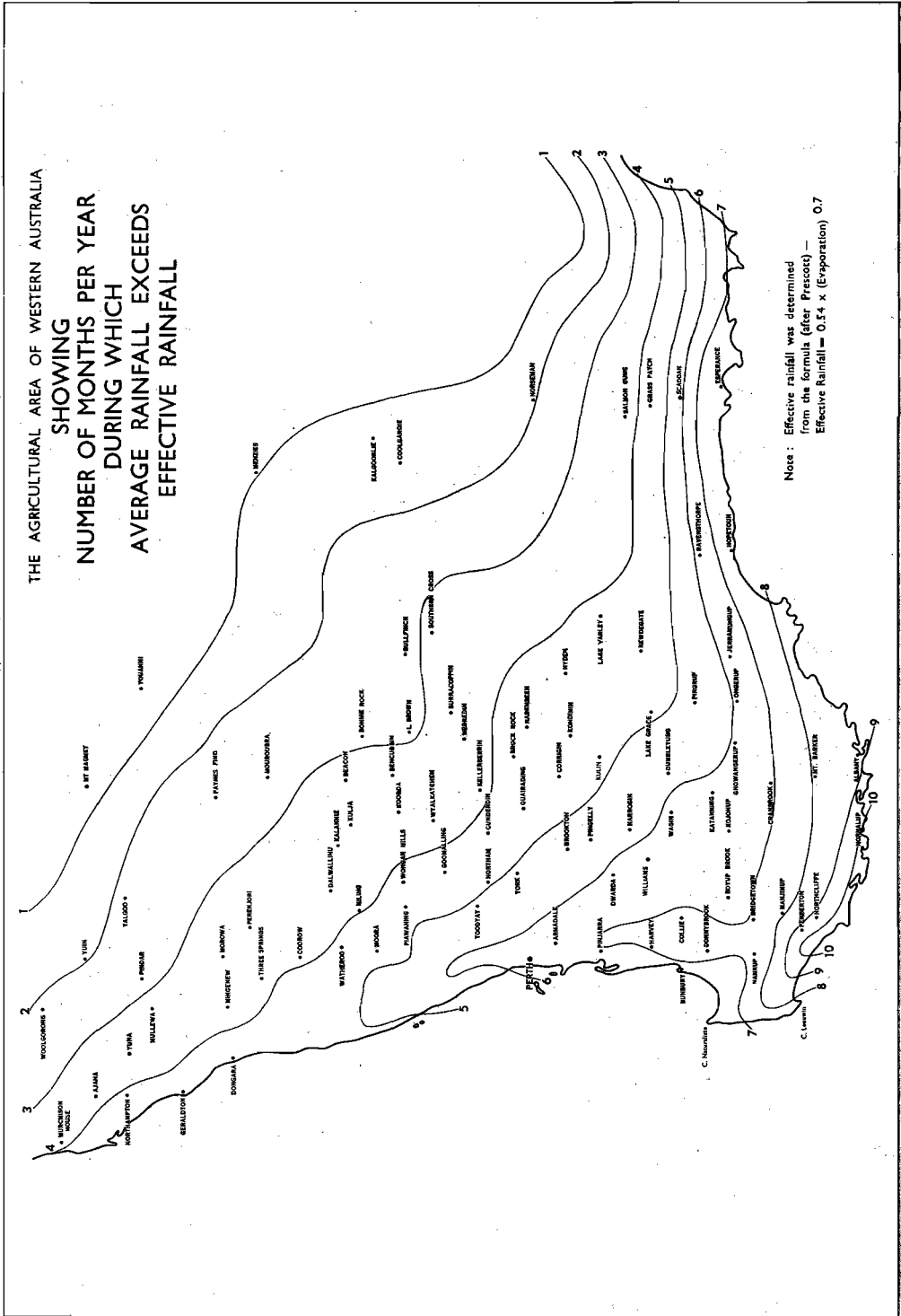
SNOW

Snow has been known to fall as far north as Wongan Hills, but it is only in the southern districts that it occasionally lies on the ground. It is seen on 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

(Contributed by R. D. Royce and A. S. George,
Western Australian Herbarium, Department of Agriculture)

The flora of Western Australia comprises over 6,500 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 entirely restricted to the region. This is especially noticeable in the South-West Vegetation Province, which extends from Shark Bay at its northern extremity to Israelite Bay on the south coast and has an eastern boundary approximating closely to the 10 in. isohyet.

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 the level of the sea, and where the flora has thus had the longest period in which to develop. The area has for an immeasurably 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 alien 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, the 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 individual 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* (1859), J. D. Hooker states: "It contains more genera and species peculiar to its own areas, 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, if, disregarding the peculiarities of the flora, I compare its elements with those of the floras of similarly situated large areas of land, or with that of the whole globe, I find that there is so great an agreement between these that it is impossible to regard the Australian vegetation in any other light than as forming a peculiar but not an aberrant or anomalous botanical 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 general 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 Cephalotaceae, a family which consists of only one species, the Albany Pitcher Plant, *Cephalotus follicularis*. This remarkable plant, with leaves closely resembling those of the insect-trapping *Nepenthes* of tropical Asia, is found in sandy soils in and around low-lying swampy areas along the south coast as far east as Mount Many 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 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.

One of the most interesting families in the Western Australian flora is the Orchidaceae. This family is world wide in distribution, but in south-western Australia its 140 species are principally small-flowered terrestrial plants very unlike the large-flowered epiphytes, native to the tropical rain-forests, which are so popular with horticulturists.

The high degree of endemism so characteristic of the flora as a whole is evident in this family also, as 70 per cent. of the species occur only in this State. However, at the generic level, only four out of twenty-four genera are endemic—viz. *Drakaea*, *Elythranthera*, *Epiblema* and *Rhizanthella*. Only four species have so far been recorded from the Kimberleys, and none of these is endemic. The Eremean Province is also devoid of orchids apart from a few along its southern fringes. The following account concerns only those from the South-West Province, several of which extend a short distance into the Eremaea where they find refuge mainly around granite outcrops.

The South-Western orchids are all terrestrial, though a few may occasionally be seen on dead logs or the lower trunks of trees in humid situations. The dry summer accounts principally for the lack of epiphytic species. It is also the reason for the paucity of summer-flowering species. As with the South-Western flora in general, the majority flower during the spring. Only a few—usually swamp inhabitants—extend into January and one (*Cryptostylis ovata* R.Br.) into February and March. The arrival of the autumn rains then brings the appearance of several autumn-flowering and winter-flowering species.

In general, there are few species with the spectacular flowers often associated with this family. However, there is a variety of delicate forms and a wide range of colour. The genus *Caladenia* (Spider Orchids) is probably the most beautiful, some species having flowers up to 20 cm. across with slender petals and sepals and a prominent labellum. The Butterfly Orchid, *Caladenia lobata* Fitzg. has a labellum about 2 cm. across, of a maroon and lemon-yellow colour and with elegantly fringed margins. This is balanced on a hinge and trembles, like a butterfly hovering, in the slightest breeze.

In the same genus are smaller but brightly coloured species such as the yellow *C. flava* R.Br., the blue *C. gemmata* Lindl., and the pink *C. reptans* Endl. Others assume unique forms, reflected in their vernacular names, such as the Lazy Spider Orchid, *C. multiclavia* Reichb., the Goat Orchid, *C. menziesii* R.Br., and the Dragon Orchid, *C. barbarossae* Reichb.

The genus *Thelymitra* is well represented in this State. Known as Sun Orchids, their flowers open only in sunlight and are often self-pollinated. They differ from other orchids here in having an almost regular perianth, the labellum being similar to the petals in structure. Closely allied to *Thelymitra* is *Epiblema grandiflorum* R.Br., a monotypic genus endemic in Western Australia. Its large mauve flowers with purple markings adorn a few swamps in the early summer. Among Australian terrestrial orchids, the Enamel Orchids, *Elythranthera* spp., are unique in having a glossy inner surface to the perianth, one species being deep purple, the other bright pink.

Many of the less prominent orchids are intriguing for their unusual flowers. The Beard Orchid, *Calochilus robertsonii* Benth., has a densely fringed labellum giving it the appearance of a bushy beard. The common name of the Hammer Orchids (*Drakaea* spp.) likewise stems from the floral structure. The labellum moves up and down on a slender hinge resembling the movement of a hammer. The Slipper Orchid (*Cryptostylis ovata* R.Br.) also has a prominent labellum, with insignificant petals and sepals. This is the only South-Western orchid with perennial leaves, the aboveground parts of all the others being of seasonal appearance.

The tallest of our orchids are some species of Leek Orchid (*Prasophyllum* spp.) which occasionally reach 2 metres in height. They bear spikes of small, often drab-coloured flowers, which however, have an elegant structure and are reversed on the stem. Of similar habit, though smaller, are the Mignonette Orchids (*Microtis* spp.) in which the tiny green or white flowers are borne erect in a dense spike.

Sensitivity is a feature of the Greenhoods (*Pterostylis*) and the Flying Duck Orchid (*Caleana nigrita* Lindl.). The labellum is set on a sensitive hinge and is triggered off by an insect crawling past it. As a result the insect is trapped within the flower, and can only escape by crawling out past the stigma and the anther, thus collecting pollen which is deposited on the stigma of the next flower similarly visited.

In this way, cross-pollination is achieved. A widespread species of *Pterostylis*, *P. nana* R.Br., is one of the few orchids which extend into the Ereman Province; another is *Diuris longifolia* R.Br., one of the wallflower-coloured Donkey Orchids.

Another fascinating method of pollination is found in the Slipper Orchid. Here the agent is an ichneumon fly, and chiefly the males visit the flowers. It has been shown that the insects attempt to mate with the flower under the impression that it is a female. In doing so, pollen is collected from the anther and transferred to the stigma of the next flower visited. Though scentless to man, the orchid apparently emits a powerful lure which can attract insects over long distances.

Scent is not prominent among Western Australian orchids. However, several species of *Caladenia*, *Thelymitra*, *Prasophyllum*, and *Eriochilus* produce a sweet though often light perfume. The most strongly and heavily scented is *Lyperanthus forrestii* F. Muell. though strangely, the other two species of this genus in the south-west have no scent at all.

The small Elbow Orchid, *Spiculaea ciliata* Lindl., is noteworthy for its adaption to an extremely exposed habitat. It grows in shallow soil pockets on open granite outcrops which are subject to very high temperatures during the summer, when they also dry out. During the spring, the plant develops a fleshy floral scape which dies at the base as flowering commences. All the requirements for the development of the flowers and fruits are stored in the stem. Even when pressed, the flowers attempt to continue developing but become distorted by the pressure of the papers. The plant survives the summer through the dormant corms, as do all our orchids except *Cryptostylis*.

A different form of adaptation is seen in the two saprophytic species *Gastrodia sesamoides* R.Br. and *Rhizanthella gardneri* Rogers. These plants lack chlorophyll, and hence cannot produce their own organic requirements. This is obtained instead through the medium of a fungus which grows in association with the orchids' rhizomes. *Rhizanthella* is almost unique in the orchid world, as it is entirely subterranean. It has only been found four times, in each case accidentally, by farmers clearing virgin land. Nothing is known about the development and pollination of this extraordinary plant, which is paralleled only by one of similar habit in New South Wales.

It remains only to mention another species which also is almost unique in the orchid world, since it has been introduced here from South Africa, its native country. This is *Monadenia micrantha* Lindl., which was first discovered near Albany in 1944 and has since spread along roadsides in the hinterland and as far as Collie, over 100 miles to the north-west of the original finding.

A summary of the orchid genera found in Western Australia is given in the following table :

TABLE OF ORCHID GENERA IN WESTERN AUSTRALIA

A. Genera Indigenous in the South-West Province

	Total spp. in W.A.	Endemic spp.
1. Acianthus	2	1
2. Caladenia	40	34
3. Caleana	1	1
4. Calochilus	1	...
5. Corybas	2	...
6. Cryptostylis	1	1
7. Diuris	8	7
8. Drakaea	4	4
9. Elythranthera	2	2
10. Epiblema	1	1
11. Eriochilus	3	3
12. Gastrodia	1	...
13. Leptoceras	1	...
14. Lyperanthus	3	3
15. Microtis	8	3
16. Prasophyllum	18	16
17. Pterostylis	15	5
18. Rhizanthella	1	1
19. Spiculaea	1	1
20. Thelymitra	22	12

B. Genus Introduced in the South-West Province

Monadenia Native to South Africa

C. Genera Indigenous in the Kimberley District

1. Cymbidium	} One species of each recorded, none endemic.
2. Dendrobium	
3. Eulophia	
4. Nervilia	

VEGETATION PROVINCES

It has been said that of all the factors which determine and control the vegetation of the earth, the climatic factor is the most important, and rainfall and temperature are the most important of the climatic elements. In Western Australia there are three distinct climatic regions. These are the tropical north with a short hot rainy period, the temperate south with a rainy period occurring in the coldest months, and the arid interior which has no regular rainfall pattern. The flora is remarkably different within these three areas which for this reason have been used as natural divisions of the flora. Diels referred to them as the Northern, the South-West and the 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 isthmus in the vicinity of the Eighty 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 wettest months ranging from about seven inches in its southern portions to over forty inches in parts of the Kimberley Division, and has an annual maximum temperature of 90° F. or over, although during the growing season temperatures may be even higher. The season from the commencement of April until the end of October is relatively rainless.

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

The *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

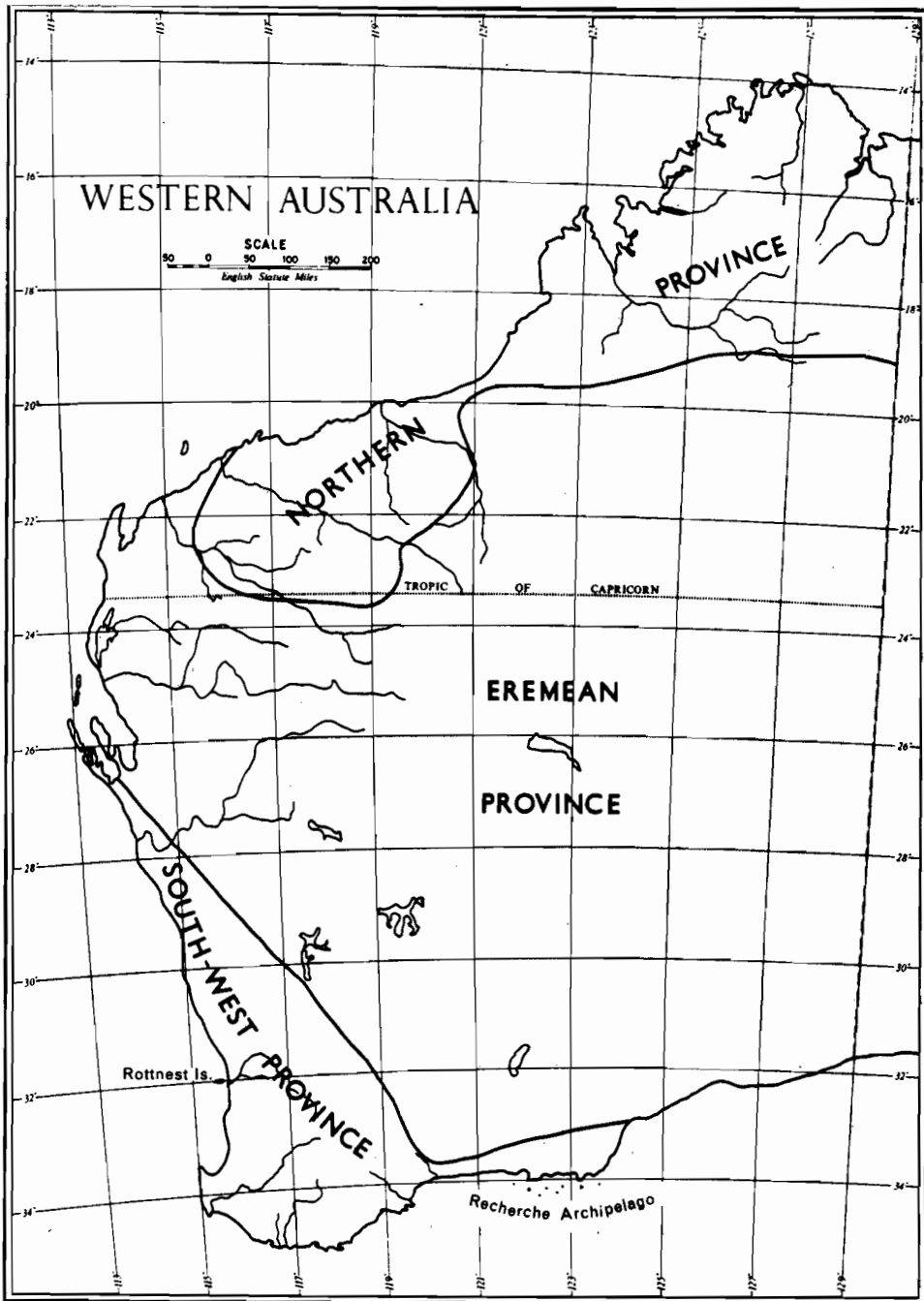
The *Northern Province* is essentially the savannah-steppe Province in that an herbaceous ground-covering mainly composed of grasses occurs. This varies from the rich grasslands of Kimberley to the harsh spinifex "steppe" of the country southwards from the Fitzroy, broken only by the alluvial grassland 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 mulga too is absent. Floristically the Province is characterized by the part played by the "Indo-Melanesian Element" in its constitution. In places this element may predominate to the extent that amongst the trees *Eucalyptus* plays a secondary role, and deciduous trees are prominent. The grotesque Baobab is common, together with various soft-wooded trees, while the herbaceous growth is rich in members of the *Hibiscus* family and several others. With the exception of the river bank and swamp formations, most herbaceous growth is either dead or resting during the winter months.

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



A SELECTION OF WESTERN AUSTRALIAN ORCHIDS

- A *Epiblema grandiflorum* R. Br. (Babe in a Cradle)—half size
 B *Pterostylis barbata* Lindl. (Bird Orchid)—natural size
 C *Caladenia multiclavia* Reichb. f. (Lazy Spider Orchid)—natural size
 D *Cryptostylis ovata* R. Br. (Slipper Orchid)—half size
 E *Lyperanthus forrestii* F. Muell. (rare Potato Orchid)—natural size
 F *Drakaea glyptodon* Fitzg. (Hammer Orchid)—natural size



VEGETATION PROVINCES OF WESTERN AUSTRALIA

(The map is after C. A. Gardner, 1942. Reproduced by courtesy of the University of Western Australia Press.)

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

VEGETATION FORMATIONS

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

The Forest Formations of the South-West

The Jarrah Forest—The most important of the forest formations of the South-West is that dominated by the Jarrah (*Eucalyptus marginata*), which reaches its greatest development in the lateritic soils from the Darling Scarp eastwards to the 20 in. isohyet, although it does occur also on the sandy coastal soils. Within the forest area Jarrah forms an almost pure stand, but along watercourses Blackbutt (*Eucalyptus patens*) is common, while Marri (*Eucalyptus calophylla*) is almost always present where sandy soils occur. In the richer soils of the valleys, Wandoo (*Eucalyptus redunca* var. *elata*) and Powder Bark Wandoo (*Eucalyptus accedens*) commonly occur, the latter being usually associated with granite outcrops. The understorey of the Jarrah forest consists principally of *Banksia* and the related *Persoonia*, *Hakea* and *Dryandra*, together with the Christmas Tree (*Nuytsia floribunda*), Sheoak (*Casuarina fraseriana*), Blackboy (*Xanthorrhoea preissii*) and *Zamia* (*Macrozamia reidleyi*) in varying associations.

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

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

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

form dense associations on stony hillsides, while in the southern portion of the forest the Swamp Yate (*Eucalyptus occidentalis*) occurs freely on the low-lying country.

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

Woodland Formations

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

Shrub Formations

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

The Mulga Bush—The Mulga bush occupies a large part of the Eremean Province. This formation extends almost without interruption from the west coast between Onslow and the Wooramel 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 greyish resinous foliage and it is the dominance of these species, more than anything else, which gives the Mulga bush its character. Component shrubs are rather widely spaced. Another characteristic of the formation is its differential response to rain, a winter precipitation producing an immediate germination of vast numbers of annual and perennial herbs and shrubs, while summer rains promote a vigorous growth of grasses.

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

Savannah and Steppe Formations

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

Southward from the Fitzroy River is the large area of Spinifex steppe dominated by *Triodia*, where very few trees occur. The shrubs are mainly species of *Acacia* and *Cassia*. This formation gradually merges into the more open desert country of the interior, 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. Pre-eminent 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 (*Maba humilis*), the Leichhardt tree (*Nauclea coadunata*) and the Red Ash (*Alphitonia excelsa*). In contrast to the hardwoods of the South-West a number of the Northern trees are soft-wooded, notable among them being the Yeelbar (*Erythrina vespertillio*) 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 Pine (*Callitris intratropica*) which is perhaps our most termite-resistant timber, due doubtless to its sandarac content. Large trees of the Kimberley Cypress Pine still exist in certain localities but they suffer severely from the effects of fire and whole forests of pine are sometimes destroyed by bush fires.

The early settlers in the south-west of the State used the bark of certain wattles, as well as the kino of the Marri (*Eucalyptus calophylla*), for tanning purposes but these generally ceased to be used when the bark of Brown Mallet (*Eucalyptus astringens*) 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 Micum tree (*Eucalyptus brevifolia*) which is found on the Hamersley Range, and also in the East Kimberley extending from the upper reaches of the Margaret 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-iron industry at Wundowie. The several species of Mangrove are also possible sources of tannin.

The Manna Wattle (*Acacia microbotrya*) yields a gum which has all the properties of gum arabic, but the yield per tree is very low and the gum "tears" 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 (*Xanthorrhoea preissii*) 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 at present, despite the fact that in *Eucalyptus oleosa* var. *plenissima* 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. Nornalup 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 Dorre Islands at the entrance to Shark Bay, Lake Magenta Reserve south of Newdegate, and the Pingelly Reserve.

The reserves described in the following paragraphs have been selected as being representative of the types of reserves already discussed. Reference to other such areas is made under the heading "Public Parks and Reserves" in Part 1 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 Ajana agricultural area. It is a large reserve, approximately 358,000 acres in area, and consists mainly of gently undulating sandplain which is underlain by a gravelly soil resting on Cretaceous sediments or in some areas on the Tumblagooda 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 level of the sandplain. Permanent pools of brackish water occur along the gorge.

Three distinct types of flora are recognized in the area. They are the predominant sand heath, the lateritic association along the eastern boundary, and the coastal heath vegetation on the limestone soils. 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 Ereman 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, while many other related plants in the *Banksia* family as well as a number of Myrtles found here occur nowhere else in the world. The gorge of the Murchison River contains many very fine examples of the picturesque River Gum (*Eucalyptus camaldulensis*), as well as a number of endemic species some of which are entirely 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 speciation taken place here in past ages to produce a number of unique plants, but the reserve also contains the northernmost representatives of several typical South-West plants. Species such as the Firewood *Banksia*, Blueboy, Tree Smokebush and Mangles 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 284,540 acres is situated to the east of Tenterden and encloses the entire mountain system of the Stirling Range, which consists of Proterozoic sandstones, shales and slates. The Range reaches to a height of over 3,500 feet and is the 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 Myrtles and of Proteaceae. Stirling Range Poison (*Gastrolobium velutinum*) is common, and many other species of the Pea family also occur. A striking component of this heath is the Red Kangaroo Paw (*Amigosanthes rufa*). Around the base of the mountain peaks are forests consisting principally of stunted Jarrah. 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 Bells (*Darwinia* spp.), nine species of which are restricted to the Range while some are entirely confined to a single peak. *Isopogon latifolius* 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 *Banksia* and of *Hypocalymma* 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 26,000 acres, constitute portion of the western boundary of Shark Bay. They are some 16 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 aeolianite with some loose 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 Ereman 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 Eremean flora is represented by the Poverty Bushes, Wattles, *Solanum*, and species of the Pea-Flowered and the Hibiscus families. 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, *Jasminum*, and the Euphorbiaceae. Several species in the island floras 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 yardsticks to measure the effects of sheep-grazing on the neighbouring Dirk Hartogs Island and as natural laboratories in which to study and understand the processes of ecological interaction within our native plant and animal communities.

The Pingelly Reserve is situated to the east of Pingelly 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 animals 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 Poison 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 Wattle association occurring along the bottoms of the valleys and along the watercourses. Sheoak forms 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 trilobium*) forms a constant understorey. York Gum dominates the flora in certain places, while in the lateritic soils on the tops of the scarps there has developed a mixed association dominated by *Dryandra* 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 Christmas Tree, another by the Narrow-leaved Banksia, a third by a deep yellow sand development, and another 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 recognize 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 wide in their requirements for them to occur as "foreigners" 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 tolerably 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 Fruit Bats (*Pteropus*), various marsupials such as the Flying Possum (*Petaurus breviceps*), the Little Rock Wallaby (*Peradorcas concinna*), the Jungle or River Wallaby (*Protemnodon agilis*), and among the birds the Scrub-Fowl (*Megapodius freycinet*), the Fruit Pigeons (*Ptilinopinae*), Lorikeets (*Trichoglossus* and *Psittenteles*), White Cockatoo (*Kakatoe galerita*) 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 Brolga (normally only to Onslow), 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 mulga, the so-called "mulga-eucalypt line," is the extreme limit of most Bassian species, though many do not range inland beyond a line connecting Geraldton, Moora, Northam and the Stirling Range. The mulga-eucalypt line separates, to quote an example, the main distributions of the Grey Kangaroo (Bassian) and the Red Kangaroo (Eyrean). This line is 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-creeper, 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 Brush Bronzewing, White-tailed Black Cockatoo, Western Rosella, Scarlet Robin, Yellow Robin, Southern Emu-Wren, Silvereye, White-naped Honeyeater, Western Spinebill, New Holland Honeyeater and Red-eared Firetail. Among mammals there are the Pigmy Possum, the Wambenger, the Grey Kangaroo, the Tammar Wallaby, the Brush Possum and various dunnarts (marsupial mice, *Sminthopsis*). Among frogs there are various *Crinia* and *Heleioporus inornatus* and *australiacus*; and fishes such as *Galaxias* and *Nannoperca*. However, there has been an extensive intermingling of Eyrean and Bassian elements in the South-West on a scale not paralleled in south-eastern Australia. In the South-West we have a blend of faunas in the sclerophyll forests which, though essentially Bassian in character, contain such Eyrean intrusives as the Purple-crowned Lorikeet, the Twentyeight Parrot, the Rufous Tree-creeper, the Western Warbler, the Banded Blue Wren and the Red-tipped Diamond-bird.

It 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

been very drastic climatic 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 persist in south-eastern Australia. These included the Koala, the Tasmanian Wolf (*Thylacinus*) and the Tasmanian Devil (*Sarcophilus*). In the extremely arid times, creatures which are now living only in the desert country of the northern interior ranged as close to Perth as Jur en Bay. Among these were the Crest-tailed Marsupial Mice (*Dasyercus*) and the desert dunnarts (*Sminthopsis hirtipes*). The Ghost Bat (*Macroderma gigas*) once ranged as far south as the Margaret River; it is now known no nearer than Wiluna, the Warburton Range country, and the Barlee Range.

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

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

Coastal Marine Fauna ⁽¹⁾

The long Western Australian coastline (4,350 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 63°F. As is to be expected, the marine fauna is very different at the extremes. Two principal elements in this fauna have been recognized; a northern tropical and a southern temperate fauna. The northern fauna is found right around northern Australia and many of the animals have a much wider distribution through the tropical Indian and west Pacific Oceans. For example the Serpent's Head Cowrie (*Ravitronea caputserpentis*) and the sea urchin *Echinometra mathaei* are found from the east coast of Africa through the Pacific islands; both are abundant as far south as Rottneest Island. The southern fauna extends along the southern coastlines 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 west coast, according to the specialities of particular authors. However, there is in fact a broad area of overlap between North West Cape and Cape Leeuwin. Some southern species, such as the periwinkle *Melaraphe unifasciata*, are common as far north as Shark Bay and even to North West Cape. On the other hand some northern species are common on the rocky shores between Cape Naturaliste and Cape Leeuwin, for example the cowrie mentioned above, and may even extend east to Albany or Hopetoun. There are extensive colonies of the coral *Turbinaria* in Geographe Bay and smaller colonies of *Pocillopora* on Rottneest Island. *Turbinaria* occurs also in 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 less well-known animals such as the sea squirts there are many species which have not been found outside this region. Two examples are the Slate Pencil Urchin (*Phyllacanthus magnificus*) and the cone shell *Dyrapsis dorreensis*.

The islands of this part of the coast are of particular interest. At the Arolhos Islands there are extensive coral reefs and other northern marine animals are much more numerous than on the adjacent mainland coast. At Rottneest also there are a dozen or more reef-building corals, although most species occur only as scattered colonies so far south, and again there are more northern species than along the adjacent mainland.

(¹) Written in collaboration with Dr. E. P. Hodgkin and Mrs. L. Marsh.

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. preissi*) 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 outnumbered 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 Tamar 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 Tamar to the Flinders Island Wallaby and the now extinct St. Peter Island Wallaby of South

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

Australia. The most familiar kangaroo of the dry country with unreliable rainfall occupied by the Eyrean fauna is the Red Kangaroo or Marloo (*Megaleia rufa*), while in the Torresian fauna which occurs in the summer-rainfall country of the Kimberley Division we find such species as the Jungle or River Wallaby (*Protemnodon agilis*), the Little Rock Wallaby (*Peradorcas concinna*) and the Organ-grinder Wallaby or Karrabul (*Onychogale unguifer*). In addition to the species which sort out in this convenient way, there are others which are widely distributed and in fact occur as members of all three faunal assemblages. The most familiar members of the family which do this are the Euro or Biggada (*Macropus robustus*), the Boodie (*Bettongia lesueuri*), and the Rock Wallaby (*Petrogale lateralis*). Of these, the Euro may still be found anywhere in suitable local habitats from the Kimberley to the South-West and inland to the South Australian border. At one time this was true also of the Boodie and the Rock Wallaby which, however, are today unfortunately absent from much of their former range.

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

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

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

In Western Australia the kangaroos and wallabies are all terrestrial (there are no tree kangaroos), and even their arboreal relatives, the phalangerids, are few in number as compared with other parts of Australia. The Brush Possums, the Pigmy Possums and the Ring-tails have Western Australian representatives, but the Koalas and the striped Possums are absent, and of the four species of flying possums of eastern Australia only one (*Petaurus breviceps*) occurs in Western Australia and that only in the Kimberley Division. Although the species of possums in Western Australia are few in number, there are some unique forms which are of great interest. One of these is the rare Scaly-tailed Possum (*Wyulda*) of the Kimberley; unlike other Australian possums this animal has a hairless scaly tail and only three specimens of it are known. There is also the curious and rarely-seen Honey Possum (*Tarsipes*) of the South-West. Wombats are known to have occurred in Western Australia around the turn of the century 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 (*Dasyurus geoffroyi*) and a northern one (*Dasyurus hallucatus*) as well as many species of smaller carnivorous and insectivorous forms. One of the smaller members of this family, the Dibbler (*Antechinus apicalis*), which is probably the rarest of them all, is commonly found as a fossil in the caves 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-footed Bandicoot (*Chaeropus ecaudatus*) is probably the State's rarest mammal. Two specimens of it were collected by John Gilbert in 1841 some miles to the north-east of Northam. The species has not been seen in Western Australia since. On the other hand another species of bandicoot, the Quenda, or Short-nosed Bandicoot (*Isaodon obesulus*), is one of the commonest of marsupials. Its scratchings are common in country gardens and the little animal is often run over and found dead on roads. It lives largely on insects, and being nocturnal it is seldom seen but it is nevertheless very common in many areas in the South-West.

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

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

Kinds of Wild Mammals	Number of Species occurring in Western Australia (a)	Kinds of Wild Mammals	Number of Species occurring in Western Australia (a)
Monotremes	1	Introduced Placentals—	
Marsupials	56	Rodents	5
Native Placentals—		Land Carnivores	2
Bats	22	Ungulates (Horses, Deer, Camels, etc.)	9
Rodents	21	Rabbits	1
Marine Mammals :			17
Seals (b)	2		—
Dugong	1		—
Whales	22		143
Land Carnivores—Dingo....	1	TOTAL, ALL SPECIES	—
	69		

(a) Total numbers of species are from a forthcoming Classification of Western Australian Mammals by W. D. L. Ride—in preparation. (b) Only resident seals are counted. Antarctic seals are occasionally "shipwrecked" on southern coasts but these are clearly stragglers into the area.

Within Western Australia the best-established groups of native placental mammals, *i.e.* the bats and rodents, are distributed in much the same ecological manner as are the marsupials; some are Eyrean forms like *Leggadina hermannsburgensis*, the small mouse which builds mounds of pebbles on stony ridges⁽³⁾, others are Torresian like the majority of the Fruit-bats or Flying Foxes (*Pteropus* and *Macroglossus*), while yet others are typical Bassian species and are confined to the country of reliable winter rainfall in the South-West, *e.g.* the Southern bush-rat (*Rattus fuscipes*). These native placental mammals are of great zoological interest because some of them, and in particular the native rats and mice, have been here for many millions of years and closely parallel (in adaptation to our stringent ecological conditions) their relatives in similar places in other lands. Thus, we have tiny hopping-mice (*Notomys*), like miniature kangaroos, which are very similar in appearance and habits to the jumping-mice (Zapodidae) of the American and Eurasian dry-lands, and the jerboas (Dipodidae) of Africa; but it must be emphasized that the jumping 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 novaeangliae*) which move along the western coast between their feeding grounds in Antarctic waters and their breeding places in the tropics. Unfortunately, immoderate exploitation of the stocks (principally in Antarctic waters) 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 (*Arctocephalus doriferus*), formerly lucrative, is now no longer permitted. The Dugong (*Dugong dugon*) was once an important source of food for the natives of the coastline from Shark Bay to the Northern Territory. The Dingo (*Canis familiaris dingo*) has probably not been in Australia for as long as the other native mammals, and may well have entered with the first of the Australoid people who were ancestral to our present Aborigines. In some parts of the State the Dingo is a major problem to the pastoral industry because of its attacks on livestock.

The preceding table also shows that there is a large number of introduced species as well as native mammals. These are now a part of the wild mammal fauna of Western Australia and all are placentals.

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

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

Examination of the composition of the older mammal fauna of Western Australia, *i.e.* monotremes, marsupials, bats and native rodents, as set out in the 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 which extend out of Western Australia into the adjacent Northern Territory and South Australia. Examples of these are a small carnivorous marsupial *Antechinus rosamondae* from the Pilbara and a native mouse *Pseudomys rawlinnae* from Rawlinna on the Trans-Australian Railway. The South-West contains by far the greatest number of endemic species. Some of these, *e.g.*, native rats like *Pseudomys shortridgei*, *P. occidentalis*, *Gyomys occidentalis* and the Ringtail Possum *Pseudocheirus occidentalis*, may later prove to be local subspecies of South Australian forms, but others like the Honey Possum (*Tarsipes spenseae*) and the Quokka (*Setonix brachyurus*) belong to distinctive genera which are not found elsewhere and are true Western Australians.

ENDEMISM OF NATIVE MAMMALS

(excluding marine mammals)

Group	All Endemic and Non- endemic Species	Number of Endemic Species—			
		Total Endemics	Endemics north of Fitzroy River	Endemics of South-West Land Division	Endemics of remainder of State
Monotremes	1	....	....	....	....
Native Cats	20	4	1	2	1
Marsupial Moles	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	....	....	....	....
Totals	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, *Purpureicephalus spurius*), have a close and obvious affinity to other Australian forms. The quantitative relationship of the Western Australian bird fauna to that of Australia as a whole is indicated in the following table, which has been prepared on an ecological basis.

	Number of Breeding Species (a)		Number of Non-breeding Visiting Migratory Species (a)	
	Western		Western	
	Australia	Australia	Australia	Australia
Land birds	279	427	7	8
Inland water birds	66	69	28	34
Sea birds	26	39	32	47
	—	—	—	—
Total	371	535	67	89
	—	—	—	—

(a) Numbers of species are based on a large-species concept and geographical representatives of a species group are not separately enumerated. Thus the numbers given are rather less than would be the case if all morphological species were admitted.

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

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

The Emu (*Dromaius novae-hollandiae*) is still numerous all over the State and is occasionally encountered in the Darling Range near Perth. Australia's only breeding species of penguin, the Fairy Penguin (*Eudyptula minor*) nests on islands off the southern and south-western coasts as far north as Carnac near Fremantle. The Mallee-fowl or Gnaw (*Leipoa ocellata*) is still plentiful and, after a period of decline during which its disappearance was feared, it is now increasing in abundance. All of the widespread species of Australian quails occur but owing probably to the scarcity of natural grasses in the south are not individually very numerous. Among the pigeons two species have shown notable recoveries in population strength. After a long period of scarcity the Common Bronzewing (*Phaps chalcoptera*) began a cycle of increase about 1936 and is still very abundant. The rare Flock Pigeon (*Histriophaps histrionica*) of the more arid country of the North-West and the far North has declined all over Australia and had not been recorded in this State since 1927 until 1958 when considerable flocks were observed in the Hamersley Range and the Fortescue River country. It has also reappeared in parts of the Kimberley Division.

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

In the petrel group there are five breeding species in local waters. The most numerous is one of the mutton-birds, the Wedge-tailed Shearwater (*Puffinus pacificus*) which nests on most islands between Carnac in the south and Sable Island, in the Dampier Archipelago, in the north. A second mutton-bird, the Fleshy-footed Shearwater (*P. carneipes*) nests between Cape Leeuwin and the Archipelago of the Recherche; it is a migratory species and in the winter months migrates to the north-western sector of the Indian Ocean. A similar trans-equatorial migrant is the White-faced Storm-petrel (*Pelagodroma marina*), a diminutive form rarely observed at sea. It nests often in vast aggregations on islands off the south coast and as far north as the Abrolhos. All of these species nest in the spring and summer months. The remaining two breed in the winter. The Great-winged Petrel (*Pterodroma macroptera*) shares the

nesting islands off the south coast with the Fleishy-footed Shearwater in a sort of "Box and Cox" relationship. The black and white Little Shearwater (*Puffinus assimilis*) has a wider nesting range, from the Recherche to as far north as the Abrolhos; in former times it nested at Parrakeet Island off Rotttnest Island. In the winter months some 22 species of southern-breeding petrels visit local seas. They vary in size from the little Wilson Storm-petrel (*Oceanites oceanicus*), barely larger than a swallow, to the great Wandering Albatross (*Diomedea exulans*). The Wilson Storm-petrel "winters" all along the Western Australian coast to the tropics and is a familiar sight around fishing boats in Shark Bay. The most common of the albatrosses is the Yellow-nosed Albatross (*Diomedea chlororhynchos*) and may be seen as far north as Point Cloates. The most familiar of these visitors is the dusky Giant Petrel (*Macronectes giganteus*). Ringing experiments have demonstrated that the birds seen here are first-year individuals making circumpolar flights round the Southern Hemisphere; marked birds found in the South-West had been ringed a few months previously in their nests at Heard Island, Macquarie Island, and islands in the South Orkneys in the South Atlantic.

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

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

The numerous Order of wading or shore-birds (sandpipers, dotterels, and plovers) includes a few locally-breeding species but the majority are migrants from the Northern Hemisphere, where they breed in the tundra zone of northern Asia. Though they frequent ocean beaches and estuaries, as well as swamps and lakes, they are listed in the category of "inland water birds" in the table on page 78. Some 25 species of these birds, commonly called "snipe" (though the true Snipe of eastern Australia, *Gallinago hardwickii*, does not occur in this State) migrate to Western Australia. In addition there are 16 species of this Order which breed in Australia. One of them, the Red-capped Dotterel (*Charadrius alexandrinus*), is virtually identical with the rare Kentish Plover of England. Here it is very common and nests at Pelican Point on the Swan River. Another local breeder is the remarkable Banded Stilt or Rotttnest Snipe (*Cladorhynchus leucocephalus*), which is an attractive inhabitant of the salt lakes of Rotttnest Island. However, it nests only on the inland salt lakes. The nesting habits remained long unknown until colonies were discovered at Lake Grace and Lake King in 1930.

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

The Brolga (*Grus rubicunda*) is a northern bird normally found as far south as Onslow, but some individuals may wander into the outer parts of the South-West as occurred in 1952. In the heron family a new bird has been added to the State list—the Cattle Egret (*Bubulcus ibis*), which appears to have colonized northern 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 indiscriminately all over Australia, 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 (*Purpureicephalus spurius*), is restricted to the South-West and has no near relatives elsewhere. The Twentyeight Parrot is a form of the Port Lincoln Parrot (*Barnardius zonarius*) and is common almost everywhere, being regularly present in King's Park, a natural reserve adjacent to the City of Perth.

The Kookaburra (*Dacelo gigas*), so common in the forests of the South-West, is not a Western Australian native, but was introduced from eastern Australia by the Acclimatisation Board during January, 1897. A similar species, however, the Blue-winged Kookaburra (*D. leachii*) occurs in the north, as far south as the Wooramel River. The Rainbow-bird (*Merops ornatus*) in the south is a strict migrant, arriving regularly in the first week in October. Local birds migrate to the north of the State, the wintering area being from the Gascoyne River northwards, but some individuals cross the Timor Sea to the Indonesian islands. There are eleven cuckoo species in our area, the commonest being the Pallid Cuckoo (*Cuculus pallidus*) whose plaintive insistent note is heard soon after the winter rains set in.

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

In contrast with all other Australian States there are very few species of exotic birds established in Western Australia. (The same is true of the Northern Territory.) In the towns of the South-West two turtledoves are plentiful, the Indian (*Streptopelia chinensis*) and the Senegal (*S. senegalensis*). The Goldfinch (*Carduelis carduelis*), an escapee from aviaries, breeds freely in the Perth metropolitan area and around Albany. Recently another cage-bird escapee, the Red-browed Finch (*Aegintha temporalis*), an eastern Australian species, has established itself east of Kalamunda in the Darling Range near Perth. The Indian or Ceylon Crow (*Corvus splendens*) repeatedly arrives at Fremantle on ships from the Orient but the vigilance of officers of the Department of Agriculture and port officials has led to the successful

eradication of the unwanted immigrants. The House Sparrow (*Passer domesticus*) has been similarly kept at bay at Fremantle. This species did, however, make a temporary colonization, from South Australia, in the vicinity of Eucla and Mundrabilla in 1917-18 but it failed to make any headway and disappeared from that sector.

Reptiles

In Western Australia the reptiles are represented by three major zoological groups or Orders. These are the Chelonia (four marine species of turtles and six of freshwater tortoises), Crocodilia (two of crocodiles) and the Squamata (62 species of snakes and 159 of lizards).

The freshwater tortoises of Western Australia, like those of the rest of the continent, belong to the ancient group of side-necked tortoises. In most other parts of the world tortoises retract their heads straight backwards bending their necks in a vertical S-shaped curve. Australian tortoises, and certain others from South America, bend their necks sideways; this is believed to be an ancient character. Although the species of Western Australian tortoises are few, they are of great interest and their distributions are far from well understood. This is especially true of the species inhabiting the Kimberley. Freshwater tortoises do not seem to fall into simple faunal zone classifications. The common species of the South-West, *Chelodina 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 in 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 (*Chelodina steindachneri*), while a highly specialized short-necked tortoise (*Pseudemydura umbrina*) is apparently confined to a few square miles of winter swamps between Upper Swan and Bullsbrook to the north of Perth. Because of its vulnerability to extinction this last species is rigidly protected.

Marine chelonians also occur in large numbers around the coasts. The Green Turtle (*Chelonia mydas*), the species which is used for soup making, comes ashore to lay its eggs on the northern beaches. Attempts are made from time to time to exploit this species commercially, 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 obvious individuals they are probably surpassed among the vertebrates only by the birds. In the South-West, Bobtails (*Trachysaurus rugosus*) can often be seen crossing the roads at most times of the year, while the walker among coastal sand dunes on warm days cannot avoid noticing innumerable small dragon-lizards which move away from in front of him. In the southern part of the State the largest lizard which is at all common is the Goanna (*Varanus gouldi*). These are frequently between three and four feet in length. In northern areas the Bungarra (*Varanus giganteus*) exceeds it in size. A few species are confined to the South-West and of these the most interesting are Mueller's Snake (*Rhinohoplocephalus bicolor*), the Little Brown Snake (*Elapognathus minor*), the Black Striped Snake (*Vermicella calonota*) and the Slender Snake Lizard (*Pletholax gracilis*) which is also one of our rarest species of lizard. An Eyrean species which never ceases to surprise the visitor is the terrible-looking Mountain Devil (*Moloch horridus*). This lizard is actually one of the most gentle and harmless of animals and lives exclusively on ants.

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

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

Because of the great distance of the Kimberley Division from centres of scientific research, insufficient is known of its snakes and lizards. As in the case of some of the smaller mammals, some endemic species of lizards have been described, but until much more scientific collecting and research has been done it will not be possible to evaluate such apparently-unique species. Some Kimberley species of

lizard, e.g. the Frilled Lizard (*Chlamydosaurus kingi*), through being commonly illustrated in journals because of their bizarre appearance, have become familiar to the public.

Amphibia⁽⁴⁾

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

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

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

Freshwater Fishes

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

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

Marine Fishes⁽⁵⁾

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

(4) Written in collaboration with Dr. A. R. Main.

(5) Contributed by Dr. G. F. Mees.

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 Houtman Abrolhos.

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

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

Of the major groups, the Elasmobranchii (sharks and rays) are richly represented, with nearly eighty species, of which the most familiar are the Port Jackson Shark (*Heterodontus portusjacksoni*), the Carpet Shark or Wobbegong (*Orectolobus maculatus*) and the shark known locally as the Swan River Whaler (*Carcharhinus*), which can be caught in the Swan River as far upstream as the Causeway. 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 arenarius*) is perhaps the best known. Three fatalities from shark attack have been recorded for Western Australia (in 1803, 1923 and 1925) and a few people are known to have been maimed. It may be said, however, that in Western Australia the danger of shark attack is low.

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

There are about ten species of true herring (Clupeidae), one of which, the Pilchard (*Sardinops neopilchardus*) will in future probably become of economic importance. The rather similar-looking *Amblygaster postera* seems to be confined to Western Australia. The State is particularly rich in sea-horses and pipe fishes, there being some 25 species. The most familiar of these is perhaps the leafy sea-horse (*Phyllopteryx foliatus*) which is often found on the beaches after storms. The so-called Sand Shark or Rat Fish (*Gonorhynchus greyi*), a peculiar fish and the sole representative of its family, deserves mention; it is fairly common off sandy coasts of the South-West. Though eels are represented by several families and over twenty species, only three are common in the South-West: the Snake Eel (*Ophisurus serpens*), a slender golden brown eel inhabiting sandy estuaries, which is often taken for a snake and referred to as the water snake; Woodward's Eel (*Gymnothorax woodwardi*), found on rocky shores, yellowish green with a network of grey lines; and the Conger Eel (*Conger wilsoni*), which normally is dark brown in colour.

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

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

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

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

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

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

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

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

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

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

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

An interesting family is that of the angler fishes or toad fishes (Antennariidae). Their curious shape with the leg-like pectoral fins does not fail to raise interest. There are about a dozen species, two of which are endemic to the State. One of these is *Echinophryne glauerti* which is occasionally found washed up on City Beach.

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

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

Further information about the commercial fishes in Western Australian waters is given in the Fisheries section of Chapter VIII, Part 1—*Primary Production*.

THE INVERTEBRATE FAUNA

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

Rather than spread our descriptions too thinly over this enormous field we have restricted ourselves to a brief summary of the position in relation to a few selected groups in which work is being actively carried out.

Several invertebrate species are commercially exploited here, the most important being the marine crayfish (*Panulirus cygnus*) which supports an extensive export fishery. Others commercially important include several species of octopus and squid, the Blue Swimming Crab ("Blue Manna", *Portunus pelagicus*) and several species of prawns. Pearl-shell is fairly extensively fished along the north-west coast.

A summary of the terrestrial and freshwater invertebrate fauna and their ecology is given in Main's *Guide for Naturalists* (1954).

Echinodermata⁽⁶⁾

The echinoderms of Western Australia have been shown by Clark (1946) to be derived from the Indo-Malayan fauna. Most species of northern Australia are widely distributed in the Indian Ocean and Malayan archipelago, while as one passes 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 (Crinoidea), sea stars (Asteroidea), brittle stars (Ophiuroidea), sea urchins (Echinoidea), and sea cucumbers (Holothuroidea) are well represented. Eighty-five species of sea stars and fifty-five species of sea urchins are recorded from Western Australia including the continental shelf. The other groups have smaller numbers of species.

On the rocky and sandy shores of the South-West about twenty species of sea stars are common in shallow water. One of the most abundant is *Coscinasterias calamaria* which is widely distributed in the Southern Hemisphere. Sea urchins are represented by about twelve common species; on rocky shores the most abundant of these is *Helicoidaris 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 (*Temnopleurus michaelsoni*), the biscuit urchin (*Peronella lesueurii*), the heart urchin (*Echinocardium cordatum*) and the sea star (*Stellaster inspinus*). On the south coast, King George Sound has long been known as a rich collecting ground for echinoderms, but the fauna of other bays and inlets is much less well-known.

Little is known of the echinoderm fauna of the northern coasts, and almost all that we do know comes from the publications of H. L. Clark (see bibliography at the end of this Part) who collected extensively in the Broome area and made smaller collections in other places. Near Broome, a wide variety of echinoderms was collected in his dredges and along the shore.

Mollusca⁽⁶⁾

The molluscan fauna of the Western Australian coastline has not been recently catalogued, but from the area within 35 miles of Fremantle 270 species of bivalves (Pelecypoda), and univalves (Gastropoda) are recorded. The smaller groups, chitons (Amphineura), octopus and cuttlefish (Cephalopoda) and tusk shells (Scaphopoda), are also represented.

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

Bivalves occur mainly on sandy and muddy bottoms such as those of Cockburn Sound and King George Sound, and along the north-western coast. They are less plentiful on the unstable sandy shores of the open western coast. The pearl-shell fishery of north-west Australia is based on several species, mainly the Black-lipped Pearl-shell (*Pinctada margaritifera*) and the Silver-lip (*P. maxima*). The Shark Bay Pearl-shell (*P. carchariarium*) is abundant in Shark Bay and has been fished there commercially.

Many species of cowrie shells occur on the rocky shores of the north-west coast while a few species such as *Zoila friendii* and *Austrocypraea reevei* are confined to the south-western corner of the State.

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

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 *Jasus 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 merguensis*). The Western King Prawn of the south is *P. latisulcatus*.

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

Two common species of crab are the Rock Crab (*Leptograpsus variegatus*) and the Ghost Crab (*Ocypode 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. E. W. George.

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

Insects

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

*Contributed by**C. F. H. Jenkins, M.A., Chief, Division of Biological Services, Department of Agriculture*

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

Owing to the limitations of space no attempt has been made to cover all the various insect orders which occur in the State, but the economic importance of various groups and their influence on major agricultural industries have been outlined, and some of the more outstanding forms of general interest have been mentioned. A brief description of some effects of the use of pesticides in the metropolitan area in recent years is also given.

CLASS INSECTA (Insects)

Order Collembola (Springtails)

The Springtails include the Lucerne Flea (*Sminthurus viridis*) which was introduced into this State from eastern Australia in about 1910. It has spread to almost all the clover-growing areas in the South-West and is a very serious pasture pest. Partial control is exercised by a predatory mite, *Biscirus lapidarius*.

Order Odonata (Dragon flies and Damsel flies)

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

In order to survive in the diverse climatic conditions which exist in Western Australia, some members of the dragon fly group have developed the ability to breed 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 Small Plague Grasshopper (*Austroicetes cruciata*). 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 (*Gastrimargus musicus*), the Migratory Locust (*Locusta migratoria*) and the Spur-throated Locust (*Austracris guttulosa*) assume plague proportions, but in the southern agricultural districts they occur in the solitary phase only. The Praying Mantids (*Mantidae*) are represented by many different species. Their well-developed fore-limbs are admirably adapted for catching prey and, like their foliage-feeding relatives the Phasmids or leaf insects (*Phasmatidae*), 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 commonest pest species is the cosmopolitan American Cockroach (*Periplaneta americana*). Some large and quite colourful forms occur in the inland regions with the genus *Polyzosteria* well represented.

Order Isoptera (Termites)

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

Order Anoplura (Lice)

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

Order Thysanoptera (Thrips)

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

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

Order Hemiptera (Bugs, Aphis, Scale Insects)

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

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

Numerous introduced species occur as pests on vegetables, garden plants and fruit trees, e.g., *Myzus persicae* (peaches, potatoes, etc.), *Toxoptera aurantii* (citrus), *Brevicoryne brassicae* (cabbages, cauliflowers, etc.), *Eriosoma lanigerum* (Woolly Aphis of apples). A recent record which may prove of some importance is *Aphis craccivora*. This insect carries a virus disease of subterranean clover known as "stunt."

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

San Jose Scale (*Quadraspidiotus perniciosus*), which is a serious pest of apples.

Citrus Red Scale (*Aonidiella aurantii*), found mainly on citrus but with a wide host range.

Olive Scale (*Saissetia oleae*), found attacking citrus, stone fruits and garden shrubs.

White Wax Scale (*Ceroplastes destructor*), which is mainly a pest of citrus but which attacks many cultivated shrubs.

Soft Brown Scale (*Coccus hesperidum*), which has a wide host range but is of greatest importance on citrus.

The Couch Mealy Bug (*Antonina graminis*), a widespread and troublesome pest causing damage to lawns particularly in the warmer parts of the State.

Order Coleoptera (Beetles)

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

The Tiger Beetles (Cicindelidae) are of interest not only because of the metallic colouration seen in many forms but because of their association with the inland salt-lakes. The larvae are subterranean and may be collected by digging on the lake margins.

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

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

The Cockchafers or Scarabs (Scarabaeidae) are represented by a great diversity of forms. Several species may swarm on to flowering fruit trees and roses in the early summer and are popularly known as Spring Beetles. The bronze-coloured *Colymbomorpha lineata* is a common pest of apple trees during the blooming period and the Saddle-backed Beetle (*Phyllotocus ustulatus*) sometimes visits citrus blossoms in large numbers. An introduced species commonly known as the Black Beetle (*Heteronychus sanctae-helenae*) 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 vegetables in some areas. A native species *Colpochilodes* sp. has caused damage to cereal crops and clover pastures and is apparently increasing in certain clover districts in the southern portions of the State.

The Longicorn Beetles (Cerambycidae) are a group of wood-boring insects represented by a number of different species. They are often blamed for the death of forest eucalypts, although investigations have shown that heavy beetle infestations are usually secondary and that healthy trees are seldom seriously affected by the beetles. The larval stage of this group is the so-called "bardee", one time prized by the aborigines as food. They are not a pest of structural timber as they do not attack seasoned material.

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

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

The Weevils (Curculionidae) are a very specialized group characterized by the presence of a rostrum or "snout" which bears the mouth and antennae. The genus *Leptopius* contains a number of large greyish weevils, many of which breed in association with Acacias. One of the best known members of the family is *Catasarcus rufipes* which feeds on eucalypt foliage and may disfigure young street trees. The almost world-wide Rice Weevil (*Sitophilus oryzae*) is our principal pest of stored grain, but the Granary Weevil (*S. granaria*) also occurs. Two common orchard pests are the introduced Apple Weevil (*Otiorynchus cribricollis*) and Fuller's Rose Weevil (*Pantomorus cervinus*).

Order Neuroptera (Lacewings)

This order contains a number of useful insects, for many of the Neuropterous larvae feed upon scale insects and other pests. The family Myrmeleontidae has a number of large, rather Dragonfly-like species, the larval stages of which build conical sand pits and are commonly known as Ant Lions. Amongst the most remarkable of the local Lacewings are two members of the family Nemopteridae in which the hind wings are greatly modified. In the genus *Croce* they are long and thread-like and in the Spoon-winged Lacewing (*Chasmoptera hutti*) 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 Dengue fever in the northern portion of the State. The Anophelines are represented by the widely distributed *Anopheles annulipes* and several much rarer forms. *A. annulipes*, together with *Aedes alboannulatus*, have played an important part in the spread of the rabbit virus *Myxomatosis*.

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

The common House Fly (*Musca domestica*) is widespread as is also the native Bush Fly (*Musca vetustissima*). 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 gave outstanding control of various fly pests for several years. The widespread development of resistance in both housefly and blowfly populations has greatly complicated the matter, however, and drawn attention to the importance of preventive measures, such as sanitation in the case of houseflies, and the Mules operation and crutching in the case of the sheep blowfly.

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

Of the many useful flies may be mentioned the Blowfly-like Tachinids which parasitize caterpillars, grasshoppers and other pests and the Bee Flies (*Bombyliidae*) which parasitize the eggs of other insects. The maggots of the Bombylid Fly (*Cyrtomorpha flaviscutellaris*) are commonly found in the egg pods of the Small Plague Grasshopper (*Austroicetes cruciata*).

Order Siphonaptera (Fleas)

A number of introduced as well as native fleas occur in this State. *Echidnophaga myrmecobii*, found originally on native mammals, is a very common parasite of rabbits in the drier parts of the State. The Fowl Stickfast Flea (*E. gallinacea*) 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 Fleas (*Ctenocephalides felis* and *C. canis*) are among the most important introduced species.

Order Lepidoptera (Moths, Butterflies, etc.)

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

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

A family of considerable interest to the orchardist is the 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 this major apple pest from becoming permanently established and have given Western Australia the distinction of being the only large apple-producing country where the moth is not a major problem.

One of the best represented families is the Noctuidae (Cutworms) which contains several important pests. Included under this heading are the Climbing Cutworm (*Heliothis punctigera*), the Tobacco Cluster Grub (*Prodenia litura*), the Rough Bollworm (*Earias huegeli*), the Common Cutworm (*Agrotis munda*) and the Army Worm (*Persectania ewingii*). The first three species are serious pests in the cotton areas of the north. One of the most remarkable members of the group is the Whistling Moth (*Hecatesia fenestrata*). The male of this species is active just at sunset and makes a loud clicking noise during its fast circling flight. The Fruit Sucking Moth (*Othreis materna*) also belongs to this group and causes heavy losses in citrus fruit grown around pastoral homesteads in the Kimberley and the North-West. In almost all cases where moths and butterflies are regarded as pests it is only the caterpillar stage which is destructive. The Fruit Sucking Moth, however, has a rasp-like proboscis capable of piercing orange and citrus skins and then sucking up the juice. Fortunately the creatures do not normally range to the citrus areas of the South-West.

Other common moth pests are the Cabbage Moth (*Plutella maculipennis*), the Potato Moth (*Phthorimaea operculella*) and the Apple Looper (*Chloroclystis laticostata*).

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

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

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

The Skippers (Hesperiidae) are relatively drab-coloured butterflies with strong powers of flight. Over 20 species are recorded from the State and some forms are endemic to the South-West.

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

Order Hymenoptera (Bees, Wasps, Ants)

The Wood Wasps and Sirex Wasps (Siricidae) include several pests which have been established in New Zealand and Tasmanian pine forests. Imported timber (including four million super. feet of pre-fabricated housing material) has been fumigated from time to time following the location of infested material.

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

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

Two important introduced ant pests are the Argentine Ant (*Iridomyrmex humilis*) and the Singapore Ant (*Monomorium destructor*). The Argentine Ant was once widespread in the metropolitan area, Albany and Bunbury, with several other country outbreaks. The insect has been reduced in recent years, however, as a result of a large-scale control campaign. A five-year control scheme against the Ant, with provision for an annual expenditure of \$210,000 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 survivals or later introductions, a "continuance scheme" financed from Consolidated Revenue was approved. Approximately 6,000 acres consisting of survivals and new infestations in metropolitan and country areas have been treated under this programme.

The Social Wasps (Vespidæ) were once known only from the northern portion of the State. About 15 years ago, however, colonies of *Polistes variabilis* were located in various parts of the Perth suburban area and they have now extended to some of the orcharding districts in the Darling Range. How the introduction occurred is not known.

The Burrowing Wasps, including the Sand Wasps (Psammocharidæ), the Flower Wasps (Thynnidæ), the Hairy Flower Wasps (Scoliidæ) and Solitary Ants (Mutillidæ) 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 Colletidæ, often choose a common site for nest burrowing and hundreds of tunnels may be located close to one another.

The Leaf-cutting Bees (Megachilidæ) 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 (Tetranychidæ) which include such cosmopolitan species as the Red Spider (*Tetranychus telarius*) 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 and 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 was quite intense during much of the main ant-spraying period, no evidence has been produced to actually 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 foxes, rats and snakes were also noted. Frogs suffered heavily, in both swamps and home gardens. The Burrowing Frog or Whoop Frog (*Helioporus eyrei*), once common in metropolitan gardens, diminished greatly in numbers, probably due to Argentine Ant 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, in some cases, the immediate results were quite spectacular there was nothing to suggest that such upsets would be permanent. In fact, conditions in most areas have apparently returned to normal, perhaps with the exception of the frog population, although the Whoop Frog can now be heard in most of its former haunts.

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 30,000 species of insects indigenous to this State. Many additions have been made in the last sixty years and one is faced with the problem of deciding which creatures warrant special mention and which must be excluded for lack of space. The general reader interested in consulting other short reviews of the local insect fauna is referred to A. M. Lea's article in the 1898-99 Year Book under the title of "The Insects of Western Australia"; in the Year Book for 1900-01 the late H. M. Giles wrote "A Glimpse of Western Australian Entomology."

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

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

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

Books covering the general aspects of Australian Entomology include:—

BARRETT, C. and BURNS, A. N. (1951)—*Butterflies of Australia and New Guinea*. N. H. Seward Pty. Ltd., Melbourne. 187 pp.

- COMMON, I. F. B. (1963)—*Australian Moths*. Jacaranda Press, Brisbane, 128 pp.
- COMMON, I. F. B. (1964)—*Australian Butterflies*. Jacaranda Press, Brisbane. 131 pp.
- McKEOWN, K. C. (1945)—*Australian Insects*. An Introductory Handbook. Published by R.Z.S. of N.S.W., Sydney. 303 pp.
- MAIN, Barbara York (1964)—*Spiders of Australia*. Jacaranda Press, Brisbane. 124 pp.
- RIEK, Edgar (1963)—*Insects of Australia*. Jacaranda Press, Brisbane. 128 pp.
- TILLYARD, R. J. (1926)—*The Insects of Australia and New Zealand*. Angus and Robertson Ltd., Sydney. 560 pp.
- WATERHOUSE, G. A. (1932)—*What Butterfly is That*. A Guide to the Butterflies of Australia. Angus and Robertson Ltd., Sydney. 291 pp.
- WATSON, J. A. L. (1962)—*The Dragonflies (Odonata) of South-Western Australia*. Western Australian Naturalists' Club, Perth. 72 pp.



YELLOW KANGAROO PAW

Anigosanthos pulcherrima Hook.

This species occurs in the sandy soils of the western coastal districts and is found principally between Dandaragan and Three Springs. It attains a height of three to four feet and the branching flower stalks carry a dozen or more heads of flowers, each individual blossom being green in colour and hairless on the inside, but covered outside by a dense matt of yellow hairs. The plant occurs in two colour forms; in one the stems are pale green and in the other, they assume a distinct red tinge.



SCARLET FEATHER FLOWER

Verticordia grandis Drumm.

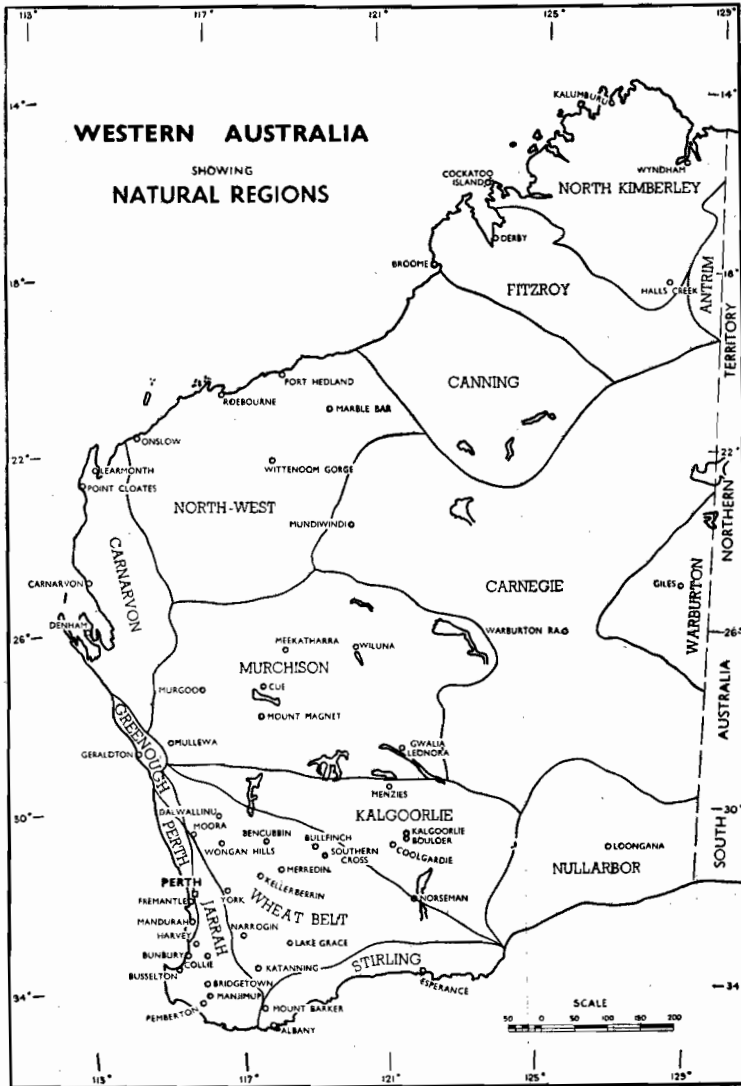
Flowering for the greater part of the year this plant is found in the sand-plains of the agricultural areas between Moora and Mingenew. The blooms are among the largest and most attractive of all the feather flowers and the plant is rapidly becoming popular in cultivation. It reaches a height of six to seven feet but is of a straggling, widely-branched habit of growth. It belongs to the Myrtle family and is closely related to Geraldton Wax and the Mountain Bells of the Stirling Range.

PART 6 — NATURAL REGIONS

Contributed by

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The physical features, geology, climate, flora and fauna of Western Australia have been outlined earlier in this Chapter and the subdivision of the State into "natural regions" may now be considered. A Natural Region is one clearly marked off from neighbouring regions by topographical, geological, climatic, or biological conditions, or by combinations of these, so that, as far as Man's activities are concerned, they have different economic possibilities. The subdivision of Western Australia into Natural Regions (see map below) has been described by E. de C. Clarke (*Jour. Roy. Soc. West. Aust., vol. XII, pp. 117-132*) and a summary of the characteristics of these different Natural Regions (reprinted by courtesy of the University of Western Australia Press from Clarke, Prider, and Teichert: *Elements of Geology for Western Australian Students*) is given in the accompanying table.



NATURAL REGIONS OF WESTERN AUSTRALIA
 (after E. de C. Clarke, *Jour. Roy. Soc. of West. Aust., vol. XXII*)

CHARACTERISTICS OF THE NATURAL REGIONS OF WESTERN AUSTRALIA

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

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

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

CHAPTER III—CONSTITUTION AND GOVERNMENT

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

OUTLINE OF CONSTITUTIONAL DEVELOPMENT

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

Following the passage by the Legislative Council of a Constitution Act in 1889 and subsequent representations made in London by delegates sent from the Colony, responsible government was granted to Western Australia by an Imperial Act assented to on the 15th 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 21st October, 1890 and election of the thirty members of the Legislative Assembly took place in November and December. The fifteen members of the Legislative Council were nominated by the Governor, as provided in the Constitution Act, and the Parliament was officially opened on the 30th December, 1890. The Constitution Act of 1889, while prescribing a Council which was originally nominative, contained a provision that, after the expiration of six years or on the population of the Colony reaching 60,000, the Council should become fully elective. The required population was attained in 1893 and an amendment to the Act in that year enabled the election of 21 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 30 and of the Legislative Assembly to 50 and these numbers were still current at the 31st December, 1965. Provision has been made, however, for the Legislative Assembly to be increased to 51 members by the Constitution Acts Amendment Act (No. 2), which came into operation by proclamation on the 12th November, 1965. The increase in numbers will not become effective until the next State election in 1968.

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 a provision of the Constitution Act the constituent parts of the Commonwealth previously designated "Colonies" became known as "States." Under the Constitution, powers are divided between the Parliaments of the Commonwealth and of the States by conferring power in respect of specific subjects on the Commonwealth either exclusively or jointly with the States, leaving the remaining powers to the States.

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

of the Cabinet are given legal form, appointments are made, resignations accepted, proclamations issued and regulations approved.

VICE-REGAL REPRESENTATION

The Governor-General of Australia

Under the Commonwealth Constitution, ultimate executive power is vested in the Crown and is exercised by the Governor-General as the direct representative of the Sovereign. Appointment to the office is made by the Crown after consultation with the Prime Minister of the Commonwealth. The present Governor-General is His Excellency the Right Honourable Baron Casey, P.C., G.C.M.G., C.H., D.S.O., M.C., K.St.J., who was sworn in on the 22nd September, 1965. During the absence from Australia of the Governor-General it is usual for the senior among the State Governors to be appointed Administrator.

The Governor of Western Australia

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

The last Governor of Western Australia as a Colony was Lieutenant-Colonel Sir Gerard Smith, K.C.M.G., whose term of office expired on the 29th June, 1900 and the first Governor of the State was Captain Sir Arthur Lawley, K.C.M.G., who was sworn in on the 1st May, 1901. 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, 1952 and, from that date until his death on the 25th August, 1966, performed the functions of Administrator of the State during absences of the Governor.

GOVERNORS, LIEUTENANT-GOVERNORS AND ADMINISTRATORS FROM 1901 (a)

Name and Office	Date of Assumption of Office
Captain Sir Arthur Lawley, K.C.M.G., Governor	1901—1st May
Sir Edward Stone, Administrator	1902—14th August
Admiral Sir Frederick Bedford, G.C.B., Governor	1903—24th March
Sir Edward Stone, Administrator	1909—23rd April
Sir Gerald Strickland, K.C.M.G., Governor	1909—31st May
Sir Edward Stone, Administrator	1913—4th March
Major-General Sir Harry Barron, K.C.M.G., C.V.O., Governor	1913—17th March
Sir Edward Stone, K.C.M.G., Administrator	1917—27th February
Rt. Hon. Sir William Ellison-Macartney, P.C., K.C.M.G., Governor	1917—9th April
Sir Francis Newdigate-Newdegate, K.C.M.G., Governor	1920—9th April
Sir Robert McMillan, Administrator	1924—17th June
Colonel Sir William Campion, K.C.M.G., D.S.O., Governor	1924—28th October
Sir Robert McMillan, K.C.M.G., Lieutenant-Governor and Administrator	1929—7th January
Colonel Sir William Campion, K.C.M.G., D.S.O., Governor	1929—7th May
Sir John Northmore, K.C.M.G., Administrator	1931—9th June
Sir John Northmore, K.C.M.G., Lieutenant-Governor and Administrator	1932—30th June
Hon. Sir James Mitchell, K.C.M.G., Lieutenant-Governor	1933—11th July
Hon. Sir James Mitchell, G.C.M.G., Governor	1948—5th October
Hon. Sir John Dwyer, K.C.M.G., Administrator	1951—1st July
Hon. Albert Asher Wolf, Administrator	1951—7th August
Hon. Sir John Dwyer, K.C.M.G., Administrator	1951—28th August
Lieutenant-General Sir Charles Gairdner, K.C.M.G., K.C.V.O., K.B.E., C.B., Governor	1951—6th November
Hon. Sir John Dwyer, K.C.M.G., Lieutenant-Governor and Administrator	1963—27th June
Major-General Sir Douglas Kendrew, K.C.M.G., C.B., C.B.E., D.S.O., Governor	1963—25th October

(a) The names of the successive holders of these offices from the foundation of the Colony are shown on page 65 of the *Official Year Book of Western Australia, No. 1—1957 (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 1948-1965.

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

The Western Australian membership of the Senate at the 31st December, 1966, is shown in the following table.

WESTERN AUSTRALIAN MEMBERS OF THE SENATE

Due to Retire on 30th June, 1968		Due to Retire on 30th June, 1971	
Name	Political Party	Name	Political Party
Prowse, E. W.	C.P.	Branson, G. H.	Lib.
Sim, J. P.	Lib.	Cant, H. G. J.	A.L.P.
Tangney, Dorothy M.	A.L.P.	Drake-Brockman, T. C., D.F.C.	C.P.
Wilkinson, L. D.	A.L.P.	Scott, M. F.	Lib.
Willesee, D. R.	A.L.P.	Wheeldon, J. M.	A.L.P.

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

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, excluding the two members for the Territories.

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

Elections for the House of Representatives were held on the 26th November, 1966. All Western Australian electorates were contested, but the sitting member was returned in each case. The following table shows the Western Australian membership of the House at the 31st December, 1966.

WESTERN AUSTRALIAN MEMBERS OF THE HOUSE OF REPRESENTATIVES

Electorate	At 31st December, 1966	
	Name	Political Party
Canning	Hallett, J. M.	C.P.
Curtin	Hasluck, Rt. Hon. P. M. C.	Lib.
Forrest	Freeth, Hon. Gordon	Lib.
Fremantle	Beazley, K. E.	A.L.P.
Kalgoorlie	Collard, F. W.	A.L.P.
Moore	Maisey, D. W.	C.P.
Perth	Chaney, Hon. F. C., A.F.C.	Lib.
Stirling	Webb, C. H.	A.L.P.
Swan	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	12	
Leake		27th May	—	5	25	
Morgans		21st November	—	1	2	
Leake		23rd December	—	6	8	
James		1902—1st July	2	1	9	
Daglish		Labour	1904—10th August	1	—	15
Rason		Liberal	1905—25th August	—	8	12
Moore		"	1906—7th May	4	4	9
Wilson		"	1910—16th September	1	—	21
Scaddan	Labour	1911—7th October	4	9	20	
Wilson	Liberal	1916—27th July	—	11	1	
Lefroy	"	1917—28th June	1	9	20	
Colebatch	"	1919—17th April	—	1	—	
Mitchell	Nat. and C.P. (coalition)	17th May	4	10	30	
Collier	Labour	1924—16th April	6	—	8	
Mitchell	Nat. and C.P. (coalition)	1930—24th April	3	—	—	
Collier	Labour	1933—24th April	3	3	27	
Willecock	"	1936—20th August	8	11	11	
Wise	"	1945—31st July	1	8	1	
McLarty	L.C.L. and C.P. (coalition)	1947—1st April	5	10	22	
Hawke	Labour	1953—23rd February	6	1	10	
Brand	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 1889 provided for a Ministry of five members. This number was increased to six by an amendment to the Act in 1896, to eight by another amendment in 1927, and to ten by the Acts Amendment (Increase in Number of Ministers of the Crown) Act, 1950. The present Ministry consists of twelve members, as authorized by the Constitution Acts Amendment Act, 1965. The names of the Ministers and the portfolios held by them are shown in the following list.

THE MINISTRY AT 31st DECEMBER, 1966

Name of Minister	Title of Office
Hon. David Brand, M.L.A.	Premier, Treasurer and Minister for Tourists
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 Bovell, 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 Dircksey Cowan, O.B.E., who was elected to the Legislative Assembly in March, 1921 as member for West Perth. Mrs. A. F. G. (later Dame Florence) Cardell-Oliver, M.L.A. for Subiaco, became the first woman Cabinet Minister in Australia when she joined the McLarty Ministry in 1947.

Payment of members was introduced in 1900 by a Payment of Members Act and a superannuation fund is established under the Parliamentary Superannuation Act, 1948-1964, 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 in bankruptcy, or a person who has been attainted or convicted of treason or felony may not be elected to the Legislative Council. The qualifications for election as a Member of the Legislative Council 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 electors 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, 1907-1964 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 under the Electoral Act Amendment Act, 1964 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, as provided by the foregoing Act, 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 required 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 were allocated among the several Areas, and Provinces within each Area, in the following way. The Metropolitan Area comprised 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 was expressly excluded from the Agricultural, Mining and Pastoral Area and included in the North-West Area.

The Electoral Districts Act, 1947-1963 provided for the Electoral Commissioners to 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

The Electoral Districts Act, 1947-1963 was amended by the Electoral Districts Act Amendment Act, 1965. The amending Act, which came into operation on the same date as the Constitution Acts Amendment Act (No. 2), 1965, requires the Commissioners to adjust the boundaries of the fifteen Electoral Provinces having regard to their proposed division of the State into fifty-one Electoral Districts. The final recommendations for the redivision and for the adjustment of the boundaries of the Electoral Provinces were published in the *Government Gazette of Western Australia* dated the 21st July, 1966.

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 AT 31st DECEMBER, 1966

Name	Political Party	Electoral Province
DUE TO RETIRE IN 1968 (a)		
Diver, 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. H. R.	L.C.L.	North Metropolitan
Strickland, Hon. H. C.	A.L.P.	North
Stubbs, Hon. R. H. C.	A.L.P.	South-East
Thompson, Hon. Ronald	A.L.P.	South Metropolitan
Thompson, Hon. S. T. J.	C.P.	Lower Central
Thomson, Hon. J. M.	C.P.	South
Watson, Hon. H. K.	L.C.L.	Metropolitan
Willesee, Hon. W. F.	A.L.P.	North-East Metropolitan
Willmott, Hon. F. D.	L.C.L.	South-West

DUE TO RETIRE IN 1971 (a)		
Abbey, Hon. C. R.	L.C.L.	West
Baxter, Hon. N. E.	C.P.	Central
Brand, Hon. G. E. D.	L.C.L.	Lower North
Ferry, Hon. V. J., D.F.C.	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.	L.C.L.	South-East Metropolitan
Heitman, Hon. Jack	L.C.L.	Upper West
Hislop, Hon. J. G., M.B., Ch.B., F.R.C.P., F.R.A.C.P.	L.C.L.	Metropolitan
House, Hon. E. C., D.F.C., D.F.M.	C.P.	South
Hutchison, Hon. Ruby F.	A.L.P.	North-East Metropolitan
Lavery, Hon. F. R. H.	A.L.P.	South Metropolitan
McNeill, Hon. Neil, B.Sc. (Agric.)	L.C.L.	Lower West
Perry, Hon. T. O.	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 8 of the Constitution Acts Amendment Act, 1899-1965 provides that a retiring member shall vacate his seat on the 21st May in the year of retirement.

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*. As provided by the Electoral Amendment Act, 1919 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 as provided by the Electoral Act Amendment Act, 1936.

The following table shows the membership of the Legislative Assembly before the elections held on the 20th February, 1965, and at the 31st December, 1966.

MEMBERS OF THE LEGISLATIVE ASSEMBLY

Electoral District	Before Election of 20th February, 1965		At 31st December, 1966	
	Name	Political Party	Name	Political Party
Albany	Hall, Jack	A.L.P.	Hall, Jack	A.L.P.
Avon	Gayfer, H. W.	C.P.	Gayfer, H. 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.
Beeloo	Jamieson, C. J.	A.L.P.	Jamieson, C. J.	A.L.P.
Belmont	Hegney, James	A.L.P.	Hegney, James	A.L.P.
Blackwood	Hearman, Hon. J. M.	L.C.L.	Hearman, 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, D. G.	A.L.P.	Elliott, R. M. (b)	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.
Collie	May, Harry	A.L.P.	May, Harry	A.L.P.
Cottesloe	Hutchinson, Hon. Ross, D.F.C.	L.C.L.	Hutchinson, Hon. Ross, D.F.C.	L.C.L.
Dale	Wild, Hon. G. P., M.B.E.	L.C.L.	Rushton, E. C. (c)	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.
Gascoyne	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.
Karrinyup	Nimmo, L. C.	L.C.L.	Nimmo, L. C.	L.C.L.
Katanning	Nalder, Hon. C. D.	C.P.	Nalder, Hon. C. D. (a)	C.P.
Kimberley	Rhatigan, J. J.	A.L.P.	Rhatigan, J. J.	A.L.P.
Maylands	Oldfield, E. P.	A.L.P.	Marshall, R. J. P. (b)	L.C.L.
Melville	Tonkin, Hon. J. T.	A.L.P.	Tonkin, Hon. J. T.	A.L.P.
Merredin-Yilgarn	Kelly, Hon. L. F.	A.L.P.	Kelly, Hon. L. F.	A.L.P.
Moore	Lewis, Hon. E. H. M.	C.P.	Lewis, Hon. E. H. M.	C.P.
Mount Hawthorn	Hegney, Hon. William, A.A.S.A.	A.L.P.	Hegney, Hon. William, A.A.S.A.	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.
Murchison	Burt, R. P. S.	L.C.L.	Burt, R. P. S.	L.C.L.
Murray	Runciman, Ewart	L.C.L.	Runciman, Ewart	L.C.L.
Narrogin	Manning, W. A., A.A.S.A., A.C.I.S.	C.P.	Manning, W. A., A.A.S.A., A.C.I.S.	C.P.
Nedlands	Court, Hon. C. W. M., O.B.E.	L.C.L.	Court, Hon. C. W. M., O.B.E.	L.C.L.
Northam	Hawke, Hon. A. R. G.	A.L.P.	Hawke, Hon. A. R. G.	A.L.P.
Perth	Heal, Stanley	A.L.P.	Durack, P. D., LL.B., B.C.L. (Oxon.) (b)	L.C.L.
Pilbara	Bickerton, A. W.	A.L.P.	Bickerton, A. W.	A.L.P.
Roe	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.
Stirling	Mitchell, C. C. B.	C.P.	Mitchell, C. C. B. (a)	C.P.
Subiaco	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.
Toodyay	Craig, Hon. J. F.	C.P.	Craig, Hon. J. F.	C.P.
Vasse	Bovell, Hon. W. S.	L.C.L.	Bovell, Hon. W. S.	L.C.L.
Victoria Park	Davies, Ronald	A.L.P.	Davies, 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	Henn, G. G., M.R.C.S., L.R.C.P.	L.C.L.	Henn, G. G., M.R.C.S., L.R.C.P.	L.C.L.
SUMMARY	Australian Labor Party (A.L.P.)	24	Australian Labor Party (A.L.P.)	21
	Country Party (C.P.)	8	Country Party (C.P.)	8
	Liberal and Country League (L.C.L.)	18	Liberal and Country League (L.C.L.)	21
	TOTAL	50	TOTAL	50

(a) Returned unopposed. (b) New member. (c) Elected at by-election held 8th May, 1965 to succeed Hon. G. P. Wild, M.B.E., who was appointed Agent-General, London on 16th March, 1965.

ELECTIONS, ELECTORS ON ROLL AND VOTES RECORDED

The Federal Parliament

General elections for the House of Representatives were held on the 26th November, 1966. The Liberal-Country Party Government, led by the Right Honourable H. E. Holt, M.P., was returned to office with a majority of 40 seats.

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 Government's representation was reduced to 29 from the 26th November, 1966 following elections held on that date to fill a number of casual vacancies in the Senate.

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 26th NOVEMBER, 1966										
Canning	23,426	21,845	45,271	22,291	20,825	43,116	95.15	95.33	95.24	1,951
Curtin	19,914	24,339	44,253	18,949	22,917	41,866	95.15	94.16	94.61	1,580
Forrest	22,716	21,294	44,010	21,831	20,486	42,317	96.10	96.21	96.15	1,524
Fremantle	27,815	29,318	57,133	26,201	28,296	54,497	94.20	96.51	95.39	2,135
Kalgoorlie	19,586	16,055	35,641	17,114	14,826	31,940	87.38	92.35	89.62	1,020
Moore	23,391	21,652	45,043	22,210	20,874	42,884	94.95	95.48	95.21	1,502
Perth	14,607	16,179	30,786	13,743	15,009	28,752	94.09	92.77	93.39	2,046
Stirling	35,205	37,264	72,469	33,276	35,849	69,125	94.52	96.20	95.39	2,797
Swan	27,774	30,717	58,491	26,140	28,933	55,073	94.12	94.19	94.16	1,963
Total— Western Australia	214,434	218,663	433,097	201,755	207,815	409,570	94.09	95.04	94.57	16,518

SENATE—ELECTION OF 5th DECEMBER, 1964

Canning	22,212	20,503	42,715	21,013	19,347	40,360	94.60	94.36	94.49	2,636
Curtin	19,552	23,353	42,905	18,460	21,959	40,419	94.41	94.03	94.21	2,080
Forrest	22,061	20,587	42,648	21,100	19,803	40,903	95.64	96.19	95.91	2,536
Fremantle	26,031	27,428	53,459	24,480	26,192	50,672	94.04	95.49	94.79	2,508
Kalgoorlie	19,515	14,970	34,485	17,453	13,548	31,001	89.43	90.50	89.90	2,169
Moore	21,451	19,763	41,214	20,459	18,604	39,063	95.38	94.14	94.78	1,843
Perth	14,608	16,490	31,098	13,483	15,281	28,764	92.30	92.67	92.49	2,394
Stirling	32,039	33,658	65,697	29,986	31,966	61,952	93.59	94.97	94.30	3,843
Swan	25,880	28,448	54,328	24,120	26,628	50,748	93.20	93.60	93.41	2,901
Total— Western Australia	203,349	205,200	408,549	190,554	193,328	383,882	93.71	94.21	93.96	22,910

The State Parliament

At the conjoint 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 Acts 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, 36 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 was fixed by the Act at three.

**LEGISLATIVE COUNCIL AND LEGISLATIVE ASSEMBLY
CONJOINT ELECTION OF 20th FEBRUARY, 1965**

LEGISLATIVE COUNCIL

Electoral Area (a) and Province	Electors on Roll			Electoral Area (a) and Province	Electors on Roll		
	Males	Females	Persons		Males	Females	Persons
Metropolitan Area—				Agricultural, Mining and Pastoral Area (con-			
Metropolitan	24,652	29,592	54,244	tinued)—			
North Metropolitan	24,569	26,622	51,191	South-East	8,931	7,635	16,566
North-East Metro-				South-West	8,251	7,416	15,667
politan	29,009	30,859	59,868	Upper West	9,105	7,370	16,975
South Metropolitan	23,825	24,316	48,141	West	9,692	9,541	19,233
South-East Metro-				Total	71,164	65,323	136,487
politan	21,869	24,482	46,351				
Total	123,924	135,871	259,795	North-West Area—			
Agricultural, Mining and Pastoral Area—				Lower North	4,041	3,285	7,326
Central (b)	8,073	7,793	15,866	North	2,977	1,877	4,854
Lower Central	8,357	7,775	16,132	Total	7,018	5,162	12,180
Lower West	9,224	8,690	17,914	WHOLE STATE	202,106	206,356	408,462
South	9,531	8,603	18,134				
Electors on Roll in Contested Provinces					194,033	198,563	392,596
Electors on Roll in Uncontested Provinces					8,073	7,793	15,866
Total Number of Electors on Roll					202,106	206,356	408,462
Total Number of Votes Recorded					(c)	(c)	(d)361,752
Percentage of Votes Recorded to Electors on Roll in Contested Provinces					(c)	(c)	92.14

LEGISLATIVE ASSEMBLY

Electoral Area (a) and District	Electors on Roll			Electoral Area (a) and District	Electors on Roll		
	Males	Females	Persons		Males	Females	Persons
Metropolitan Area—				Agricultural, Mining and Pastoral Area (con-			
Balcatta	6,798	6,995	13,793	tinued)—			
Bayswater	6,850	6,862	13,712	Collo	2,770	2,539	5,309
Beeloo	5,880	6,223	12,103	Dale	3,359	3,270	6,629
Belmont	6,001	6,291	12,292	Darling Range	3,387	3,572	6,959
Canning	5,219	6,216	11,435	Geraldton	3,181	2,993	6,174
Claremont	4,801	5,707	10,508	Greenough (e)	2,842	2,367	5,209
Cockburn (e)	6,104	5,832	11,936	Kalgoorlie (e)	3,083	2,644	5,727
Cottesloe	4,869	5,848	10,717	Katanning (e)	2,741	2,618	5,357
East Melville	6,194	6,673	12,867	Merredin-Yilgarn	2,616	2,169	4,785
Fremantle	5,677	5,672	11,349	Moore	3,082	2,510	5,592
Karrinyup	6,320	6,948	13,268	Mount Marshall (e)	2,734	2,373	5,107
Maylands	5,130	5,840	10,970	Murchison	2,852	2,426	5,278
Melville	5,850	6,139	11,989	Murray	2,850	2,675	5,525
Mount Hawthorn	5,243	5,856	11,099	Narrogin	2,848	2,620	5,466
Mount Lawley	5,137	6,060	11,197	Northam	2,901	2,793	5,734
Nedlands	4,936	5,894	10,830	Roe (e)	3,413	2,706	6,119
Perth	5,306	5,815	11,121	Stirling (e)	2,865	2,514	5,379
South Perth (e)	5,574	6,301	11,875	Toodyay	2,948	2,699	5,645
Subiaco	4,740	6,328	11,068	Vasse	2,718	2,690	5,408
Swan	5,891	5,806	11,697	Warren	2,823	2,345	5,168
Victoria Park	5,186	5,742	10,928	Wellington	3,252	2,951	6,203
Wembley	6,208	6,823	13,031	Total	74,016	67,749	141,765
Total	123,924	135,871	259,795	North-West Area—			
Agricultural, Mining and Pastoral Area—				Gascoyne	1,189	859	2,048
Albany	3,253	3,388	6,636	Kimberley	1,776	1,166	2,942
Avon (e)	2,348	2,627	4,975	Pilbara	1,201	711	1,912
Blackwood (e)	2,710	2,381	5,091	Total	4,166	2,736	6,902
Boulder-Eyre (e)	3,232	2,822	6,054	WHOLE STATE	202,106	206,356	408,462
Bunbury	3,122	3,064	6,186				
Electors on Roll in Contested Districts					164,460	171,173	335,633
Electors on Roll in Uncontested Districts					37,646	35,183	72,829
Total Number of Electors on Roll					202,106	206,356	408,462
Total Number of Votes Recorded					(c)	(c)	(f)309,893
Percentage of Votes Recorded to Electors on Roll in Contested Districts					(c)	(c)	92.33

(a) As defined in the Electoral Districts Act, 1947-1963. (b) Uncontested Province. (c) Not available.
(d) Includes 15,433 informal votes. (e) Uncontested District. (f) Includes 9,634 informal votes.

LEGISLATION DURING 1965

The Federal Parliament

The legislative enactments of the Commonwealth Parliament in 1965 are listed in summarized form on pages 70-75 of the *Official Year Book of the Commonwealth of Australia*, No. 52—1966.

The State Parliament

During the first session of the twenty-fifth Parliament, which lasted from the 29th July to the 26th November, 1965, the Western Australian legislature enacted 113 Public Statutes and one Private Act and, in addition, dealt with nine Bills which were introduced but not passed.

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 1965, a short summary of the main provisions is given in this section. Supply, Appropriation and Loan 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 1965

Agricultural Products Act Amendment Act—Extends the activities of the Apple Sales Advisory Committee until the 31st December, 1966. Makes it an offence for a person to have in his possession, except on the property on which it was produced, any wool that is intended for sale or has been sold unless it is clearly marked with the name of the producer.

Artificial Breeding Board Act—Establishes the Artificial Breeding Board and specifies its functions. Provides for the transfer to the Board of any stock, plant or equipment that is vested in a Minister of the Crown or a public authority and is required for the purpose of carrying out its functions.

Artificial Breeding of Stock Act—Provides for the control of artificial breeding of stock.

Audit Act Amendment Act—Designates the Auditor-General as the permanent head of the Audit Department. Authorizes the Treasurer to set aside for future payment any unexpended portion of a vote which is represented by a relevant unpaid commitment. Confers on the Auditor-General the power to charge a fee for the audit of accounts other than departmental accounts.

Betting Investment Tax Act Amendment Act—Changes the rate of the betting investment tax to 3 cents on each bet made in registered premises by a bookmaker.

Bush Fires Act Amendment Act—Makes provision for certain exemptions enabling the burning, during restricted or prohibited burning times, of industrial waste, including gas and oil.

Cattle Industry Compensation Act—Repeals the Dairy Cattle Industry Compensation Act and the Beef Cattle Industry Compensation Act. Establishes the Cattle Industry Compensation Fund. Requires that moneys standing to the credit of funds established under the repealed Acts shall be paid to the Fund. Specifies other moneys to be paid to the Fund and authorizes the payment of compensation to the owners of diseased cattle ordered to be destroyed.

Coal Mine Workers (Pensions) Act Amendment Act—Provides retirement benefits at the rate of \$14.25 per week for certain persons aged 58 years or over, whose employment in coal mining ceased as a result of the flooding of the Hebe mine at Collie in April, 1965.

Coal Mine Workers (Pensions) Act Amendment Act (No. 2)—Increases from \$10 to \$14 the permissible average weekly earnings of a beneficiary engaged in employment. Provides for payment of pensions to certain re-employed workers who would otherwise have been ineligible for benefits.

Coal Mines Regulation Act Amendment Act—Extends to persons employed solely in cutting timber for use in or about a coal mine the obligation to contribute to and the right to receive the benefits of the Coal Mines Accident Relief Fund.

Constitution Acts Amendment Act—Increases from ten to twelve the number of Ministers of the Crown.

Constitution Acts Amendment Act (No. 2)—Increases the number of members of the Legislative Assembly from 50 to 51.

Decimal Currency Act—Amends State law in consequence of the adoption in Australia of decimal currency. Lists in a schedule to the Act the names of Acts to be amended. States that a reference in terms of the £ s. d. currency is to be read and construed as a reference to a corresponding amount in terms of the decimal currency. Empowers the Governor to take any action necessary for the administration of the Act. Lists the monetary equivalents specified in the Currency Act 1965 (Commonwealth) and the recommendations for notation in decimal currency.

Education Act Amendment Act—Increases financial assistance to non-government schools. Provides for contributions towards tuition fees, commencing with the 1965 school year, on the basis of \$30 annually for a student in the first three years of secondary education and \$36 in each of the fourth and fifth years. Authorizes assistance to schools by way of reimbursement of interest paid, up to a prescribed maximum rate, on moneys borrowed after the 1st January, 1965 for expenditure on residential accommodation for scholars. Allows for payment of subsidies for the installation of swimming pools. Provides funds for the issue, for use in primary schools, of such school supplies as may be prescribed.

Electoral Districts Act Amendment Act—Provides for the division of the State into 51 Electoral Districts for the purpose of representation in the Legislative Assembly, instead of 50 Districts as formerly.

Fisheries Act Amendment Act—Changes the title of Chief Inspector of Fisheries to that of Director of Fisheries. Abolishes the Fishermen's Advisory Committee and establishes the Crayfish Industry Advisory Committee and the General Fisheries Advisory Committee. Makes it illegal to use a crayfish pot not fitted with an escape gap or similar device of specified type and size. Increases penalties for breaches of the Act, particularly for catching, processing or selling undersized crayfish.

Fisheries Act Amendment Act (No. 2)—Empowers the Minister to restrict or prohibit the use of any net or line used for fishing which is made wholly or partly of synthetic fibre. Requires that, from the 1st January, 1966, every person operating a processing establishment shall be the holder of a processor's licence. Provides for the levy of licence fees and establishes a Fisheries Research and Development Fund for the receipt of such fees and other moneys.

Government Railways Act Amendment Act—Revests in the Crown mineral rights pertaining to land granted or alienated at any time to The Midland Railway Company of Western Australia Limited.

Land Act Amendment Act (No. 2)—Declares any incorporated company ineligible to acquire land by conditional purchase. Amends the requirements relating to periods of residence and the rate of effecting improvements, in respect of lands acquired by conditional purchase. Increases fines for late payment of rent. Extends from two years to five years the period necessary before a pastoral lease may be transferred or sublet.

Land Tax Assessment Act Amendment Act—Abolishes, with effect from the 1st July, 1965, the 50 per cent. surcharge formerly levied on individual owners of land who had not been resident in Australia during any part of the year next preceding the year of assessment.

Laporte Industrial Factory Agreement Act Amendment Act—Enables the State and Laporte Industries Limited, by mutual agreement, to vary or cancel any of the provisions of the Agreement for the purpose of more efficiently or satisfactorily implementing its objectives. Gives specific authority to alter the clause relating to the provision of housing for employees of the company.

Licensing Act Amendment Act (No. 4)—Introduces a system of grading hotels into different classes according to the standard of service provided. Authorizes the Licensing Court, where it is satisfied that improvements to a hotel are necessary or desirable and that the owner is unable to pay for them, to give a certificate to that effect to the Tourist Development Authority for the purpose of enabling financial assistance to be rendered under the Tourist Act. (See also reference later in this section to *Tourist Act Amendment Act*.)

Local Government Act Amendment Act—Provides that moneys received by a municipal council from vehicle parking charges shall be paid into a parking fund established for the purpose. Specifies that the fund is to be used for provision and extension of parking facilities and for payment of costs of administration of parking by-laws.

Local Government Act Amendment Act (No. 2)—Provides that elections on certain specified municipal matters shall be valid only in cases where not less than 15 per cent. of the qualified electors vote on the issue. Authorizes a municipal council to make by-laws for regulating the establishment and maintenance of camps and similar accommodation for holiday purposes. Permits a council to accept an advance not exceeding \$10,000 from an owner of ratable land for the purpose of carrying out works required by him. Authorizes a council to confer on any person the title of "Honorary Freeman of the Municipality."

Local Government Act Amendment Act (No. 3)—Repeals and re-enacts with amendments the section of the Act authorizing a municipal council to make by-laws relating to the parking of vehicles. Provides that the Commissioner of Police and the municipal council concerned shall jointly regulate and control traffic in parking regions established in the Metropolitan Traffic Area.

Marketing of Eggs Act Amendment Act—Establishes the Western Australian Egg Marketing Board as the authority responsible for collection in Western Australia of the levy imposed on hens by the Poultry Industry Levy Act 1965 (Commonwealth).

Married Persons and Children (Summary Relief) Act—Amends and consolidates the law relating to the summary relief of married persons, the maintenance of married persons and the custody and maintenance of children. Repeals the Married Persons (Summary Relief) Act, 1960-1964, the Interstate Maintenance Recovery Act, 1959-1964, the Reciprocal Enforcement of Maintenance Orders Act, 1921-1958, and relevant sections of the Justices Act, 1902-1964.

Members of Parliament, Reimbursement of Expenses, Act Amendment Act—Authorizes increases in the maximum annual amount of expenses reimbursement payable to Members of the Legislative Council and Members of the Legislative Assembly, ranging from \$200 for metropolitan members to \$900 for members representing northern electorates. Provides that, from the 1st September, 1965, the maximum annual payment shall be \$1,400 for a metropolitan member and \$2,800 for a member representing a northern electorate, with amounts varying between \$1,800 and \$2,200 payable to other members, according to the location of the electorate.

Metropolitan Region Town Planning Scheme Act Amendment Act—Extends from one year to three years (or longer, with the approval of the Minister) the period after the Scheme attains the force of law during which each municipal council in the Region is required to submit a town planning scheme for its district which is in accordance and consistent with the provisions of the Scheme. (The effect of the amendment is to require each council to submit a plan before the end of October, 1966 unless an extension of time has been granted by the Minister.)

Metropolitan Region Town Planning Scheme Act Amendment Act (No. 2)—Clarifies the provisions relating to the powers of the Metropolitan Region Planning Authority to acquire and dispose of land.

Milk Act Amendment Act—Closes the Dairy Cattle Compensation Fund established under the Act. Directs that, of the moneys standing to the credit of the Fund, an amount of \$20,000 shall be paid to the Cattle Industry Compensation Fund established under the provisions of the Cattle Industry Compensation Act, 1965. Requires that the balance of the moneys shall be paid to the Milk Board of Western Australia.

Offenders Probation and Parole Act Amendment Act—Empowers the Governor to direct the release on parole of a prisoner sentenced to imprisonment for life, a prisoner undergoing a sentence of imprisonment for life commuted from a sentence of death, or an unconvicted person held in custody during the Governor's pleasure following acquittal because of unsoundness of mind.

Parliamentary Allowances Act Amendment Act (No. 2)—With effect from the 1st September, 1965, increases from \$5,120 to \$6,500 the annual allowance payable to Members of the Legislative Council and Members of the Legislative Assembly. Provides for increases in the additional allowances payable to Ministers of the Crown and holders of other offices in the Parliament. Deletes the section authorizing adjustment of allowances in accordance with variations in the State basic wage.

Petroleum Products Subsidy Act—Enables the operation in Western Australia of the Commonwealth Government's scheme, as contained in the States Grants (Petroleum Products) Act 1965, to subsidize the distribution of certain petroleum products in specified country areas, so as to reduce the cost of those products to country consumers.

Road Maintenance (Contribution) Act—Imposes a charge on the operations of any commercial goods vehicle the load capacity of which is more than eight tons. Specifies the rate of the charge as one-third of a penny (five-eighteenths of a cent) per ton-mile calculated on the basis of the tare weight plus two-fifths of the load capacity. Provides that, in specified circumstances, the charge may be levied on vehicles having a load capacity of eight tons or less. Requires that all moneys received shall be paid to a Roads Maintenance Trust Fund and shall be spent only on the maintenance of roads. Provides that administration costs shall be met from the Transport Co-ordination Fund. Prescribes penalties for offences. (The Act was proclaimed to operate from the 1st April, 1966.)

Stamp Act Amendment Act—Increases the rates of stamp duty payable under a number of headings. Authorizes the Commissioner of Stamps to allow duty to be paid in money, for which a receipt is to be issued, instead of by the use of impressed or adhesive stamps.

State Government Insurance Office Act Amendment Act—Authorizes the State Government Insurance Office to engage in reinsurance business.

State Housing Death Benefit Scheme Act—Establishes, with effect from the 20th February, 1965, a scheme to provide benefits for the families of purchasers of dwellings who die leaving unpaid the whole or part of a liability to the State Housing Commission under a contract of sale or mortgage. Provides benefits ranging from \$1,000 where the age at death does not exceed 35 years to \$400 where it exceeds 55 years but does not exceed 65 years, together with an additional benefit of \$200 in respect of each child under 16 years of age.

State Tender Board Act—Establishes the State Tender Board of Western Australia to replace the former Tender Board. Validates the transactions of the dissolved Board and transfers to the State Tender Board all its powers and functions and all stores and property vested in it or under its control. Provides that the State Tender Board shall consist of not less than ten nor more than fifteen members appointed by the Governor and that each of the members shall be the holder of an office in the Public Service. Authorizes the Board to arrange for and control the purchase of stores and the provision of services for State Government Departments.

Statute Law Revision Act—Revises the Statute Law by repealing certain spent, unnecessary or superseded enactments.

Statute Law Revision Act (No. 2)—Repeals the Commonwealth Powers Acts of 1943 and 1945, and amending Acts, by which certain matters were temporarily referred to the Commonwealth Parliament.

The Broken Hill Proprietary Company Limited (Export of Iron Ore) Act—Authorizes the Company, subject to the issue of a licence by the Commonwealth Government and the payment of royalties to the State Government, to export at any time iron ore from any of the deposits which it controls in Western Australia.

Tourist Act Amendment Act—Authorizes payment of moneys from the Tourist Fund by way of loan to the owner of a hotel for the improvement of accommodation, subject to the issue of the appropriate certificate by the Licensing Court (see reference earlier in this section to *Licensing Act Amendment Act (No. 4)*). For the purpose of making such loans, enables the Tourist Development Authority, with the approval of the Treasurer, to borrow moneys up to a maximum of \$200,000 in any one year.

Traffic Act Amendment Act—Extends the area of application of the provision relating to the compulsory reporting of vehicle accidents involving bodily injury, so as to include, in addition to roads, "any place commonly used by the public or to which the public is permitted to have access".

Traffic Act Amendment Act (No. 2)—Increases penalties for offences against the Act. Revises the provisions relating to the making of regulations.

Traffic Act Amendment Act (No. 3)—Authorizes the use of breath analysing equipment in cases where the driver of a motor vehicle is suspected of being under the influence of alcohol to such an extent as to be incapable of having proper control of the vehicle. Provides that the presence in the blood of 0.15 per cent. or more of alcohol shall be *prima facie* evidence of a driver's incapacity to have proper control of the vehicle. Prescribes a penalty of not less than \$100 or more than \$300 where a driver, when required to submit himself for analysis of his breath, refuses to do so.

Tuberculosis (Commonwealth and State Arrangement) Act—Authorizes the State Government to enter into an arrangement with the Commonwealth Government for the continuance in Western Australia of the campaign to reduce the incidence of tuberculosis, as provided by the Tuberculosis Act 1948 (Commonwealth).

Western Australian Coastal Shipping Commission Act—Establishes a Western Australian Coastal Shipping Commission consisting of three Commissioners, including a Chairman, to be appointed by the Governor. Provides for the appointment of a General Manager. Specifies that the functions of the Commission shall be the maintenance and operation of services formerly carried on by the State Shipping Service and the establishment of such additional services as the Commission thinks fit. Empowers the Governor to direct the Commission to establish and maintain any shipping service which, in his opinion, is necessary to meet the requirements of a particular area. Confers borrowing and investment powers. Dissolves the State Shipping Service and transfers its assets to the Commission.

Western Australian Marine Act Amendment Act—Empowers a police officer or a person authorized by the Harbour and Light Department to board vessels, make inspections and demand the production of any licence or certificate required to be issued in connexion with the ownership, use or navigation of a vessel, and authorizes him, in specified circumstances, to order the vessel to be taken to the nearest port.

Workers' Compensation Act Amendment Act—Amends the section of the Act in relation to the rights of an employee to claim for damages against his employer. Increases the minimum amount of compensation payable in certain cases where death results from an injury.

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 1903-1966 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 Judicial Committee of 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 judicial 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 1904-1965. 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 1924-1965 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, 1935-1964, 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 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 uneven 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 in each year for hearings 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 1903-1966 (Commonwealth), and may also be made direct to the Privy Council.

At the 31st December, 1966 the composition of the Supreme Court was as shown below.

Chief Justice—

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

Senior Puisne Judge—

The Honourable Sir Lawrence Jackson

Puisne Judges—

The Honourable J. E. Virtue

The Honourable R. V. Neville

The Honourable G. B. D'Arcy

The Honourable John Hale

The Honourable O. J. Negus

The *Western Australian Industrial Appeal Court* is constituted under the provisions of the Industrial Arbitration Act Amendment Act (No. 2), 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 the other members are nominated by the Chief Justice of Western Australia. Certain of the functions, powers and jurisdiction conferred on the Court may be exercised by any member, on the nomination of the President, sitting or acting alone. An appeal lies to the Court from any decision of The Western Australian Industrial Commission or the Commission in Court Session, but only on the ground that such decision is erroneous in law or is in excess of jurisdiction. (Reference to the constitution, powers and functions of The Western Australian Industrial Commission is made in Chapter X, Part 2.)

STATE REPRESENTATION OVERSEAS AND IN OTHER STATES

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

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.1, in South Australia at 34 King William Street, Adelaide, and in the Northern Territory at Western Australia House, Cavenagh Street, Darwin.

THE LOCAL GOVERNMENT SYSTEM

The function of local government in Western Australia is performed by a number of Councils 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 organization and welfare of the community which it represents.

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

Legislation was enacted in 1871 establishing Municipalities and Road Boards throughout the Colony. The existing Statute regulating the operations of the local authorities is the Local Government Act, 1960-1966, 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, 1966 there were five Cities, 13 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 number varying with the subject matter, the Governor may by Order constitute any part of the State as a Town; constitute any unincorporated area as a Shire; constitute as a new Shire any part of an existing Shire; divide a Shire into two or more Shires; sever portion of a district and annex the portion to an adjoining district, or constitute the portion as a new Town or Shire; annex to a district any adjacent unincorporated areas; divide a district into wards; or abolish a district and dissolve the local governing authority.

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

On the petition of the local authority concerned, the Governor may by Order declare to be a City any district which satisfies certain specified requirements. These requirements are that, during the three years immediately preceding the declaration, it shall have maintained a population of not less than 30,000 persons if situated in the metropolitan area as declared for the purposes of the Act, or not less than 20,000 persons if situated outside that area; and have maintained a gross revenue of \$200,000 for each of the three years. In addition the district must be clearly distinguishable as a centre of population having a distinct civic centre with adequate halls and cultural facilities, and must have sufficient residential, commercial and industrial centres to justify its declaration as a separate city. The five Cities in Western Australia are all situated 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 1856), Fremantle (1929), Subiaco (1952), Nedlands (1959) and South Perth (1959).

The boundaries of local government districts as they existed at the 31st December, 1964 are delineated on the map of the State at the back of the Year Book and the names and designations as at that date are listed on the pages immediately preceding the Index.

Constitution and Electoral Provisions

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

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

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

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

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

It is provided that, if in a particular district there should at any time be no Council or not sufficient councillors to form a quorum, a Commissioner may be appointed to exercise all the powers of the local authority.

Functions of Local Authorities

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

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

Financial Provisions

Financial powers of local authorities, although derived mainly from the Local Government Act, are also provided by other statutes, including the Health Act, the Water Boards Act, the Vermin Act,

the Fire Brigades Act, the Cemeteries Act, the Library Board of Western Australia Act, the Argentine Ant Act and the Noxious Weeds Act. Revenue from vehicle licence fees payable under the provisions of the Traffic Act is another important item in local government finance.

Before the commencement of the Local Government Act on 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 limits, by dividing the anticipated total financial requirement for that year by the total value of ratable property 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, as the term implies, excludes any improvements. The annual value is an estimate of the annual rental value of the property including improvements, but with a prescribed deduction to cover rates, repairs, insurance and other related expenditure. Generally, City Councils and Town Councils are required to assess the general rate on the basis of annual value, and Shire Councils on unimproved value. It is provided, however, that any Council may, under certain specified conditions, adopt the alternative basis. Although in general a Council is required to levy a rate which is uniform throughout its district, it may differentiate in rating by charging a higher rate in a specified area where expenditure, including loan interest and repayments, is incurred in providing special services for the benefit of that area.

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

The extent of loan raisings for works and undertakings is controlled by a provision which, except with the specific approval of the Governor, imposes a limit on the borrowings of an authority. This limit is determined by deducting the net total debt on existing loans from a sum equal to ten times the amount obtained by subtracting from the average of the ordinary revenue of the authority during the preceding two years the average, for the same period, of its annual expenditure on the servicing of loans. The legislation allows that balances standing to the credit of sinking funds for loan repayment, as well as amounts actually repaid, may be deemed to be repayments for the 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 then publish in a newspaper and in the *Government Gazette* a notification of its intention to borrow money, including a statement of the amount of the proposed loan, its purpose and other relevant matters. Except in the case of a loan to liquidate an existing loan debt, the ratepayers of the district may demand that the proposition be submitted to a poll. If less than 15 per cent. of the ratepayers vote at the poll, the raising of the loan is approved. Where not less than 15 per cent. of ratepayers vote and the majority are against the loan, or the number of votes against the loan is equal to the number of those in favour, the raising of the loan is forbidden.

Certain of the works and undertakings for which loan moneys may be used are specified in the Local Government Act. They include the construction of streets, roads and bridges, sewers, drains and water-works; the erection or purchase of electric lighting plant, gas works and stone quarries; the provision

of hostels for school children, libraries and other recreational facilities; the construction of civic and other buildings; and the purchase of land, materials and equipment. Where a particular work or undertaking is not specified in the Act the Governor may approve of it as a project for which money may be borrowed.

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

The financial year for all Councils ends on the 30th June.

Details of the revenue and expenditure of local authorities during the five-year period ending with the financial year 1964-65 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 1 of this Chapter to the full-blood aboriginal population of Western Australia. In accordance with Australia-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 48,502 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 1965, 2.36 per cent., has been higher than that of any other State and of the Commonwealth as a whole, 1.73 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 1956 to 1965 is also shown, together with the increase in each year and during the ten-year period ended 31st December, 1965.

ESTIMATED POPULATION(†)—1830-1965

At 31st December—	Males	Females	Persons	Increase		
				Number	Per cent.	Average Annual Rate (per cent.)
1830	877	295	1,172	....	....	....
1840	1,434	877	2,311	1,139	97.18	7.03
1850	3,576	2,310	5,886	3,575	154.69	9.80
1860	9,529	5,698	15,227	9,341	158.70	9.97
1870	15,474	9,610	25,084	9,857	64.73	5.12
1880	18,559	12,460	29,019	3,935	15.69	1.47
1890	28,854	19,648	48,502	19,483	67.14	5.27
1900	110,088	69,879	179,967	131,465	271.05	14.01
1910	157,971	118,861	276,832	96,865	53.82	4.40
1920	176,895	154,428	331,323	54,491	19.68	1.81
1930	232,868	198,742	431,610	100,287	30.27	2.68
1940	248,734	225,342	474,076	42,466	9.84	0.94
1950	294,758	277,891	572,649	98,573	20.79	1.91
1960	372,665	358,368	731,033	158,384	27.66	2.47
1956	350,333	330,935	681,268	12,659	1.89	....
1957	356,195	339,039	695,234	13,966	2.05	....
1958	361,441	345,755	707,196	11,962	1.72	....
1959	366,253	352,438	718,691	11,495	1.63	....
1960	372,665	358,368	731,033	12,342	1.72	....
1961	379,947	366,258	746,205	15,172	2.08	....
1962	389,304	376,411	765,715	19,510	2.61	....
1963	398,091	386,016	784,107	18,392	2.40	....
1964	405,771	393,855	799,626	15,519	1.98	....
1965	415,731	404,332	820,063	20,437	2.56	....
Ten years ended 31st December, 1965				151,454	22.65	2.06

(†) See letterpress *Estimates of Population* on page 127. Revised estimates for the period 1961 to 1966 appear in the *Appendix*.

CENSUSES

The first systematic census of the Colony was taken on the 10th October, 1848. Since then, there have been 13 enumerations, the latest at the 30th June, 1966.

Some preliminary figures from the 1966 Census are shown in the *Appendix*.

The population disclosed at each census taken up to 1961, its relation to the Australian total, and the masculinity are shown in the next table.

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

Date of Census	Western Australia			Australia	Western Australia	
	Males	Females	Persons	Persons	Proportion of Australia (per cent.)	Masculinity (b)
1848—10th October	2,818	1,804	4,622	326,445	1.42	156.2
1854—30th September	7,779	3,964	11,743	671,436	1.75	196.2
1859—31st December	9,522	5,815	14,837	1,097,305	1.35	179.2
1870—31st March	15,375	9,410	24,785	1,606,057	1.54	163.4
1881—3rd April	17,062	12,646	29,708	2,250,194	1.32	134.0
1891—5th April	29,807	19,975	49,782	3,177,823	1.57	149.2
1901—31st March	112,875	71,249	184,124	3,773,801	4.88	158.4
1911—3rd April	161,565	120,549	282,114	4,455,005	6.33	134.0
1921—4th April	177,278	155,454	332,732	5,435,734	6.12	114.0
1933—30th June	233,937	204,915	438,852	6,629,839	6.62	114.2
1947—30th June	258,076	244,404	502,480	7,579,358	6.63	105.6
1954—30th June	330,358	309,413	639,771	8,986,530	7.12	106.8
1961—30th June	375,452	361,177	736,629	10,508,186	7.01	104.0

(a) For population at the Census of 30th June, 1966, see *Appendix*.

(b) Number of males to each 100 females.

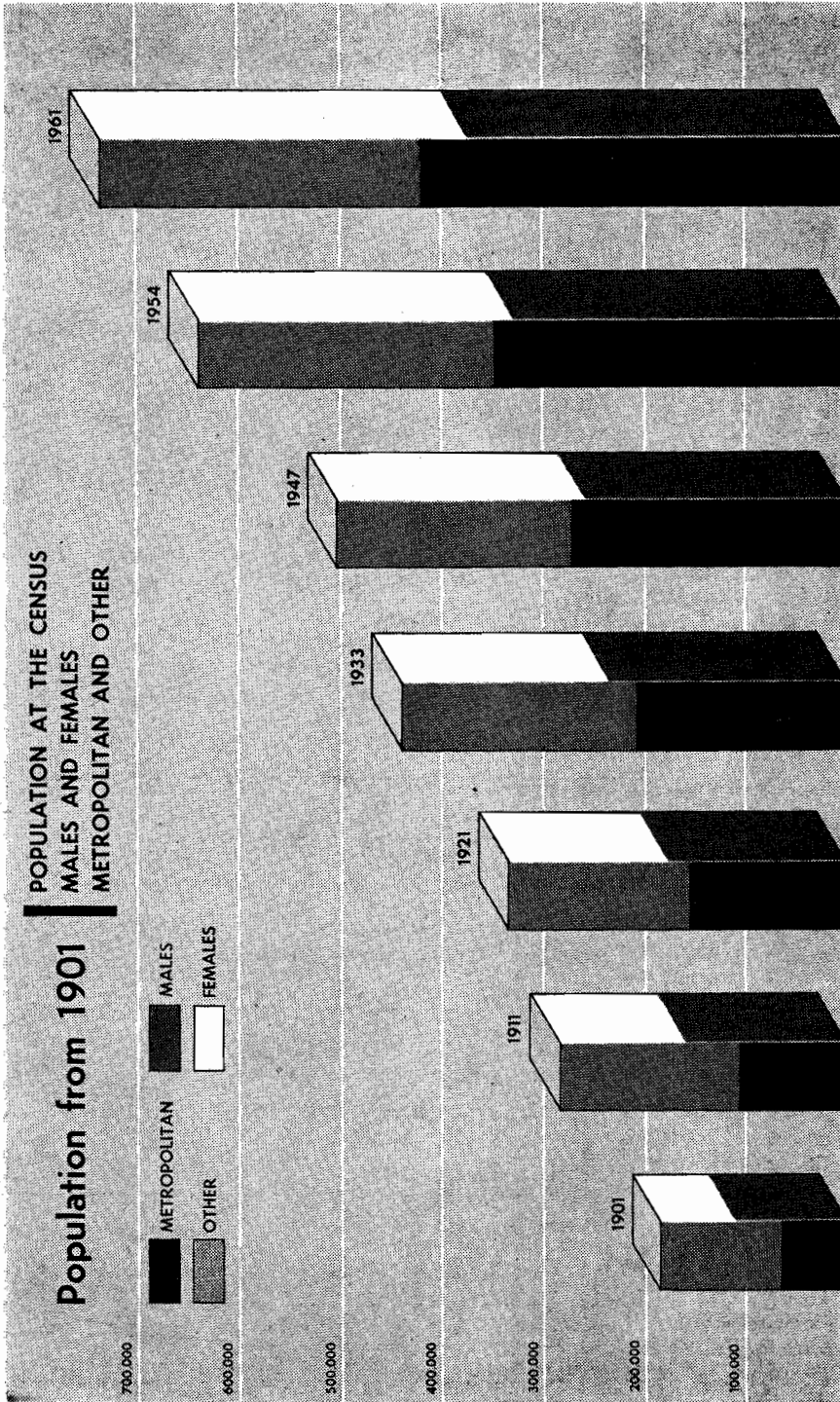
The Census of 1881 was the first taken simultaneously in all the Australian Colonies. For the dates shown in the years 1848, 1854 and 1870, the Australian population totals have been estimated from other sources. However, it is thought that the figures showing the proportion which Western Australian population bore to the Australian total at those 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 1850 and continued until 1868. During this period a total of 9,668 convicts, all of whom were males, were brought to the Colony. The high levels of masculinity disclosed by the Censuses of 1891 and 1901 may be attributed to the influx of a predominantly male population following the gold discoveries of 1885 and later years.

The masculinity of Western Australian population has continued to be high. At the 30th June, 1961, it stood at 104.0 and was higher than in any other State except Queensland (104.1) and was significantly higher than the Commonwealth figure of 102.2.

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 decrease 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 21 years	21 years and over
MALES					
1881	33.7	63.0	3.3	44.3	55.7
1891	29.0	67.3	3.7	38.5	61.5
1901	23.8	74.2	2.0	31.8	68.2
1911	27.5	70.1	2.4	36.6	63.4
1921	30.7	65.8	3.5	40.9	59.1
1933	26.2	67.8	6.0	36.7	63.3
1947	26.7	65.4	7.9	35.9	64.1
1954	30.1	63.2	6.7	38.3	61.7
1961	32.7	60.8	6.5	41.9	58.1
FEMALES					
1881	44.8	53.7	1.5	59.3	40.7
1891	42.0	56.1	1.9	54.7	45.3
1901	37.1	61.4	1.5	47.1	52.9
1911	36.0	61.7	2.3	46.8	53.2
1921	34.1	62.9	3.0	45.4	54.6
1933	28.8	65.9	5.3	40.3	59.7
1947	27.3	64.4	8.3	37.0	63.0
1954	30.8	61.1	8.1	39.2	60.8
1961	32.4	59.2	8.4	41.6	58.4
PERSONS					
1881	38.4	59.1	2.5	50.7	49.3
1891	34.2	62.8	3.0	45.0	55.0
1901	28.9	69.3	1.8	37.7	62.3
1911	31.1	66.5	2.4	40.9	59.1
1921	32.3	64.5	3.2	43.0	57.0
1933	27.4	66.9	5.7	38.4	61.6
1947	27.0	64.9	8.1	36.5	63.5
1954	30.4	62.2	7.4	38.8	61.2
1961	32.5	60.0	7.5	41.7	58.3

(a) For Census dates, see table on page 122.

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	41,965	39,951	81,916	11.18	11.06	11.12
5-9	41,225	39,529	80,754	10.98	10.94	10.96
10-14	39,421	37,620	77,041	10.50	10.42	10.46
15-19	29,609	28,129	57,738	7.89	7.79	7.84
20-24	24,565	23,312	47,877	6.54	6.45	6.50
25-29	22,693	21,628	44,321	6.04	5.99	6.02
30-34	25,748	23,899	49,647	6.86	6.62	6.74
35-39	26,238	24,396	50,634	6.99	6.75	6.87
40-44	21,973	21,692	43,665	5.85	6.01	5.93
45-49	23,098	22,177	45,275	6.15	6.14	6.14
50-54	21,342	19,034	40,376	5.68	5.27	5.48
55-59	18,883	15,950	34,833	5.03	4.42	4.73
60-64	14,099	13,356	27,455	3.76	3.70	3.73
65-69	9,445	10,795	20,240	2.51	2.99	2.75
70-74	7,194	8,548	15,742	1.92	2.37	2.14
75-79	4,381	5,684	10,065	1.17	1.57	1.37
80-84	2,402	3,409	5,811	0.64	0.94	0.79
85-89	913	1,561	2,474	0.24	0.43	0.33
90-94	227	424	651	0.06	0.12	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	375,452	361,177	736,629	100.00	100.00	100.00
0-4	41,965	39,951	81,916	11.18	11.06	11.12
5-14	80,646	77,149	157,795	21.48	21.38	21.42
15-20	34,734	33,028	67,762	9.25	9.15	9.20
Under 21	157,345	150,128	307,473	41.91	41.57	41.74
21-44	116,092	110,028	226,120	30.92	30.46	30.70
45-64	77,422	70,517	147,939	20.62	19.52	20.08
65 and over	24,593	30,504	55,097	6.55	8.45	7.48
Total	375,452	361,177	736,629	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 657,460 persons, almost nine-tenths of the population, stated that they were born in Australia, New Zealand, the United Kingdom or the Republic of Ireland. Of the 66,418 persons born in continental 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	284,780	287,402	572,182	75·85	79·57	77·68
New Zealand	965	948	1,913	0·26	0·26	0·26
Europe—						
United Kingdom and Republic of						
Ireland	44,452	38,913	83,365	11·84	10·77	11·32
Italy	14,934	10,815	25,249	3·98	2·86	3·43
Netherlands	6,154	5,009	11,163	1·64	1·39	1·51
Yugoslavia	3,580	2,296	5,876	0·95	0·64	0·80
Germany	2,715	2,868	5,583	0·72	0·79	0·76
Poland	2,795	1,916	4,711	0·74	0·53	0·64
Greece	2,260	1,828	4,088	0·60	0·51	0·55
Other	5,721	4,027	9,748	1·53	1·11	1·32
Total—Europe	82,611	67,172	149,783	22·00	18·60	20·33
Other Birthplaces	7,096	5,655	12,751	1·89	1·57	1·73
Grand Total	375,452	361,177	736,629	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 (702,890 persons) were of British nationality. Of the 164,447 persons born outside Australia, 130,708 (79·48 per cent.) were of British nationality, 13,902 (8·45 per cent.) of Italian nationality, and 7,367 (4·48 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 (a)—						
Born in Australia	284,780	287,402	572,182	75·85	79·57	77·68
Born outside Australia	71,811	58,897	130,708	19·13	16·31	17·74
Total—British	356,591	346,299	702,890	94·98	95·88	95·42
Foreign—						
Italian	7,632	6,270	13,902	2·03	1·74	1·89
Dutch	3,916	3,451	7,367	1·04	0·96	1·00
Yugoslav	1,267	910	2,177	0·34	0·25	0·29
German	1,021	876	1,897	0·27	0·24	0·26
Greek	905	977	1,882	0·24	0·27	0·26
Polish	1,033	750	1,783	0·28	0·21	0·24
American (U.S.)	322	142	464	0·08	0·04	0·06
Austrian	270	161	431	0·07	0·04	0·06
Ukrainian	176	120	296	0·05	0·03	0·04
Other (including Stateless)	2,319	1,221	3,540	0·62	0·34	0·48
Total—Foreign	18,861	14,878	33,739	5·02	4·12	4·58
Grand Total	375,452	361,177	736,629	100·00	100·00	100·00

(a) All persons of individual citizenship status who by virtue 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—The Census and Statistics Act 1905–1949 provides that “no person shall be liable to any penalty for omitting or refusing to state the religious denomination or sect to which he belongs or adheres”. At the 1961 Census the proportion of non-reply in the total population was 10·43 per cent., 76,796 persons refraining from answering the question. Non-reply occurred more frequently among the males than among the females, 11·13 per cent. of males failing to answer compared with 9·69 per cent. of females.

The following table shows the numbers of adherents of the principal religions and sects, as disclosed by the Census, together with their proportional relationship to total population and to the total number of replies.

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

Religion	Number			Proportion (per cent.) of—	
	Males	Females	Persons	Total Population	Total Replies
Christian—					
Church of England	146,798	143,065	289,863	39.35	43.93
Catholic, Roman (a)	56,519	49,533	106,052	14.40	16.07
Catholic (a)	36,116	38,005	74,121	10.06	11.23
Methodist	37,465	39,010	76,475	10.38	11.59
Presbyterian	20,403	20,150	40,553	5.51	6.15
Churches of Christ	4,757	5,504	10,261	1.39	1.56
Greek Orthodox	4,955	4,102	9,057	1.23	1.37
Baptist	4,311	4,650	8,961	1.22	1.36
Congregational	3,826	4,200	8,026	1.09	1.22
Salvation Army	2,174	2,371	4,545	0.62	0.69
Lutheran	2,261	2,199	4,460	0.60	0.68
Seventh Day Adventist	1,691	2,099	3,790	0.51	0.57
Brethren	426	451	877	0.12	0.13
Protestant (undefined)	2,675	2,559	5,234	0.71	0.79
Other (including Christian undefined)	4,084	4,672	8,756	1.19	1.33
Total—Christian	328,451	322,580	651,031	88.38	98.67
Non-Christian—					
Hebrew	1,404	1,378	2,782	0.38	0.42
Other	649	187	836	0.11	0.13
Total—Non-Christian	2,053	1,565	3,618	0.49	0.55
Indefinite	1,106	922	2,028	0.27	0.30
No Religion	2,051	1,105	3,156	0.43	0.43
Total Replies	333,661	326,172	659,833	89.57	100.00
No Reply	41,791	35,005	76,796	10.43	....
Grand Total	375,452	361,177	736,629	100.00	....

(a) So described in individual census schedules.

Conjugal Condition—The following table shows the numbers of persons of each conjugal condition recorded at the 1961 Census, together with the proportions which these numbers bore to the total population and to the population aged 15 years and over.

CONJUGAL CONDITION OF THE POPULATION—CENSUS, 30th JUNE, 1961

Conjugal Condition	Population of All Ages			Population aged 15 years and over		
	Males	Females	Persons	Males	Females	Persons
NUMBER						
Never Married	197,558	165,971	363,524	74,942	48,871	123,813
Married	162,838	160,456	323,294	162,838	160,456	323,294
Married but Permanently Separated	4,629	5,201	9,830	4,629	5,201	9,830
Widowed	7,137	26,320	33,457	7,137	26,320	33,457
Divorced	3,295	3,229	6,524	3,295	3,229	6,524
Total	375,452	361,177	736,629	252,841	244,077	496,918
PROPORTION OF TOTAL (PER CENT.)						
Never Married	52.62	45.95	49.35	29.64	20.03	24.92
Married	43.37	44.43	43.89	64.41	65.74	65.06
Married but Permanently Separated	1.23	1.44	1.33	1.83	2.13	1.98
Widowed	1.90	7.29	4.54	2.82	10.78	6.73
Divorced	0.88	0.89	0.89	1.30	1.32	1.31
Total	100.00	100.00	100.00	100.00	100.00	100.00

An analysis of population according to conjugal condition in conjunction with age and occupational status as recorded at the Census of 30th June, 1961 is given in Chapter X—Part 1, *Employment*.

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 oversea. 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 are to be regarded as subject to revision when the results of the 1966 Census become known. Revised estimates based on preliminary census figures appear in the *Appendix*. Subsequently, these estimates will be further amended in accordance with the final Census tabulations.

ESTIMATED POPULATION (†)

Year	At 30th June			At 31st December		
	Males	Females	Persons	Males	Females	Persons
1956	346,762	327,767	674,529	350,333	330,985	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
1965	408,233	396,230	804,463	415,731	404,332	820,063

(a) Census figures.

(†) Revised estimates for the period 1961 to 1966 appear in the *Appendix*.

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 uniformity with current practice, estimates of mean population for 1901 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
1956	342,877	324,021	666,898	346,631	327,828	674,459
1957	349,475	331,474	680,949	352,223	335,225	687,448
1958	354,799	338,769	693,568	357,575	342,340	699,915
1959	360,285	345,584	705,869	362,796	348,941	711,737
1960	365,252	352,064	717,316	368,112	354,788	722,900
1961	371,805	357,965	729,770	375,744	361,642	737,386
1962	379,804	366,001	745,805	384,414	370,845	755,259
1963	388,786	375,640	764,426	392,965	380,270	773,235
1964	397,319	384,884	782,203	401,246	388,978	790,224
1965	404,815	392,722	797,537	409,038	397,151	806,189

(†) Revised estimates for the period 1961 to 1965 appear in the *Appendix*.

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	438,852	502,480	639,771
Natural Increase—			
Births	134,871	100,665	118,134
Deaths	(b) 65,432	35,089	38,702
Excess of Births over Deaths	(c) 69,439	65,576	79,432
Migration—			
Recorded Arrivals	(d) 179,995	535,480	635,158
Recorded Departures	(d) 196,550	461,857	607,820
Excess of Arrivals over Departures	(d) -16,555	73,623	27,338
Total Recorded Increase	52,884	139,199	106,770
Intercensal Adjustment (e)	10,744	-1,908	-9,912
Population at End of Period	502,480	639,771	736,629
Increase during Period—			
Total	63,628	137,291	96,858
Per Cent.	14.50	27.32	15.14
Average Annual Rate (per cent.)	0.97	3.51	2.03

(a) For Census dates, see table on page 122. (b) Includes deaths of defence personnel. (c) See note (b). (d) Excludes troop movements. Interstate migration has also been excluded for the period July, 1943 to June, 1947. (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 1933-1947 was 63,628 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, 3.51 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 2.03 per cent. per annum was lower than that of any other State except New South Wales (1.94 per cent.) and Tasmania (1.82 per cent.). The corresponding rate for Australia as a whole was 2.26 per cent. per annum.

To enable additional comparisons to be made, the following table shows the increases in the populations of the several States and Territories and of Australia as a whole during the seven intercensal periods from 1891 to 1961. The table gives the numerical increases, the proportional increases and the average annual rates of increase. In calculating the proportional increases, no allowance has been made for the differences in the length of the intercensal periods

POPULATION—INTERCENSAL INCREASES: STATES AND TERRITORIES

State or Territory	1891-1901 (10 years)	1901-1911 (10 years)	1911-1921 (10 years)	1921-1933 (12½ years)	1933-1947 (14 years)	1947-1954 (7 years)	1954-1961 (7 years)
NUMERICAL INCREASE							
New South Wales (a)	227,709	293,602	453,637	500,476	383,991	438,691	498,484
Victoria	60,982	114,481	215,729	288,981	234,440	397,640	477,772
Queensland	104,411	107,684	150,159	191,562	158,881	211,844	200,569
South Australia	42,813	50,212	86,602	85,789	65,124	151,021	172,246
Western Australia	134,342	97,990	50,618	106,120	63,628	137,291	96,858
Tasmania	25,808	18,736	22,569	13,819	29,479	51,674	41,588
Northern Territory	-87	-1,501	557	983	6,018	5,601	10,626
Australian Capital Territory (b) .....	....	....	858	6,375	7,958	13,410	28,513
Australia	595,978	681,204	980,729	1,194,105	949,519	1,407,172	1,521,656
PROPORTIONAL INCREASE (PER CENT.)							
New South Wales (a)	20.20	21.67	27.55	23.83	14.76	14.70	14.41
Victoria	5.35	9.53	16.40	18.87	12.88	19.35	19.48
Queensland	26.52	21.62	24.79	25.34	16.77	19.15	15.21
South Australia	13.57	14.01	21.20	17.33	11.21	23.38	21.61
Western Australia	269.86	53.22	17.94	31.89	14.50	27.32	15.14
Tasmania	17.60	10.86	11.80	6.46	12.95	20.10	13.47
Northern Territory	-1.78	-31.20	16.83	25.42	124.08	51.54	64.52
Australian Capital Territory (b) .....	....	....	50.06	247.86	88.95	79.33	94.06
Australia	18.75	18.05	22.01	21.97	14.32	18.57	16.93
AVERAGE ANNUAL RATE OF INCREASE (PER CENT.)							
New South Wales (a)	1.86	1.97	2.46	1.76	0.99	1.98	1.94
Victoria	0.52	0.91	1.53	1.42	0.87	2.56	2.58
Queensland	2.38	1.98	2.24	1.86	1.11	2.53	2.04
South Australia	1.28	1.32	1.94	1.31	0.76	3.05	2.83
Western Australia	13.97	4.36	1.66	2.29	0.97	3.51	2.03
Tasmania	1.63	1.04	1.12	0.51	0.87	2.65	1.82
Northern Territory	-0.18	-3.67	1.57	1.87	5.93	6.12	7.37
Australian Capital Territory (b) .....	....	....	4.14	10.71	4.65	8.70	9.93
Australia	1.73	1.67	2.01	1.63	0.96	2.46	2.26
Minus sign (—) denotes decrease.							

(a) Includes Australian Capital Territory prior to 1911.

(b) Part of New South Wales prior to 1911.

GEOGRAPHICAL DISTRIBUTION

Western Australia is divided into a number of municipal districts for the purposes of local government administration. At the 31st December, 1965 there were 144 such districts, which are used as the basis of presentation of data derived not only from the population census but also from many of the regular statistical collections. Information presented in this way is valuable when considering activities in particular local government areas but is often more detailed than is required for a broader geographical assessment. For this reason, the municipal districts are combined into 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.

The following table gives details of the population and masculinity in each Statistical Division of the State at the Censuses of 1954 and 1961.

POPULATION IN STATISTICAL DIVISIONS—1954 AND 1961

Statistical Division	Census, 30th June, 1954				Census, 30th June, 1961			
	Males	Females	Persons	Mascu- linity (a)	Males	Females	Persons	Mascu- linity (a)
Metropolitan	171,832	176,815	348,647	97.18	205,107	215,026	420,133	95.39
Swan	24,370	22,082	46,402	110.61	28,477	26,788	55,265	106.31
South-West	36,607	31,946	68,553	114.59	37,314	34,323	71,637	108.71
Southern Agricultural	19,140	16,985	36,125	112.69	21,999	19,624	41,623	112.10
Central Agricultural	30,502	25,422	55,924	119.98	30,964	26,630	57,594	116.27
Northern Agricultural	17,663	14,405	32,068	122.62	19,578	16,207	35,785	120.80
Eastern Goldfields	18,560	16,018	34,578	115.87	18,430	15,712	34,142	117.30
Central	2,930	1,864	4,794	157.19	2,365	1,594	3,959	148.37
North-West	2,751	1,469	4,220	187.27	2,754	1,809	4,563	152.24
Pilbara	1,795	855	2,650	209.94	2,119	1,124	3,243	188.52
Kimberley	2,303	1,240	3,543	185.73	3,816	1,852	5,668	206.05
Total—All Divisions	328,453	309,051	637,504	106.28	372,923	360,689	733,612	103.39
Migratory (b)	1,905	862	2,267	526.24	2,529	488	3,017	518.24
Whole State	330,358	309,413	639,771	106.77	375,452	361,177	736,629	103.95

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

The growing urbanization 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 420,133, or 57.0 per cent. of the State total, compared with 348,647 (54.5 per cent.) seven years earlier, an increase of 71,486 persons, or 20.5 per cent. The State's natural increase between the Censuses was 79,432 of which the Metropolitan Statistical Division contributed 35,846. In addition, this Division experienced a net gain by migration of 35,640. 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 33.6 per cent.), Geraldton (2,585; 31.1 per cent.) and Albany (2,261; 27.4 per cent.).

The total population of the non-metropolitan Divisions rose by 24,622 or little more than 8.5 per cent. The natural increase recorded in these Divisions was 43,586, so that there was a loss of 18,964 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 8,863, equivalent to 19.1 per cent. The greatest proportional increase, 60.0 per cent., occurred in the Kimberley Division which added 2,125 persons to its population of 3,543 at the 1954 Census. Other Divisions showing an increase were Southern Agricultural, 5,498 (15.2 per cent.); Northern Agricultural, 3,717 (11.6 per cent.); South-West, 3,084 (4.5 per cent.); Central Agricultural, 1,670 (3.0 per cent.); Pilbara, 593 (22.4 per cent.); and North-West, 343 (8.1 per cent.). Divisions which experienced a decrease in population were Central which lost 835 persons (—17.4 per cent.) and Eastern Goldfields with a decline of 436 (—1.3 per cent.).

Outside the Metropolitan Statistical Division, the largest towns are Kalgoorlie-Boulder (gold mining), Bunbury, Geraldton and Albany (seaports), Collie (coal mining) and Northam (agricultural centre). These towns are included in the following list, which shows the names and the population of all towns which had more 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 specially delineated for Census purposes.

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

Name	Designation	Population	Name	Designation	Population
PERTH AND SUBURBS (a)—					
Perth	City	94,508	Bunbury	Town	13,186
Perth	Shire	84,045	Geraldton	Town	10,894
Melville	Shire	39,207	Albany	Town	10,526
South Perth	City	29,941	Collie	N.M.	7,547
Nedlands	City	23,218	Northam	Town	7,200
Fremantle	City	21,980	Narrogin	Town	4,620
Belmont	Shire	20,393	Hamilton Hill	N.M.	3,544
Bayswater	Shire	19,296	Busselton	N.M.	3,495
Canning	Shire	17,701	Katanning	N.M.	3,380
Subiaco	City	16,033	Kwinana New Town	N.M.	3,269
Midland	Town	9,256	Merredin	N.M.	3,029
Claremont	Town	8,601	Manjimup	N.M.	2,978
Bassendean	Shire	8,310	Kalamunda-Gooseberry Hill	N.M.	2,488
Cottesloe	Town	7,827	Mandurah	N.M.	2,132
East Fremantle	Town	6,542	Norseman	N.M.	2,104
Mosman Park	Shire	5,862	Gosnells	N.M.	1,987
Swan-Guildford (part)	Shire	3,548	Armadale	N.M.	1,970
North Fremantle	Town	2,363	Harvey	N.M.	1,898
Peppermint Grove	Shire	1,502	Bridgetown	N.M.	1,877
			Carnarvon	Town	1,809
			Mount Barker	N.M.	1,632
TOTAL	(a)	420,133	Wagin	N.M.	1,608
			York	Town	1,524
KALGOORLIE AND SUBURBS					
Kalgoorlie	Town	9,696	Rockingham	N.M.	1,301
Kalgoorlie (part)	Shire	6,304	Broome	N.M.	1,222
Boulder	Town	5,773	Pemberton	N.M.	1,201
			Kellerberrin	N.M.	1,191
TOTAL		21,773	Moora	N.M.	1,145
			Esperance	N.M.	1,111
			Wundowie	N.M.	1,102
			Donnybrook	N.M.	1,011

(†) The names and designations used are those which became current on the 1st July, 1961 when the Local Government Act, 1960 came into operation.

(a) Metropolitan Statistical Division.
N.M. denotes "non-municipal" town.

The area described officially as 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 98,305 square miles, a little more than one-tenth of the whole State (975,920 square miles), and had a population of 681,977 persons at the 1961 Census, equivalent to 92.6 per cent. of the State total.

The Eastern Goldfields, Central and Pilbara Statistical Divisions together comprised an area of 636,756 square miles (or almost two-thirds of the State) and had a population of only 41,344 persons at the Census of the 30th June, 1961. A low rainfall renders much of it virtually uninhabitable and desert or near-desert conditions prevail over some 350,000 square miles which includes much of the eastern and northern parts of the area and extends into the southern portion of the Kimberley Statistical Division. Almost no part of this desert area has an annual rainfall greater than ten inches and a considerable proportion has much less. Of the total of 41,344 persons enumerated in the three Divisions at the Census, more than 33,000 were living in or near the towns of Kalgoorlie-Boulder (21,773), Norseman (2,478), Esperance (1,555), Gwalia-Leonora (970), Port Hedland (965), Southern Cross (936), Mount Magnet (908), Wittenoom (881), Bullfinch (774), Coolgardie (687), Meekatharra (640) and Ravensthorpe (509). 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 529,486 square miles in extent. It is therefore somewhat greater in area than half the entire State, but had a population at the 1961 Census of only 13,657 persons. Of these, more than 8,600 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 192 square miles, representing a density of 2,190 persons per square mile. The Central Division is the most sparsely populated with an area of 215,070 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	192	0.02	205,107	215,026	420,133	57.03	2,189.56
Swan	1,886	0.19	28,477	26,788	55,265	7.50	29.30
South-West	11,025	1.13	37,314	34,323	71,637	9.73	6.50
Southern Agricultural	22,050	2.26	21,999	19,624	41,623	5.65	1.89
Central Agricultural	29,075	2.98	30,964	26,630	57,594	7.82	1.98
Northern Agricultural	36,840	3.77	19,578	16,207	35,785	4.86	0.97
Eastern Goldfields	250,225	25.64	18,430	15,712	34,142	4.63	0.14
Central	215,070	22.04	2,365	1,594	3,959	0.54	0.02
North-West	75,732	7.76	2,754	1,809	4,563	0.62	0.06
Pilbara	171,462	17.57	2,119	1,124	3,243	0.44	0.02
Kimberley	162,363	16.64	3,816	1,852	5,668	0.77	0.03
Total—All Divisions	975,920	100.00	372,923	360,689	733,612	99.59	0.75
Migratory (a) .....	.....	.....	2,529	488	3,017	0.41	.....
Whole State	975,920	100.00	375,452	361,177	736,629	100.00	0.75

(a) Comprises persons (both passengers and crew) not enumerated elsewhere who, at midnight on Census night, were on board ships or were travelling on long-distance trains, 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.

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	309,433	1,972,009	1,944,104	3,917,013	12.66
Victoria	87,884	1,474,395	1,455,713	2,930,113	33.34
Queensland	687,000	774,579	744,249	1,518,828	2.23
South Australia	390,070	490,225	479,115	969,340	2.55
Western Australia	975,920	375,452	361,177	736,629	0.75
Tasmania	28,383	177,828	172,712	350,340	13.23
Northern Territory	520,280	16,206	10,889	27,095	0.05
Australian Capital Territory	939	80,853	27,970	58,828	62.65
Australia	2,967,909	5,312,252	5,195,934	10,508,186	3.54

ABORIGINES

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 fortiori* 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 half aboriginal and half European blood as half-caste, 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 aborigines so defined are thus excluded, by the requirements of the Constitution Act, from the main tabulations relating to the population census. Nevertheless, every endeavour is made in the course of the census enumeration to record all full-blood aborigines in contact with civilization. The nomadic habits of the natives, even of those in employment, in remote areas make this compilation extremely difficult, and much more so in the case of those living under tribal conditions. At the 1961 Census, 8,121 full-blood aborigines 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 aborigines 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

(See NOTE on page 121.)

THE REGISTRATION SYSTEM

Compulsory registration of births, deaths and marriages in Western Australia was originally provided for by legislation of the year 1841. The Statutes currently in force are the Registration of Births, Deaths and Marriages Act, 1961-1965 (State) and the Marriage Act 1961 (Commonwealth). For administrative purposes, the State is divided into 27 Registry Districts, each having a District Registrar. Particulars of births, deaths and marriages reported to the District Registrars are sent to the Registrar-General at Perth, where a Central Registry Office has been maintained since 1841. Local registers are kept at each district office.

Births are required to be registered within sixty days of the event, and must be notified by the father, the mother or the occupier of the premises where the birth took place. Special provisions and penalties apply to notification and registration after the expiration of the sixty-day period.

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.

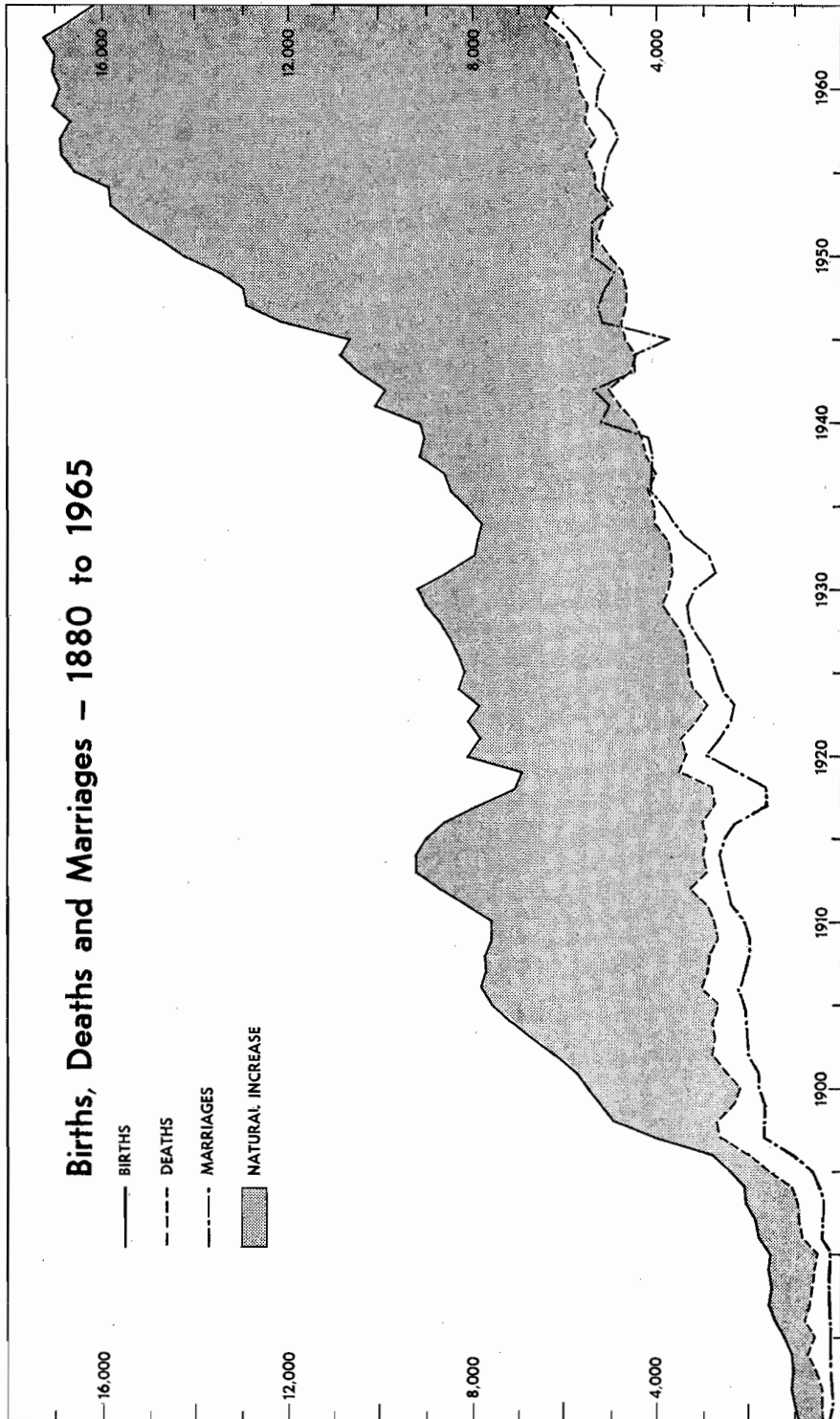
Statistics of births, deaths and marriages are prepared from the registration documents. These vital statistics are compiled according to date of registration and not date of occurrence, and according to place of usual residence and not place of occurrence.

BIRTHS

Statistics of births in each of the five years 1961 to 1965 in the Metropolitan Statistical Division, the rest of the State, and in Western Australia as a whole are shown in the following table.

Year	Births (a)			Ex-Nuptial Births (a)	Multiple Births (a)	Stillbirths
	Males	Females	Total			
METROPOLITAN STATISTICAL DIVISION						
1961	4,548	4,237	8,785	471	169	121
1962	4,541	4,342	8,883	482	157	111
1963	4,656	4,284	8,940	592	161	80
1964	4,447	4,182	8,629	645	153	81
1965	4,345	4,153	8,498	706	159	89
REST OF STATE						
1961	4,252	4,041	8,293	488	160	119
1962	4,283	3,896	8,181	523	144	92
1963	4,213	4,137	8,350	637	173	98
1964	4,123	3,933	8,056	666	160	89
1965	3,935	3,753	7,688	733	182	92
WHOLE STATE						
1961	8,800	8,278	17,078	959	329	240
1962	8,824	8,240	17,064	1,005	301	203
1963	8,869	8,421	17,290	1,229	334	178
1964	8,570	8,115	16,685	1,311	313	170
1965	8,280	7,906	16,186	1,439	341	181

(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 1916 to 1965 and the rates for single years, from 1956 to 1965, 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
1916-1920	24.49	25.35	1956	25.08	22.51
1921-1925	22.85	23.86	1957	24.62	22.86
1926-1930	21.54	20.98	1958	23.90	22.60
1931-1935	18.36	16.94	1959	24.04	22.57
1936-1940	19.16	17.52	1960	23.41	22.42
1941-1945	21.72	20.28	1961	23.16	22.85
1946-1950	25.24	23.39	1962	22.59	22.14
1951-1955	25.37	22.86	1963	22.36	21.59
1956-1960	24.20	22.59	1964	21.11	20.58
1961-1965	21.83	21.32	1965	20.08	19.61

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 1952 when the rate reached 25.66, its highest level since 1917. Since 1952 there has been a decline and in 1965 the rate was 20.08, 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 1.722 and 1.668.

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	16.87	20.58	22.82	15.36	19.12	22.87
20-24	89.45	116.12	119.85	80.68	96.24	110.02
25-29	99.75	106.22	109.40	90.08	94.49	107.72
30-34	72.12	65.07	63.18	63.76	59.91	63.63
35-39	42.87	34.72	30.13	36.48	31.17	30.63
40-44	14.44	11.02	9.96	11.44	9.85	9.36
45-49	1.17	0.76	0.68	0.80	0.71	0.70
Gross Reproduction Rate	1.683	1.772	1.780	1.493	1.558	1.724
Net Reproduction Rate	(b) 1.595	(c) 1.704	(d) 1.722	(b) 1.416	(c) 1.497	(d) 1.668

(a) Number of female births per 1,000 women in each age group. (b) Based on 1946-1948 mortality experience.
(c) Based on 1953-1955 mortality experience. (d) Based on 1960-1962 mortality experience.

DEATHS

Statistics of deaths in each of the five years 1961 to 1965 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						
1961	2,043	1,687	3,730	82	63	145
1962	2,157	1,675	3,832	106	73	179
1963	2,140	1,776	3,916	86	67	153
1964	2,382	1,910	4,292	81	55	136
1965	2,325	1,782	4,107	82	58	140
REST OF STATE						
1961	1,283	716	1,999	101	90	191
1962	1,240	738	1,978	120	81	201
1963	1,304	756	2,060	110	90	200
1964	1,356	781	2,137	99	83	182
1965	1,390	777	2,167	115	96	211
WHOLE STATE						
1961	3,326	2,403	5,729	183	153	336
1962	3,397	2,413	5,810	226	154	380
1963	3,444	2,532	5,976	196	157	353
1964	3,738	2,691	6,429	180	148	328
1965	3,715	2,559	6,274	197	154	351

(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 1916 to 1965 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
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	9.26	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	9.96	1961	7.77	8.47
1946-1950 (a)	9.23	9.74	1962	7.69	8.70
1951-1955	8.49	9.25	1963	7.73	8.69
1956-1960	7.90	8.78	1964	8.14	9.03
1961-1965	7.82	8.74	1965	7.78	8.78

(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 rate for 1965 was 7.78 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 1916 to 1965 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
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
1961-1965	20.73	19.42	1965	21.69	18.48

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 1965, Western Australia's average annual rate was 20.73 compared with the Australian rate of 19.42 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 1965 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	4.68	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	264	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
1962	*197	*11.54	72	4.22	*32	*1.88	12	0.70	67	3.93	380	22.27
1963	*215	*12.43	54	3.12	*22	*1.27	5	0.29	57	3.24	353	20.42
1964	184	11.03	55	3.30	21	1.26	6	0.36	62	3.72	328	19.66
1965	204	12.60	57	3.52	31	1.92	2	0.12	57	3.52	351	21.69

† Excluding stillbirths. (a) Rate per 1,000 live births. (b) "Infective and Parasitic Diseases" included in "All Other Causes." * Revised.

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 1965, when there were 22 infant deaths from diarrhoea and enteritis, was 1.36.

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 1956 to 1965, the average annual number of stillbirths registered was 212, compared with an average of 356 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)
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	98	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	73	170	117.9	180	148	328	121.6
1965	110	71	181	154.9	197	154	351	127.9

(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					
1956	226	223	269	384	610
1957	248	233	256	357	605
1958	225	217	240	360	585
1959	225	214	234	345	570
1960	226	239	269	366	592
1961	240	179	218	336	576
1962	203	218	247	380	583
1963	178	214	257	353	531
1964	170	199	217	328	498
1965	181	210	245	351	532
RATE (a)					
1956	13.18	13.01	15.69	22.40	35.59
1957	14.44	13.57	14.91	20.79	35.23
1958	13.27	12.80	14.15	21.23	34.50
1959	12.98	12.84	13.50	19.90	32.88
1960	13.18	13.93	15.68	21.34	34.51
1961	13.86	10.34	12.59	19.40	33.26
1962	11.76	12.63	14.30	22.01	35.76
1963	10.19	12.25	14.71	20.21	30.40
1964	10.09	11.61	12.87	19.46	29.55
1965	11.06	12.83	14.97	21.45	32.50

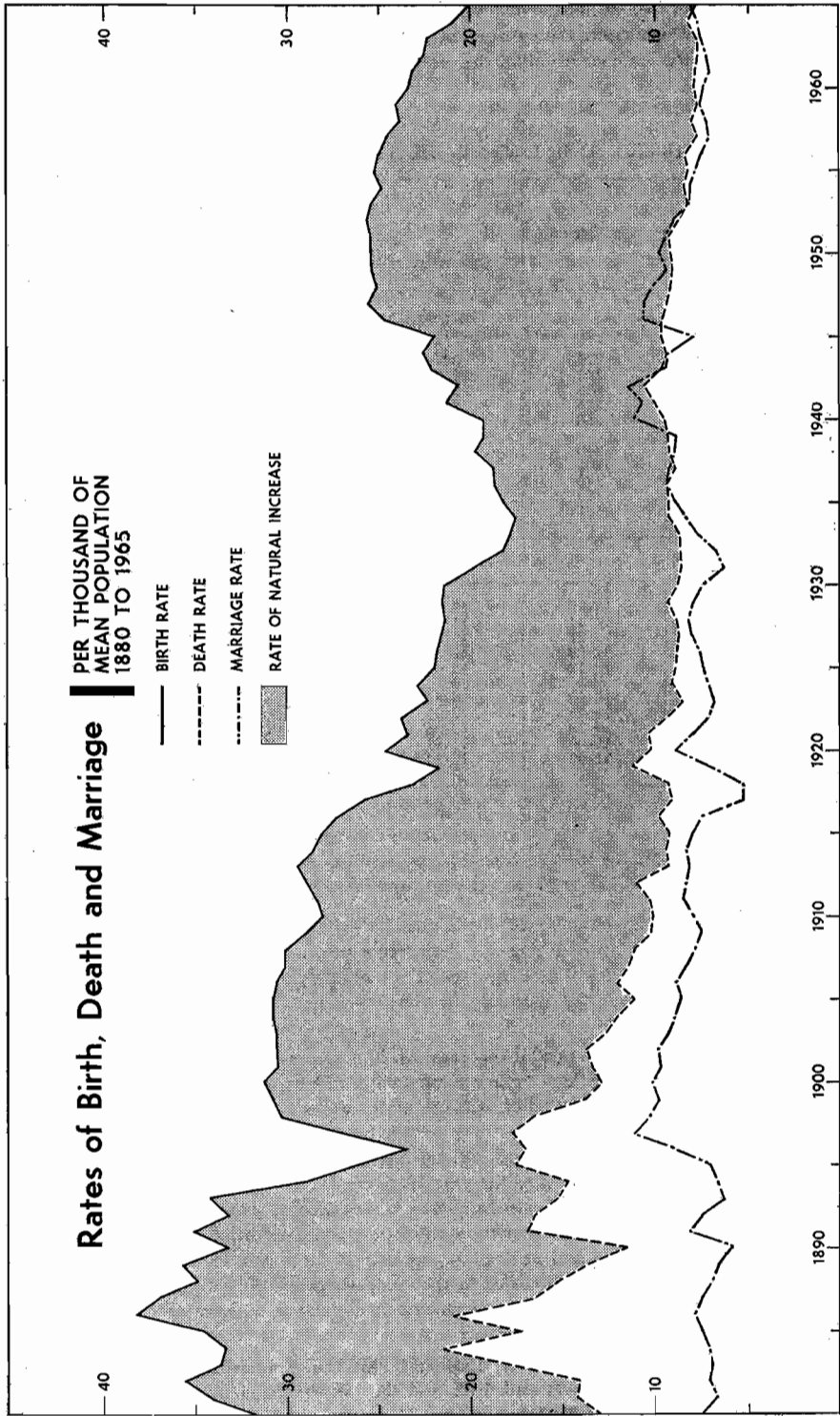
(a) Rate per 1,000 of total births (*i.e.*, including stillbirths).

Of the 5,682 failures during the ten years to complete the first year of life, due either to stillbirth or to death in the first year, 2,122 or 37.35 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 in a community of a high proportion of young people or of aged people, or of a high or low masculinity, will be readily appreciated. To devise an adequate measure of comparative mortality, it is therefore necessary to select a "standard" population to which the varying mortality experiences may be referred. A standard population compiled by the International Statistical Institute, based upon the age and sex distribution of the population of 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 11.88, 8.74, 7.28, 6.71 and 6.02, and the corresponding rates for Australia as a whole were 10.58, 8.62, 7.34, 6.90 and 6.27.



Causes of Death—Statistics of causes of death provide important numerical facts by which to evaluate the varying health conditions and needs of different countries. In order to enable valid international comparisons, it is necessary that each country present its statistics of causes of death in a uniform manner. The first Classification of Causes of Death to be adopted internationally was that compiled by Dr. J. Bertillon at the request of the International Statistical Institute meeting in Vienna in 1891. Subsequently this Classification was periodically revised by the Institute in collaboration with the League of Nations Health Organization. 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 1961 to 1965 classified according to cause, together with the corresponding rates per thousand of mean population.

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

Cause of Death	1961	1962	1963	1964	1965
NUMBER					
Diseases of the heart	2,022	2,078	2,117	2,350	2,246
Cancer	931	923	1,029	1,015	1,049
Cerebral haemorrhage, etc.	662	659	640	708	759
Automobile accidents	193	175	199	232	244
Other accidents	195	211	190	210	189
Pneumonia	237	224	211	235	210
General arteriosclerosis	177	221	213	200	156
Enteritis and diarrhoea	50	48	37	43	40
Other diseases of digestive system	140	138	125	150	141
Nephritis	52	41	60	44	75
Other diseases of genito-urinary system	87	72	70	87	67
Suicide	85	108	127	124	111
Homicide	11	7	12	12	8
Bronchitis	94	104	116	128	142
Diabetes mellitus	63	54	73	77	87
Tuberculosis	19	29	13	20	14
Maternal causes	7	5	4	6	3
All other causes	704	713	740	788	733
All Causes	5,729	5,810	5,976	6,429	6,274
RATE (a)					
Diseases of the heart	274.2	275.1	273.8	297.4	278.6
Cancer	126.3	122.2	133.1	128.4	130.1
Cerebral haemorrhage, etc.	89.8	87.3	82.8	89.6	94.1
Automobile accidents	26.2	23.2	25.7	29.4	30.3
Other accidents	26.4	27.9	24.6	26.6	23.4
Pneumonia	32.1	29.7	27.3	29.7	26.0
General arteriosclerosis	24.0	29.3	27.5	25.3	19.4
Enteritis and diarrhoea	6.8	6.4	4.8	5.4	5.0
Other diseases of digestive system	19.0	18.3	16.2	19.0	17.5
Nephritis	7.1	5.4	7.8	5.6	9.3
Other diseases of genito-urinary system	11.8	9.5	9.1	11.0	8.3
Suicide	11.5	14.3	16.4	15.7	13.8
Homicide	1.5	0.9	1.6	1.5	1.0
Bronchitis	12.7	13.8	15.0	16.2	17.6
Diabetes mellitus	8.5	7.1	9.4	9.7	10.8
Tuberculosis	2.6	3.8	1.7	2.5	1.7
Maternal causes	0.9	0.7	0.5	0.8	0.3
All other causes	95.5	94.4	95.7	99.7	90.9
All Causes	776.9	769.3	772.9	813.6	778.2

(a) Rate per 100,000 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 eight separate periods, 1881–1890, 1891–1900, 1901–1910, 1920–1922, 1932–1934, 1946–1948, 1953–1955 and 1960–1962. 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 the expectancy has risen to 67.92 years. The anticipated life-span of females at birth has increased from 50.84 years to 74.18 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 1960-1962
(Years)

Age last birthday (years)	1881-1890	1891-1900	1901-1910	1920-1922	1932-1934	1946-1948	1953-1955	1960-1962
MALES								
0	47.20	51.08	55.20	59.15	63.48	66.07	67.14	67.92
1	53.34	56.88	59.96	62.67	65.49	67.25	67.86	68.46
2	54.26	57.41	60.04	62.60	65.00	66.47	67.05	67.59
3	54.01	56.98	59.45	61.99	64.25	65.60	66.17	66.67
4	53.49	56.33	58.71	61.25	63.43	64.70	65.26	65.73
5	52.86	55.61	57.91	60.43	62.57	63.77	64.32	64.77
10	48.86	51.43	53.53	56.01	58.02	59.04	59.53	59.93
15	44.45	46.98	49.03	51.44	53.36	54.28	54.72	55.07
20	40.58	42.81	44.74	46.99	48.81	49.64	50.10	50.40
25	37.10	38.90	40.60	42.70	44.37	45.04	45.54	45.80
30	33.64	35.11	36.52	38.44	39.90	40.40	40.90	41.12
35	30.06	31.34	32.49	34.20	35.46	35.79	36.25	36.45
40	26.50	27.65	28.56	30.05	31.11	31.23	31.65	31.84
45	23.04	23.99	24.78	26.03	26.87	26.83	27.18	27.38
50	19.74	20.45	21.16	22.20	22.83	22.67	22.92	23.13
55	16.65	17.08	17.67	18.51	19.03	18.84	19.00	19.18
60	13.77	13.99	14.85	15.08	15.57	15.36	15.47	15.60
65	11.06	11.25	11.31	12.01	12.40	12.25	12.33	12.47
70	8.82	8.90	8.67	9.26	9.60	9.55	9.59	9.77
75	6.72	6.70	6.58	6.87	7.19	7.23	7.33	7.47
80	5.11	5.00	4.96	5.00	5.22	5.36	5.47	5.57
85	3.86	3.79	3.65	3.62	3.90	3.84	4.01	4.08
90	2.91	2.91	2.64	2.60	2.99	2.74	2.93	3.02
95	2.16	2.16	1.88	1.86	2.11	1.93	2.10	2.29
100	1.32	1.29	1.18	1.17	1.10	....	....	....

FEMALES								
0	50.84	54.76	58.84	63.31	67.14	70.63	72.75	74.18
1	56.44	59.89	62.89	66.03	68.67	71.45	73.22	74.49
2	57.39	60.40	62.95	65.86	68.12	70.66	72.40	73.62
3	57.16	59.98	62.34	65.21	67.34	69.77	71.49	72.70
4	56.63	59.35	61.60	64.44	66.50	68.84	70.55	71.74
5	56.00	58.64	60.80	63.64	65.64	67.91	69.61	70.78
10	51.95	54.46	56.39	59.20	61.02	63.11	64.78	65.92
15	47.54	49.97	51.86	54.55	56.29	58.27	59.80	61.01
20	43.43	45.72	47.52	50.03	51.67	53.47	55.06	56.16
25	39.67	41.69	43.36	45.71	47.19	48.74	50.24	51.32
30	36.13	37.86	39.33	41.48	42.77	44.08	45.43	46.49
35	32.58	34.14	35.37	37.28	38.37	39.46	40.67	41.70
40	29.08	30.49	31.47	33.14	34.04	34.91	36.00	36.99
45	25.56	26.69	27.59	28.99	29.74	30.45	31.44	32.38
50	22.06	22.93	23.69	24.90	25.58	26.14	27.03	27.92
55	18.64	19.29	19.85	20.95	21.58	22.04	22.81	23.63
60	15.39	15.86	16.20	17.17	17.74	18.11	18.78	19.51
65	12.27	12.75	12.88	13.60	14.15	14.44	15.02	15.68
70	9.70	9.89	9.96	10.41	10.98	11.14	11.62	12.19
75	7.24	7.37	7.50	7.73	8.23	8.32	8.69	9.16
80	5.27	5.49	5.73	5.61	6.01	6.02	6.30	6.68
85	3.90	4.12	4.19	4.06	4.30	4.32	4.52	4.79
90	2.98	3.07	2.99	2.91	3.05	3.08	3.24	3.48
95	2.25	2.18	2.10	2.07	2.00	2.14	2.31	2.59
100	1.37	1.23	1.24	1.24	1.02	....	....	....

MARRIAGES

The number of marriages celebrated in Western Australia in each of the five years 1961 to 1965 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							
1961	2,556	452	3,008	15.0	282	1,127	1,409
1962	2,688	525	3,213	16.3	345	1,215	1,560
1963	2,992	521	3,513	14.8	425	1,423	1,848
1964	3,122	512	3,634	14.1	423	1,476	1,899
1965	3,404	581	3,985	14.6	585	1,695	2,280
REST OF STATE							
1961	1,831	311	2,142	14.5	216	962	1,178
1962	1,963	290	2,253	12.9	237	992	1,229
1963	1,915	327	2,242	14.6	280	1,014	1,294
1964	2,029	360	2,389	15.1	302	1,133	1,435
1965	2,102	361	2,463	14.7	379	1,212	1,591
WHOLE STATE							
1961	4,387	763	5,150	14.8	498	2,089	2,587
1962	4,651	815	5,466	14.9	582	2,207	2,789
1963	4,907	848	5,755	14.7	705	2,437	3,142
1964	5,151	872	6,023	14.5	725	2,609	3,334
1965	5,506	942	6,448	14.6	964	2,907	3,871

The statistics of minors marrying during the five-year period as shown above reveal that 42.5 per cent. of brides were minors, compared with only 12.0 per cent. of bridegrooms.

Age at Marriage—The relative ages of bridegrooms and brides who married in Western Australia in 1965 are shown in the following table.

RELATIVE AGES OF BRIDEGROOMS AND BRIDES, 1965

Age of Bridegroom (years)	Total Bridegrooms	Age of Bride (years)							
		Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over
Under 20	483	....	413	70	....	....	....	....	....
20-24	3,294	1	1,310	1,864	112	6	1	....	....
25-29	1,475	....	281	905	241	35	9	....	....
30-34	434	....	36	182	131	46	28	3	1
35-39	235	....	8	42	62	62	33	18	10
40-44	163	....	....	19	22	21	37	35	29
45-49	91	....	....	6	7	11	17	21	29
50-54	86	....	....	2	3	7	11	15	48
55-59	85	....	....	2	....	4	7	9	63
60-64	38	....	....	....	....	....	1	4	33
65 and over	64	....	....	....	1	....	....	2	61
Total Brides	6,448	1	2,048	3,092	579	192	144	114	278

Of the women who married in 1965, 31.8 per cent. were less than 20 years of age. The corresponding figure for men was 7.5 per cent.

The following table gives details of the average age and the conjugal condition of bridegrooms and brides in each of the ten years to 1965. In each year of the period the difference in the average age of bridegrooms and brides was between three and four years, the difference in 1965 being 3.15 years.

AVERAGE AGES OF BRIDEGROOMS AND BRIDES

Year	Average Age of Bridegrooms				Average Age of Brides			
	Bachelors	Widowers	Divorced	Total	Spinsters	Widows	Divorced	Total
1956	26.10	53.58	40.93	28.30	22.36	47.37	35.61	24.75
1957	25.87	54.76	41.46	28.08	22.08	47.36	36.04	24.45
1958	25.70	54.11	41.14	27.84	21.99	47.54	36.69	24.33
1959	25.68	54.98	40.68	27.93	21.96	49.02	36.73	24.45
1960	25.38	53.94	40.27	27.46	21.66	48.08	36.55	24.02
1961	25.28	55.78	41.33	27.46	21.77	48.74	37.69	24.02
1962	25.06	54.74	40.53	27.22	21.66	48.36	36.43	23.93
1963	24.97	53.98	41.40	26.97	21.51	47.96	36.90	23.51
1964	24.79	56.12	42.65	27.00	21.54	50.43	37.71	23.63
1965	24.46	54.65	42.31	26.41	21.32	49.54	38.10	23.26

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 1916 to 1965, as well as the rates for each of the years from 1956 to 1965, 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
1916-1920	6.80	7.82	1956	7.53	7.62
1921-1925	7.27	8.04	1957	7.12	7.65
1926-1930	7.80	7.52	1958	7.20	7.52
1931-1935	7.53	7.16	1959	7.57	7.40
1936-1940	9.49	9.35	1960	7.36	7.34
1941-1945	9.74	9.94	1961	6.98	7.30
1946-1950	10.01	9.77	1962	7.24	7.39
1951-1955	8.44	8.29	1963	7.44	7.41
1956-1960	7.86	7.50	1964	7.62	7.72
1961-1965	7.47	7.62	1965	8.00	8.23

DIVORCE

The Matrimonial Causes Act 1959-1966 (Commonwealth), which came into operation on the 1st February, 1961, establishes uniform grounds throughout Australia for the termination of marriage. Previously, each State was primarily responsible for the provision of matrimonial relief but the law varied from State to State.

While the Commonwealth Act supersedes the divorce laws of the States, jurisdiction continues to be vested in the State Courts. The transitional provisions of the Act covered matrimonial causes instituted prior to the 1st February, 1961 and gave petitioners the advantage of the new Act without detracting from their position under the former legislation.

Under the uniform law, grounds for dissolution of marriage (*i.e.* divorce) include desertion for not less than two years, adultery, separation for not less than five years, cruelty, drunkenness and failure to comply with maintenance orders. The main grounds for nullity of marriage are bigamy and incapacity to consummate the marriage.

Decrees may be granted by a Court for dissolution of marriage, judicial separation, nullity of marriage and restitution of conjugal rights. Orders may also be made for the custody and welfare of children, maintenance, the settlement of property, and damages for adultery.

The new Act introduced changes in provisions on divorce and consequently statistics for periods subsequent to the 1st February, 1961 may not be comparable with those for earlier years.

PETITIONS FILED

Year	Petitions for—				Total Petitions	Petitioner	
	Dissolution of Marriage	Nullity of Marriage	Judicial Separation	Restitution of Conjugal Rights		Husband	Wife
1956	652	4	6	....	662	364	298
1957	623	6	4	....	633	354	279
1958	644	6	15	....	665	339	326
1959	671	3	7	....	681	356	325
1960	560	1	9	....	570	298	272
1961	620	....	2	4	626	311	315
1962	651	3	....	10	664	307	357
1963	623	4	2	4	633	296	337
1964	653	2	1	9	665	321	344
1965	736	2	....	5	743	374	369

The following table gives the number of decrees absolute granted and the grounds for the decrees in the period 1956 to 1965. In each of the ten years, adultery was the principal ground for divorce, and accounted for 35 per cent. of dissolutions in 1965. Every decree of dissolution of marriage is in the first instance a decree *nisi* and is generally not made absolute until the expiration of three months.

DISSOLUTION OF MARRIAGE—DECREEES ABSOLUTE GRANTED

Year	Ground (a)					Total Decrees Absolute	Petitioner		
	Adultery	Desertion	Separation for 5 years or longer	Main- tenance (b)	Other		Husband	Wife	Both Parties
1956	251	136	133	17	7	544	304	240	....
1957	240	140	134	16	11	541	292	249	....
1958	253	146	108	19	10	536	285	251	....
1959	275	149	130	21	9	584	299	285	....
1960	249	129	131	19	12	540	287	253	....
1961	199	148	95	15	9	466	224	242	....
1962	205	189	156	14	18	582	283	299	....
1963	204	183	148	5	13	553	251	299	3
1964	210	150	160	6	16	542	259	282	1
1965	213	194	168	6	23	604	275	329	....

(a) Where a dissolution is granted on two or more grounds, only one ground is tabulated, preference being given in the order shown. (b) Non-compliance with maintenance order.

In the following table particulars are given of the duration of marriage, *i.e.* the interval between marriage and the date when the decree was made absolute, for marriages dissolved during the ten years 1956 to 1965.

DISSOLUTION OF MARRIAGE—DURATION OF MARRIAGES DISSOLVED

Year	Marriages Dissolved after a Duration of—								Total Marriages Dissolved
	Under 5 years	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35 years and over	
1956	61	185	107	74	50	31	20	16	544
1957	49	176	122	83	48	40	14	9	541
1958	52	177	145	70	37	23	20	12	536
1959	48	177	144	97	53	33	20	12	584
1960	48	178	137	73	54	25	13	12	540
1961	25	148	120	69	45	27	18	14	466
1962	33	151	171	82	67	49	18	11	582
1963	31	153	123	116	63	40	15	12	553
1964	29	128	131	97	76	44	18	19	542
1965	39	165	130	106	73	50	20	21	604

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 1847 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 which 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 purely Government schools." It was also the function of the Central Board to apportion and distribute funds 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 prescribed 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 1895 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 1899 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 \$80 per annum, tenable for the first three years of secondary education at government or non-government schools and a further ten scholarships, valued at \$160 per annum, tenable in the fourth and fifth years. Selected students intending to enter the teaching service are granted bursaries, also valued at \$160 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 \$200 per annum for three years are granted to full-time students in Associateship courses at the Perth Technical College and a further eight scholarships, valued at \$100 per annum for three years, to part-time students in Associateship or Diploma courses. As a contribution towards tuition fees at non-governmental schools assistance is made available on the basis of \$30 annually for a student in the first three years of secondary education and \$36 in each of the fourth and fifth years.

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. Assistance is also given 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, subsidies are provided for the installation of swimming pools.

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 177 technical scholarships for certain courses at technical institutions and the Western Australian School of Mines and the Muresk Agricultural College. Benefits, which are not subject to a means test, comprise, for full-time students, a living allowance of \$200 per annum, \$50 per annum for

text books and equipment, and up to \$150 per annum for fees. For part-time technical students, allowances of \$100 per annum, not subject to a means test, are granted and compulsory fees are reimbursed. Seventy-one Commonwealth Advanced Education Scholarships are awarded each year to students in approved courses of technical studies. They 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 connexion with secondary education and technical training. The States Grants (Science Laboratories and Technical Training) Act 1964 authorized payment to Western Australia during the financial year 1964-65 of maximum amounts of \$707,600, for laboratories and equipment for use in the teaching of science at secondary level in government and non-government schools, and \$714,400 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 1965 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.

School Attendance

Where a child lives within reasonable access of a government or approved non-government school, attendance is compulsory from the age of six years and upward to the end of the year in which the child attains the age of fifteen years, unless satisfactory instruction is provided elsewhere. The Minister for Education may, however, if he is satisfied that the best interests of the child would be served, exempt a child from further attendance at school if the child has attained the age of fourteen years, is assured of employment and it is necessary for the child to leave school in order to engage in that employment.

SCHOOL CHILDREN CLASSIFIED ACCORDING TO AGE—AUGUST, 1965

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	2,935	2,865	5,800	4,240	3,983	8,223	7,175	6,848	14,023
6 and under 13	51,150	47,324	98,474	10,948	12,184	23,132	62,098	59,508	121,606
13 and under 16	16,983	14,706	31,689	4,618	5,377	9,995	21,601	20,083	41,684
16 and over	3,035	1,953	4,988	1,610	1,248	2,858	4,645	3,201	7,846
Total	74,103	66,848	140,951	21,416	22,792	44,208	95,519	89,640	185,159

(a) Excluding Technical Schools and Colleges; see table on page 151.

(b) Including kindergartens.

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, visual 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 12 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 pass in certain specified subjects qualifies a candidate to matriculate at the University. A High School gives instruction in the first three



years of the secondary 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 centres 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 1961 to 1965. 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 1st August—				
	1961	1962	1963	1964	1965
NUMBER OF SCHOOLS					
Primary Schools	460	461	455	461	466
Junior High Schools	36	32	35	37	38
High Schools	14	22	17	16	18
Senior High Schools	16	17	20	21	22
Total	526	532	527	535	544
NUMBER OF TEACHERS (a)					
Engaged in Teaching Duties	4,117	*4,241	4,471	*4,713	4,934
On Special Duties	92	*65	72	74	92
Total	4,209	*4,306	4,543	*4,787	5,026
Males	2,297	2,377	2,447	*2,559	2,666
Females	1,912	*1,929	2,096	*2,228	2,360
Total	4,209	*4,306	4,543	*4,787	5,026
NUMBER OF SCHOLARS					
Grade of Education—					
Primary	94,160	96,237	98,645	100,343	102,230
Secondary: Years 1, 2 and 3	27,795	30,103	31,503	33,202	34,311
Years 4 and 5	2,677	3,115	3,635	4,028	4,410
Total	124,632	129,455	133,783	137,573	140,951
Males	65,309	68,151	70,454	72,358	74,103
Females	59,323	61,304	63,329	65,215	66,848
Total	124,632	129,455	133,783	137,573	140,951

(a) Excluding persons teaching part-time.

* Revised.

The Education Department's policy of "consolidating" its schools in country areas has tended to concentrate 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 needlework for girls and such crafts as leatherwork, bookbinding, papiermache work and canework for boys. At the post-primary levels, mathematics, languages, science subjects, economics, home science, woodwork, metalwork and technical drawing are introduced. The teaching of elementary science aims at a better understanding of the child's physical environment. The course is adapted to the conditions of

the particular neighbourhood, and so varies between town and country areas. In musical expression, choral singing receives most attention, although school orchestras are being developed in some primary and high schools. Advisory teachers, under the direction of specialist superintendents, assist teachers in the fields of handicrafts, physical education, art, music, speech, drama and elementary science.

Education in the government schools is secular in character but periods are set aside during which representatives of various religious denominations attend to give religious instruction. In addition, instruction in scripture stories is given by class teachers.

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 films, 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 enrol mainly to prepare for nursing training or for the Junior Certificate and similar examinations, or to improve their general education. During 1965, instruction was given to 1,846 students of whom 692 were adults.

Schools of the air are conducted through the radio network of the Royal Flying Doctor Service from bases at Derby, Kalgoorlie, 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, 1965 there were 4,072 aboriginal and part-aboriginal children at government primary schools and high schools and 897 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 Cunderdin 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 Muresk Agricultural College to which reference is made on page 152.

Technical Education

The principal institution of the Division of Technical Education is the Perth Technical College which originated in 1900 as the Perth Technical School. Much of the senior work of the Division, including the later stages of Technical Diploma courses and most Associateship courses, is being transferred from the College to the new Western Australian Institute of Technology at Bentley which was officially opened on the 17th August, 1966.

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 Carlisle Technical School is mainly concerned with training for trades associated with the automotive industry. The Mount Lawley Technical School provides training in baking, hairdressing and the electrical and meat industry trades, as well as commercial vocational training. Technical schools at Claremont, Fremantle, Midland, Kalgoorlie 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 eighteen of the Department's ordinary metropolitan schools and eight of its country schools. The Technical Extension Service conducts correspondence courses and extension classes to provide instruction where it is not practicable to establish a technical school or centre.

TECHNICAL EDUCATION

Particulars	1961	1962	1963	1964	1965
Number of—					
Colleges	1	1	1	1	1
Schools	7	7	8	9	9
Centres	12	17	23	22	26
Total	20	25	32	32	36
Number of Teachers at 1st July (a)—					
Perth Technical College (b)	408	515	523	430	462
Schools	316	405	461	645	761
Centres	198	281	387	436	528
Technical Extension Service—					
Correspondence Courses	127	138	137	154	162
Extension Classes	103	88	76	109	123
Youth Education Classes	54	61	46	57	49
Native Education Classes				11	33
Counselling Service	(b)	(b)	(b)	(b)	19
Total	1,206	1,488	1,630	1,842	2,137
Students Enrolled—					
Perth Technical College	10,963	10,970	9,145	8,153	8,566
Schools	11,208	12,882	14,026	18,430	19,995
Centres	4,904	6,896	7,241	8,128	9,388
Technical Extension Service—					
Correspondence Courses	10,435	10,712	11,263	11,512	13,111
Extension Classes	2,495	2,224	2,145	2,755	2,208
Youth Education Classes	1,088	1,221	1,793	1,839	1,636
Native Education Classes				293	536
Total	41,093	44,905	45,613	51,110	55,440
Males	26,508	29,374	30,251	34,399	37,326
Females	14,585	15,531	15,362	16,711	18,114
Total	41,093	44,905	45,613	51,110	55,440

(a) A teacher may occupy teaching positions at more than one school or centre. The number of individual teachers is not available. (b) Prior to 1965, teachers engaged in the Counselling Service were included in the staff of the Perth Technical College.

The Division has a Counselling Service which is available to advise students in selecting a course and to assist them in their studies. It also provides consultant services to industry and commerce on staff selection and training.

The highest qualification provided is that of Associateship, which generally entails three years' full-time study, or its part-time equivalent, from matriculation level in such fields as Applied Science, Architecture, Business Administration, Chemistry, Commerce, Engineering, Land Surveying, Mathematics, 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 established at all technical schools and centres, 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 1965, the number of trade apprentices enrolled was 7,279. 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 instructors and equipment in the metropolitan area.

Home-making and hobby classes are held at all technical schools and centres 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 institutes. 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 credited 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 its equivalent. Selected students may study in extended fields 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	1961.	1962	1963	1964	1965
Number of Instructors—					
Males	53	56	54	55	54
Females	22	18	19	19	22
Total	75	74	73	74	76
Number of Students Enrolled—					
Males	545	499	519	511	573
Females	807	855	759	750	835
Total	1,352	1,354	1,278	1,261	1,408
Number of Students Graduating—					
Males	225	191	193	162	173
Females	319	401	343	311	298
Total	544	592	536	473	471

OTHER GOVERNMENT EDUCATION

Muresk Agricultural College

The Muresk Agricultural College was established by the Department of Agriculture in 1926 to provide scientific 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 specific subjects at the sub-Leaving level. 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 science.

Practical instruction is also given in cereal farming, stock husbandry, wool classing, pasture management, fodder conservation, farm building construction, farm mechanics 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 1965 was 90.

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. Free 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 1965 was 325.

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.

NON-GOVERNMENT SCHOOLS (a)

Particulars	1961	1962	1963	1964	1965
NUMBER OF SCHOOLS					
Denomination—					
Church of England	9	9	15	15	13
Methodist	3	3	5	5	5
Presbyterian	2	2	3	3	3
Roman Catholic	173	173	177	178	185
Other	8	9	10	11	9
Undenominational	141	150	150	152	157
Total	336	346	360	364	372

NUMBER OF TEACHERS (b)

Denomination of School—					
Church of England	174	171	182	189	196
Methodist	71	72	74	76	78
Presbyterian	61	60	62	60	71
Roman Catholic	776	783	829	855	896
Other	30	26	34	36	40
Undenominational	239	226	272	264	267
Total	1,351	1,338	1,453	1,480	1,548
	Males	800	(c)	322	383
	Females	1,051	(c)	1,158	1,185
	Total	1,351	1,338	1,453	1,548

(a) For 1961 numbers are as at the end of the school year; from 1962, as at 1st August.

(b) Excluding persons teaching part-time.

(c) Not available.

NON-GOVERNMENT SCHOOLS—SCHOLARS AT 1st AUGUST

Particulars	1961	1962	1963	1964	1965
Denomination of School—					
Church of England	3,210	3,351	3,511	3,524	3,636
Methodist	1,319	1,321	1,383	1,445	1,527
Presbyterian	1,158	1,137	1,187	1,168	1,198
Roman Catholic	28,116	28,649	29,657	30,224	31,099
Other	599	660	750	776	757
Udenominational	4,359	4,979	5,075	5,402	5,991
Total	38,761	40,097	41,563	42,539	44,208
Grade of Education—					
Kindergarten	4,752	5,361	5,780	6,219	6,684
Primary	22,568	22,908	23,494	23,579	24,234
Secondary: Years 1, 2 and 3	9,278	9,462	9,614	9,882	10,299
Years 4 and 5	2,163	2,366	2,675	2,859	2,991
Total	38,761	40,097	41,563	42,539	44,208
Males	18,913	19,532	20,258	20,504	21,416
Females	19,848	20,565	21,305	22,035	22,792
Total	38,761	40,097	41,563	42,539	44,208

Almost all of the schools shown under the heading *Udenominational* in the table on the previous page 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 1st August, 1965 the number of kindergartens registered with the Education Department was 168, of which 71 were affiliated with the Kindergarten Union.

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 (1927), Agriculture (1936), Dental Science (1946), Education (1947), Economics (1954), Medicine (1956) and Architecture (1966). The Faculty of Economics was reconstituted as the Faculty of Economics and Commerce in 1961.

Degrees

Degrees are granted in the Faculties of Arts, Law, Education, Economics and Commerce, Science, Engineering, Agriculture, Dental Science, Medicine and Architecture.

Courses for the degrees of Bachelor of Arts, Bachelor of Economics, Bachelor of Commerce and Bachelor of Science extend over a period of not less than three years; those for the degrees of Bachelor of Music, Bachelor of Psychology, Bachelor of Laws, Bachelor of Education, Bachelor of Engineering and Bachelor of Science in Agriculture, over not less than four years; and those for the degrees of Bachelor of Dental Science and Bachelor of Architecture over not less than five years. 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 Psychology, Master of Laws and Doctor of Laws, Master of Education, Master of Economics, Master of Commerce, Master of Science and Doctor of Science, Master of Engineering Science, Master of Engineering and Doctor of Engineering, Master of Science in Agriculture and Doctor of Science in Agriculture, Master of Dental Science and Doctor of Dental Science, Master of Surgery and Doctor of Medicine and Master of Architecture, 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 and students at the 31st July in each of the years from 1961 to 1965. The numbers of degrees conferred and diplomas granted during each of these years are also shown.

UNIVERSITY OF WESTERN AUSTRALIA

Particulars	1961	1962	1963	1964	1965
NUMBER OF TEACHERS					
Full-time—					
Professors	31	31	36	41	44
Readers	32	34	34	38	37
Senior Lecturers	80	87	99	101	110
Lecturers	67	77	86	91	99
Tutors, Demonstrators	13	18	23	26	31
Total—Full-time	223	247	278	297	321
Part-time (a)—					
Lecturers	27	20	25	24	38
Graduate Assistants, Tutors, Demonstrators	202	216	232	299	341
NUMBER OF STUDENTS					
Internal, Full-time	1,988	2,144	2,346	2,697	2,971
„ Part-time	1,183	1,334	1,389	1,483	1,681
External	366	375	353	385	370
Total	3,537	3,853	4,088	4,565	5,022
	Males	2,740	2,947	3,146	3,805
	Females	797	906	1,069	1,217
	Total	3,537	3,853	4,088	5,022
DEGREES (†) AND DIPLOMAS					
Degrees (†) Conferred—					
Agriculture	13	22	15	10	26
Arts	137	166	197	193	232
Commerce .....	.....	.....	.....	.....	8
Dental Science	11	4	9	11	10
Economics	6	11	15	22	31
Education	29	23	20	26	19
Engineering	31	38	46	36	39
Law	13	11	15	24	25
Medicine	15	32	39	45	40
Science	66	108	103	121	166
Total	321	415	459	488	596
	Males	240	327	350	460
	Females	81	88	109	136
	Total	321	415	459	596
Diplomas Granted—					
Education	51	47	57	74	64
Other	4	2	5	.....	4
Total	55	49	62	74	68
	Males	46	40	50	45
	Females	9	9	12	23
	Total	55	49	62	68

(a) Figures represent units of 100 hours of teaching time per annum. (†) Excluding honorary degrees. Figures for 1963 and 1964 have been revised.

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 six are appointed by the Governor, six 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 co-opted members. Convocation consists of graduates of the University and such other persons as are eligible for membership under the provisions of the University of Western Australia Act.

Since an amendment to the Act in 1944 the Senate alone has been the governing authority and is responsible, subject to the Act and the statutes, for the entire control and management of the University. Statutes originate in the Senate and are submitted to Convocation for its consideration, and although Convocation may suggest amendments the Senate is not bound to accept them. The Act requires that statutes shall be submitted to the Governor for approval, after which they have the force of law.

The Chancellor is the titular head of the University. He is elected annually by the Senate from among its members and presides over its meetings. The Vice-Chancellor is the chief executive officer of the University and is appointed by the Senate for a period not exceeding ten years, at the end of which term he is eligible for reappointment. At meetings of Convocation the chairman is the Warden who is elected annually by Convocation from among its members.

The Guild of Undergraduates is constituted under the Act as an association of undergraduates "for furthering of their common interests, and shall be the recognised means of communication between the undergraduates and the governing authority of the University." The government of the student body is vested in the Guild Council to which the Senate appoints two of its own members, the remaining members of the Council being elected in accordance with regulations made by the Guild.

Principal Benefactions

A large bequest to the University was made under the will of its first Chancellor, Sir Winthrop Hackett, who died in 1916. Of the total amount of \$850,000, a sum of \$400,000 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 \$400,000 was devoted to the provision of studentships, scholarships, bursaries and other financial help for deserving students of limited 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 Gledden an estate valued at \$120,000 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 Gledden 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 \$307,800 to be applied to medical research. Mrs. Raine died in 1960 and bequeathed her estate, valued for probate at \$1,377,568 to the University for the same purpose.

The sum of \$125,000 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 \$110,000, bequeathed for general purposes under the will of Dr. W. S. McGillivray.

Student Fees and Scholarships

The Royal Commission appointed to inquire into the establishment of a University recommended that teaching should be free and suggested that "if fees are found to be necessary, they should be on the lowest possible scale." Until 1962 lecture fees were not charged to students normally resident in Australia, except those in the Faculty of Medicine, where tuition fees were payable in the second and later years, and those enrolled at the Western Australian College of Dental Science, an institution affiliated with the University, who paid lecture fees to the College. All students paid a "faculty service charge" designed to cover such items as the use of the library, annual examination fees, the use of laboratory equipment, and the lecture synopses provided in some courses. To assist in meeting the increasing costs of operation resulting from a rapidly growing student population and to enable the University to take full advantage of 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, Medicine and Architecture, 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 for students of merit whose means make it difficult for them to undertake or continue a full-time undergraduate course. The State Government provides a number of University Exhibitions for competition among candidates at the Leaving 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 competed for by students holding no other award and having an Honours degree of second class (Division A), or higher, standard. Hackett Scholarships, tenable at the University of Western Australia or in special circumstances at other 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 \$42 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.

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 the Western Australian College of Dental Science, 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.

Currie 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 metropolitan 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 finance in each of the years from 1961 to 1965. Particulars of grants made specifically for capital purposes, and expenditure from such grants, are not included.

UNIVERSITY OF WESTERN AUSTRALIA—FINANCE

Particulars	1961	1962	1963	1964	1965
GENERAL ACTIVITIES					
Receipts—	\$	\$	\$	\$	\$
Government Grants—					
State	1,722,000	1,986,634	2,301,246	2,376,206	3,048,394
Commonwealth	1,092,160	1,280,522	1,493,186	1,662,474	2,113,726
Interest, Rents, Dividends and Donations	67,266	82,944	84,050	96,564	119,312
Students' Fees	271,086	356,790	442,898	679,600	848,808
Charges for Services (a)	13,534	11,198	17,494	28,634	31,364
Other Receipts	53,212	47,698	48,542	79,426	90,844
Total	3,219,258	3,765,686	4,387,416	4,922,904	6,252,448
Payments—					
Administration :					
Salaries	213,100	242,740	306,124	342,424	416,866
Other	89,878	118,238	140,426	154,980	180,352
Teaching Department :					
Salaries	1,908,430	2,109,200	2,448,022	2,664,758	3,619,544
Other	302,070	527,876	740,098	758,802	719,292
Library :					
Salaries	88,320	97,640	118,418	142,202	165,912
Other	88,966	111,314	139,254	157,582	177,254
Maintenance of Premises :					
Salaries and Wages	98,296	113,510	133,892	163,170	188,654
Other	195,704	226,450	273,408	381,162	406,106
Adult Education—Senate Subsidy	59,470	74,710	82,572	*89,520	109,850
Other Payments	146,482	35,950	79,398	*48,316	74,030
Total	3,190,716	3,657,628	4,461,612	4,903,416	6,057,990
SPECIAL ACTIVITIES					
Receipts—	\$	\$	\$	\$	\$
Government Grants :					
State—Adult Education	9,700	9,700	9,700	9,700	9,700
Commonwealth—Research	92,586	120,740	144,580	210,076	380,794
Non-government Research Grants	157,432	202,318	382,200	328,242	408,666
Interest, Rents, Dividends and Donations, etc.	210,848	337,486	559,448	421,432	233,816
Candidates' Fees for Public Examinations	115,478	131,904	146,802	158,358	170,612
Adult Education and Extension Fees	44,388	43,290	51,554	63,466	79,332
Adult Education—Senate Subsidy	59,470	74,710	82,572	89,520	109,980
Total	689,902	920,148	1,376,856	1,280,794	1,392,900
Payments—					
Expenses of Public Examinations	109,596	126,104	143,822	159,562	186,444
Adult Education and Extension	113,098	114,220	131,762	154,122	182,206
Scholarships, Bursaries, Prizes, etc.	71,702	108,834	153,886	181,580	213,080
Special Research Expenses	234,668	308,608	365,026	459,868	572,764
Other Payments	46,682	90,268	186,078	120,824	40,012
Total	575,746	748,034	981,474	1,075,956	1,194,506

(a) Mainly engineering and other testing fees.

* Revised.

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 \$500,000 and "such additional amounts as may be appropriated by Parliament from time to time." In 1965, State Government assistance accounted for almost one-half of the total receipts of \$6,252,448 for general activities. By a series of special Acts, the first of which was passed in 1951, the Commonwealth Government has also made regular annual contributions, and the amount of

\$2,113,726 paid to the University in 1965 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 three reports. The first, presented in October, 1960, and covering the years 1961 to 1963, recommended Commonwealth grants totalling \$86 million for State universities. The Commission later recommended a separate grant of \$4 million for teaching hospitals. The Commission's second report was presented in August, 1963, and recommended Commonwealth grants totalling more than \$121 million for State universities, subsequently increased by \$3 million for teaching hospitals, for the period 1964 to 1966. A third report, covering the Commission's recommendations for the three years 1967 to 1969, was presented in August, 1966. Commonwealth grants amounting to \$199 million for State universities were recommended, including \$5 million for teaching hospitals. The Universities (Financial Assistance) Act 1966 gave effect to the major financial recommendations contained in the Commission's third 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, 1951–1965, is responsible for all forms of public library services which are financed either wholly or in part from State funds. The Board consists of thirteen members. The Director-General of Education and the Director of Adult Education are *ex officio* members. Of the remaining eleven members, who are appointed by the Governor, five represent local government interests, five are nominated by the Minister for Education and one by the Library Association of Australia, Western Australian Branch.

The Board was set up as an independent statutory body in 1952. Its functions are to encourage and assist local authorities to establish public libraries and to co-ordinate those libraries into a State-wide system, to administer funds made available by the Government for this purpose, to provide for the training of librarians and library assistants and to advise the Minister for Education and participating bodies on matters of general policy relating to libraries. Under the provisions of the Acts Amendment (Libraries) Act, 1955, the administration of the Public Library of Western Australia was transferred to the Board on the 1st December, 1955 and its name changed to The State Library of Western Australia. The Central Music Library was inaugurated in 1965.

The following table contains a summary of the principal statistics of the Library Board for the five years to 30th June, 1965.

LIBRARY BOARD OF WESTERN AUSTRALIA

Particulars	1960–61	1961–62	1962–63	1963–64	1964–65
Expenditure—					
Books, periodicals and binding	\$ 158,086	163,124	188,676	174,864	207,272
Salaries and wages	\$ 137,210	151,178	160,192	188,514	204,860
Other	\$ 41,908	42,866	34,730	40,204	40,256
Total	\$ 337,204	357,168	383,598	403,582	452,388
Book stock at 30th June—					
State Library	191,039	197,144	203,861	211,059	216,700
Circulation stock	222,201	270,617	327,134	419,253	454,466
Central Music Library (a)—					
Books .....	.....	.....	.....	.....	2,561
Scores .....	.....	.....	.....	.....	7,901
Total	413,240	467,761	530,995	630,312	681,628
Net additions to book stock	52,037	54,521	63,234	99,317	51,316
Periodical and serial titles received	(b) 5,200	6,158	(b) 6,600	7,192	8,966
Request and Information Service—					
Inter-library requests received	11,520	14,343	18,470	22,119	26,197
Proportion satisfied	93	93	92	93	92
Staff at 30th June—					
Qualified librarians	19	20	20	19	19
Student librarians	14	15	16	17	19
Other	29	30	36	37	42
Total	62	65	72	73	80
Associated public libraries (c)	47	60	63	77	91

(a) Inaugurated 1965.

(b) Estimated.

(c) Number at 30th June.

The books in all public libraries in the State are supplied by the Board and remain its property. A fixed proportion, depending on its size, of the stock of every library is exchanged at least every two months. All books are catalogued and fully prepared for use before being issued to public libraries and the Board maintains all the central stock records.

A catalogue in book-form of the books, arranged by subjects, in all libraries is published 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 organized 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 world-wide range of printed bibliographies, indexes to periodicals and subject guides.

The library service of Western Australia thus consists of the State Library, which functions as the reference division of the service, the Central Music Library and a number of independent public libraries which are jointly supported by local authorities and the Board.

The State Library of Western Australia

The original Library was established in 1887 as the Victoria Public Library in commemoration of Queen Victoria's Golden Jubilee. It became known later as the Public Library of Western Australia and in 1955 as The State Library of Western Australia.

In addition to providing reference library facilities for the metropolitan area, its service extends throughout the State, through the agency of a local public library wherever possible but also by post direct to country inquirers not in contact with a local library.

It is divided into five specialist subject units, comprising four libraries and one centre. The J. S. Battye Library of West Australian History was developed from the former Archives Branch. All material relating to Western Australia, including the State archives, has been concentrated in this library. The other libraries are The Library of Business, Science and Technology, The Library of Social Sciences, Philosophy and Religion and The Library of Literature and the Arts. The Information Centre is equipped with current Australian and oversea 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 oversea countries, are available for reference in the Information Centre.

The State Library is fully equipped with micro-film and photo-copy apparatus and copies of material are available on payment of an appropriate fee.

The Central Music Library, situated in the State Library building, lends musical scores to persons or bodies throughout the State but lends books on music only through other libraries. It also provides a reference service in the field of music.

Local Public Libraries

At the 30th June, 1965, 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, 1951-1965. Apart from exercising a statutory obligation in respect of the expenditure of State subsidies, the Board takes no direct part in the administration of local public libraries. If the Board's expenditure in respect of a local library exceeds that of the local authority, an amount to equalize 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 1860, and the other, the Geological Museum at Fremantle, was started in 1881. In 1889 the contents of the Geological Museum were moved to the former Perth Gaol (which is still part of the Western Australian Museum) and a Curator was appointed in 1891. In the following year the museum of the Swan River Mechanics' Institute was purchased, and the collections combined to form the Public Museum.

The Museum, which became known as the Western Australian Museum in 1897, is controlled by a Board of five members appointed by the Governor under the provisions of the Museum Act, 1959-1964. 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. In addition, it houses collections pertaining to Western Australian history. Emphasis in both display and research is on the fauna of Western Australia and there is an extensive scientific library which also houses the library of the Royal Society of Western Australia. Research is related specifically to the marine fauna of Western Australian waters, mammals, 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 unsalvaged ships which were wrecked off the Western Australian coast in the 17th and 18th centuries. The Act also makes provision for the future vestment of historically important wrecks not known to exist at the date of enactment.

The Museum is an active educational instrument. The scientific staff lecture in Adult Education programmes and in the University departments. Public lectures are held and there is also an extensive programme of nature study for children. A children's centre, staffed by a Museum teacher provided by the Education Department, is open during school holidays. During 1965, this centre was visited by 37,500 children. Regular classes are held during school terms and 13,032 children from 59 metropolitan schools attended during 1965. In addition, special visits were made by 1,435 children from schools not included in the regular series.

In connexion 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 native 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 Meteorite 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 lectures, art films and the display of interstate and oversea exhibitions. Works from the permanent collection are exhibited in the upper gallery, while the print room is used to house and exhibit the collection of prints and drawings. Both displays are changed regularly. Important pieces of sculpture are on permanent display in both galleries and in an exterior courtyard designed for this purpose.

The Art Gallery's collection at the 30th June, 1965 contained, in addition to reproductions, 438 oil paintings, 190 water colours, 1,468 drawings and prints, 36 sculptures, 9 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 loan service to various public institutions in the metropolitan area. Educational and cultural bodies in rural areas participate in a similar scheme, related groups of reproductions being boxed for country distribution together with discussion notes. Touring exhibitions from the permanent collection are also taken to country districts at regular intervals.

These activities are supplemented by publications of various kinds, which are distributed to schools and other institutions or direct to the public. Reproductions of some works in the collection are also available.

The Art Gallery operates a general information service which is widely used.

SCIENTIFIC INSTITUTIONS

State Government Observatory

The Perth Observatory was established in 1896, on the site now occupied by an administrative office building of the Western Australian Government, facing the main entrance to King's Park.

The new buildings of the Perth Observatory, near Bickley in the Darling Range, were opened officially on the 30th September, 1966.

The principal astronomical instruments of the Observatory are a photographic refractor of 13 inches aperture and a 6-inch meridian transit circle.

Present work is mainly concerned with investigations of stellar motions, based on measurements of old photographs, taken during the period 1900-1920, and of recent ones (1963). This work will be intensified when the 13-inch telescope is reinstalled at Bickley.

A team of astronomers from the Hamburg (West Germany) Observatory is preparing to bring a meridian transit circle telescope to the Observatory, to carry out a concentrated observational programme of the positions of fundamental stars in the southern hemisphere. This programme will take from two to three years to complete, after which the Perth instrument will be renovated and observations with it recommenced.

The Observatory maintains the time service for the State and prepares for publication the annual volume of tide tables for the north and north-west coasts.

As soon as all instruments are ready, the Observatory will once more be open to visitors.

State Government Chemical Laboratories

In 1922 the various chemical services of the State Government were amalgamated to form the Government Chemical Laboratories, primarily for the performance of chemical work required by Government Departments. In addition, the Laboratories serve government instrumentalities and semi-government authorities and undertake some chemical work for the general public. The activities of the Laboratories are 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, on soils, related principally to the experimental work of the Department of Agriculture (see also Chapter VIII, Part 1); on waters, 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 livestock purposes, and for commercial interests with particular reference to treatment and corrosion; on plants, as fodders for livestock and also to assess the nutritional requirements of plants with particular reference to the use of fertilizers and the correction of trace element deficiencies; on fertilizers and manures generally; and on animal tissues for diagnostic purposes.

The *Engineering Chemistry Division* is concerned with chemical means of utilization of mineral resources, such as production of sponge iron, upgrading of ilmenite and of low grade ores, and the beneficiation and calcination of lime sand. The Division was associated with the Fuel Technology Division in the production of a metallurgical fuel from Collie coal.

The *Food, Drugs, Toxicology and Industrial Hygiene Division* deals with the analysis of foods, including milk; drugs; police work, including human and animal toxicological examinations for poisons and analysis of blood and urine for alcohol concentration; industrial hygiene, including determinations relating to the amount of potentially harmful substances present in industrial and commercial materials or associated with working conditions; and industrial effluents and pollution surveys of river and ocean waters.

The *Fuel Technology Division* has been primarily concerned with Collie coal and its uses and has done important work on this local coal 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 sawdust and woodwaste, and also to domestic appliances using fuel, and reduction of atmospheric pollution by emission 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 plastics. Research is also in progress on protective coatings, including paint.

The *Mineralogy, Mineral Technology and Geochemistry Division* is basically concerned with minerals, their occurrence and identification, but it also carries out the testing of clays and of aggregates for cement and concrete work, as well as corrosion and other tests. Analyses are done for the Geological Survey Branch of the Department of Mines in connexion with mineral surveys, notably those for copper and iron. This Division is also the reference laboratory for analyses of crushings of gold ores by the State Batteries. An important part of its work is the identification of mineral specimens forwarded by prospectors and others and the Division deals with many hundreds of such samples every year.

The *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 measurement.

Details of the operations of the Government Chemical Laboratories are published in the Annual Report of the Director.

The Institute of Agriculture, University of Western Australia

The Institute of Agriculture was established in 1938 within the University to provide research facilities and staff essential for the effective training of professional agricultural scientists at both undergraduate and graduate levels. It includes the teaching and examining Faculty of Agriculture, and the research staff associated with it. Although the Institute is financed to some extent from University funds, substantial research grants from producer 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 dislocation of the war years, it initiated research on plant and animal problems of the pastoral areas, commenced a series of fundamental studies related to the nutrition of ruminants, investigated factors affecting the baking quality and nutritive value of wheat and flour, elucidated factors affecting the fertility of sheep, and carried out a series of economic surveys of the sheep, wheat, dairying, pig and poultry industries. The work of these years is summarized in the report of the Director, published in 1949.

Since 1948 the research programmes have been greatly increased and their scope widened. Plant breeding, selection and genetical research aimed at increasing the productivity and extending the climatic limits of crops and pasture legumes, especially subterranean clovers, medics and lupins, was strongly developed and fundamental studies initiated on the nutritional physiology and microbiology of the wool sheep with particular reference to the factors influencing the utilization of protein, of urea and of low-quality roughages. In recent years the agronomic research has been expanded to include cereal genetics 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 butter-fat producing and whole-milk producing industries have been carried out, together with studies of the comparative advantages of forestry and agriculture in parts of the south-west of Western Australia, and studies of egg-marketing problems. In 1961 the John Thomson Agricultural Economics Centre was set up within the Institute with funds supplied by banks, business houses and other organizations. 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 1963 a Department of Soil Science and Plant Nutrition was established within the Institute with a very strong research group engaged in studies of soil physics, soil chemistry, soil microbiology and plant nutrition. The soil microbiology workers are mainly concerned with a continuation of earlier research into nodulation problems in legumes and the nitrogen-fixing process. The plant nutrition group has devoted particular attention to the uptake by crop and pasture plants of mineral nutrients, especially potassium, phosphorus, copper, zinc and manganese. The soil chemistry workers are specially concerned with the chemistry of soil organic matter, and the soil physics group with the role of the clay minerals in soil 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 assistance and service of the rural industries, indirectly by its training of agricultural scientists and directly through its manifold research projects.

Commonwealth Scientific and Industrial Research Organization

Several Divisions of the Commonwealth Scientific and Industrial Research Organization are actively engaged in research work in Western Australia.

Division of Soils—During the post-war period the Division of Soils has carried out soil 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 lateritic and a study of their trace mineral status and clay mineralogy has been carried out. On the Swan Coastal Plain, detailed soil surveys of existing and proposed irrigation areas at Pinjarra, Harvey and Capel and the vine-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 have been carried out in representative areas at York, Merredin, Dandaragan and Badgingarra.

The geomorphological relationships established have provided a basis for rapid mapping over extensive areas, which has been employed in the compilation of a soil map of the agricultural region of the State. This map and a broader scale survey of the soils of the remainder of Western Australia are shortly to be published as part of an Atlas of Australian Soils. 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 the problem of the nutrition of exotic pines on the lateritic soils of the Darling Range and the infertile sands of the Coastal Plain. A considerable expansion of soil fertility investigations in relation to cereal crops and pastures is at the planning stage.

Division of Plant Industry—Most of the activities of the Division of Plant Industry have been directed to the problems of the sheep areas in the south-west of the State. More recently, studies have begun in the higher-rainfall dairying areas and on the sandy soils of the Swan Coastal Plain.

An examination of the influence of environmental factors on the growth and persistence of pasture plants is being continued. While earlier work was devoted largely to clovers, more emphasis is now being given to studying volunteer grasses and herbs in annual pastures. The aim of much of the plant nutrition work is to predict the nutrient requirements of pastures in any specified environment at any time. The main nutrients being examined are phosphorus, sulphur, nitrogen and potassium. A more efficient utilization of applied nutrients is being sought. Changes in soil organic matter accumulation as a result of agricultural practices of cropping and grazing are under study.

The successful introduction of new legumes for the wheat-belt, and of other pasture plants, is being followed up by critical examination of their production potential in terms of crop or animal product.

Pasture utilization studies, which are directed primarily towards increasing reproductive rates in sheep, have been increased. There is considerable work in progress on clover infertility, lamb mortality and weaner growth. Grazing management systems are also being studied, as well as stocking rates and the nutritive value of plant species in relation to animal production.

The Division's programme is centred at the Western Australian Regional Laboratory, Perth and includes field work at a number of country centres.

Division of Entomology—The Division of Entomology is concentrating on the ecology and biological control of the Red-legged Earth Mite and the Lucerne Flea in pastures. Recent extensive surveys in Australia, western Europe and Morocco have revealed that additional predators exist in the northern hemisphere. These belong to the mite families Bdellidae and Anystidae. Two of these are now being imported into Australia and attempts are being made to establish them and measure their effects on pest numbers.

Special attention is being directed to a study of the mechanism of diapause which enables these pests and their predators (and other insects and mites) to survive through the long, hot, dry summer period.

Work has commenced on a detailed ecological study of the jarrah leaf miner which causes serious damage to both jarrah and flooded gum.

Division of Mathematical Statistics—Officers of the Division of Mathematical Statistics are currently investigating the application of statistical methods to special problems of local interest in the fields of engineering, taxonomy, plant breeding and plant ecology. In addition, they act in an advisory capacity to other research workers in the State on matters relating to the design of experiments and the analysis and interpretation of data.

Division of Applied Mineralogy—The laboratory of the Division of Applied Mineralogy is concerned mainly with research having a bearing on the mineral industry. It has recently enlarged the scope of its work by initiating attempts to improve diamond drilling and to devise a novel method of drilling exploratory holes in hard rock. Meanwhile the main theme of the laboratory's work is directed to the elucidation of the chemical and physical nature of the geological processes of mineral formation and alteration. This work, as applied to the economic minerals lithium and vanadium, is providing the basis for new approaches to the extraction of these metals and their salts.

The laboratory is also acting as a link between manufacturing industry in Western Australia and physical, chemical and metallurgical divisions of the Commonwealth Scientific and Industrial Research Organization.

Division of Wildlife Research—The Division of Wildlife Research, located at Helena Valley, is concerned with investigations on the higher vertebrates (more particularly mammals and birds) and these cover not only species of economic importance but the native fauna generally. The Division played a part, in association with the Department of Agriculture, in the control of rabbits by the introduction of the disease myxomatosis, and carried out a basic research project on the control of the Euro (a species of kangaroo) in the Pilbara district.

Among birds, studies of the ecology of the Emu, of the Wedgetailed Eagle and of the White-tailed Black Cockatoo are proceeding. Other current projects include experimental and field studies on the factors controlling breeding seasons of native birds under Western Australian conditions and surveys of the distribution of the arid-country fauna. 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 supplied the project leader for the Western Fisheries Research Project set up co-operatively by the Commonwealth Scientific and Industrial Research Organization, the Department of Primary Industry, the Fisheries Departments of Western Australia and South Australia, the Zoology Department of the University of Western Australia, and the Western Australian Museum. At present, the research includes work on crayfish, Australian salmon, prawns, tuna and whales and also on marine sedimentation, Haliotids (abalone), and the development of a sonic buoy for automatic collection of hydrological data. Officers of the Division are stationed at Perth to participate in the research on crayfish and on sperm whales. Using naval frigates, the Division is continuing work on the physico-chemical and biological oceanography of the eastern Indian Ocean.

Other Divisions—Besides the research work being conducted at Perth and associated field stations, various co-operative programmes are under way in University departments and in the State Department of Agriculture. The Commonwealth Scientific and Industrial Research Organization has several officers stationed at the Kimberley Research Station investigating the crop and pasture problems of the northern areas.

Department of Agriculture

Reference to the scientific work of the Department of Agriculture appears in the section *The Department of Agriculture* in Chapter VIII, Part 1—*Primary Production*.

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, subject to the Minister, by a Director-General of Health. In each State there is a Director of Health responsible to the Director-General. Among the principal functions of the Department 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 importation of animals and animal products from overseas, and plant quarantine the importation of all plants and plant products, with the object of excluding plant diseases, insect pests and weeds. In respect of interstate movements of animals and plants, the Quarantine Act becomes operative only when it is considered that Commonwealth action is necessary for the protection of any State or States, and in general the control of interstate movements of animals and plants is the responsibility of State Governments.

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, 1911-1965 which is administered, subject to the control of the Minister, by a Commissioner of Public Health. The Act is comprehensive in scope and confers on the Commissioner the powers necessary for the prevention and control of infectious diseases; the enforcement of sanitation, building and pure foods standards; the control of nuisances and offensive trades; the regulation of the sale of pesticides and the manufacture of therapeutic substances; and the registration of private hospitals and the licensing of maternity homes. Other Acts under Public Health administration are the Anatomy Act, the Clean Air Act, the Cremation Act, the Poisons Act and the Radioactive Substances Act.

The 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 immunization and the control of flies and mosquitoes.

The Cancer Council of Western Australia is constituted under the provisions of the Cancer Council of Western Australia Act, 1958-1964 as a statutory body with the functions of co-ordinating, promoting and 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, 1965 there were 21 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, salmonellosis, tuberculosis, unclassified 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, 1911-1965 (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.

Cases of notifiable infectious diseases, other than venereal diseases, reported during each year from 1961 to 1965 are 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	1961	1962	1963	1964	1965
Ankylostomiasis	....	15	....	37	2
Breast Abscess	10	9	4	4	5
Brucellosis	5	6	7	4	3
Chorea	....	....	1	....	1
Diphtheria	15	17	5	3	2
Dysentery	124	182	105*	138*	232
Eclampsia	2	....	....	....	2
Encephalitis, Acute Infectious	2	....	....	....	....
Erythema Nodosum	....	....	1	....	....
Hepatitis, Infective	262	115	144	100	83
Hydatid Disease	....	1	....	3	2
Infantile Diarrhoea	48	49	2	44	13
Lead Poisoning	1	1	1	....	....
Leprosy (a)	15	17	10	11	18
Leptospirosis	13	7	16	4	14
Malaria	2	3	31	5	2
Meningococcal Infection	2	2	4	1	....
Ornithosis	2	....	....	....	....
Paratyphoid Fever	6	1	3	....	3
Pleural Effusion	12	5	2	1	1
Poliomyelitis, Acute	3	6	5	....	....
Puerperal Fever	3	....	4	3	1
Purulent Ophthalmia	29	29	36	14	1
Rheumatism, Acute	10	9	18	8	6
Rubella	264	106	107	190	587
Salmonella Infections	43	61	36	61	69
Scarlet Fever	45	30	35	61	41
Tetanus	5	1	9	8	1
Trachoma (a)	369	377	259	147	77
Tuberculosis—	....	....	....	....	....
Pulmonary	197	238	216	176	152
Other	41	25	28	31	25
Typhoid Fever	4	5	6	....	2
Typhus Fever (Brill's Disease)	4	....	2	....	....

(a) Aborigines account for practically all of these cases.

* Revised.

Under the Health Act, 1911-1965, the Commissioner of Public Health may compel any person believed to be suffering from venereal disease to undergo examination by a medical practitioner. Any person who is aware or suspects that he is suffering from venereal disease is required to consult a medical practitioner and, if found to be infected, must continue treatment until a certificate of cure is issued. Free treatment is available at public hospitals. The number of cases reported to the Department during 1965 was 462, comprising 453 cases of gonorrhoea and nine cases of syphilis.

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 maintaining 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	1961	1962	1963	1964	1965
Infant Health Centres—					
Number of—					
Centres	67	73	71	72	72
Attendances of Infants	230,764	237,300	244,956	243,530	231,191
Visits to Households	23,414	23,959	23,381	27,131*	26,483
Correspondence Nursing Scheme—					
Number of—					
Infants on Roll	1,288	1,205	1,191	1,316	1,281
Letters Received	1,307	1,228	1,172	1,134	999
Letters Dispatched	4,926	5,378	5,837	5,982	5,725
	1960-61	1961-62	1962-63	1963-64	1964-65
Receipts and Payments (a)—	\$	\$	\$	\$	\$
Receipts—					
Government Aid	206,200	233,200	247,204	268,000	268,212
Local Government Aid	3,832	9,062	3,692	5,702	3,700
Lotteries Commission Grants	10,700	5,350	10,700	12,700	10,700
Total	220,732	247,612	261,596	286,402	282,612
Payments—					
Salaries and Wages	176,924	201,886	214,908	228,036	235,976
Travelling Expenses, etc.	42,816	45,954	47,290	54,574	51,092
Total	219,740	247,840	262,198	282,610	287,068

(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. * Revised.

Correspondence teaching of parentcraft in schools is conducted by the Child Health Services. During the year ended 30th June, 1965, 18,172 lessons and 18,189 letters were received from children and 10,525 letters were dispatched.

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 subsidized 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, 40 departmental and 46 Board hospitals were located throughout the State at the 30th June, 1965.

DEPARTMENTAL AND BOARD HOSPITALS (a)

Particulars	At 30th June—				
	1961	1962	1963	1964	1965
Number of Hospitals—					
Departmental	39	39	39	39	40
Board	52	52	54	53	52
Total	91	91	93	92	92
Medical Staff—					
Visiting	356	350	392	423*	408
Salaried	137	143	173	192	203
Total	493	493	565	615*	611
Nursing Staff—					
Matrons	102	110	1,170	1,144	1,191
Nurses	970	954			
Trainees	1,199	1,226	1,088	1,172	1,129
Nursing Assistants	944	1,017	1,060	1,111	1,196
Total	3,215	3,307	3,318	3,427	3,516
Beds and Cots—					
In Departmental Hospitals	1,809	2,140	(b) 1,932	2,048	2,123
In Board Hospitals—					
Metropolitan	1,655	1,641	(b) 1,954	1,972	1,965
Country	1,126	1,141	1,163	1,142	1,091
Total	4,590	4,922	5,049	5,162	5,179

(a) Excluding Perth Dental Hospital. (b) Variations due mainly to transfer of Sir Charles Gairdner Hospital from departmental administration to Board control. * Revised.

The following table gives details of the activities of departmental and Board hospitals during the five years ended 30th June, 1965.

PATIENTS TREATED IN DEPARTMENTAL AND BOARD HOSPITALS (a)

Particulars	Year ended 30th June—				
	1961	1962	1963	1964	1965
In-patients—					
Number at beginning of year—					
Males	1,461	1,315	1,288	1,492	1,593
Females	1,595	1,667	1,593	1,732	1,874
Admissions—					
Males	41,369	44,103	46,667	49,657	52,216
Females	48,980	53,058	57,229	59,413	62,800
Discharges—					
Males	40,216	42,841	45,207	48,191	50,693
Females	47,906	52,070	56,087	58,157	61,538
Deaths—					
Males	1,299	1,289	1,256	1,365	1,474
Females	1,002	1,062	1,003	1,114	1,207
Number at end of year—					
Males	1,315	1,288	1,492	1,593	1,642
Females	1,667	1,593	1,732	1,874	1,929
Total	2,982	2,881	3,224	3,467	3,571
Average daily number resident	2,948	3,059	3,059	3,284	3,396
Out-patients—Total attendances	409,077	396,106	458,030	488,261	535,727

(a) Excluding Perth Dental Hospital.

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 1953-1966, 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—				
	1961	1962	1963	1964	1965
	\$	\$	\$	\$	\$
Receipts—					
From Government Funds	14,802,776	15,923,390	16,781,820	18,398,022	22,522,826
Local Government Aid	444	1,044	2,080	2,848	1,610
Public Subscriptions, Legacies, etc.	216,778	541,932	190,480	422,540	221,946
Fees	4,597,150	5,512,300	6,187,160	6,399,674	6,114,946
Other	65,214	125,394	84,310	134,808	208,462
Total	19,682,362	22,104,060	23,245,850	25,357,892	29,069,790
Payments—					
Salaries and Wages	9,969,814	10,910,724	11,653,922	12,733,046	13,807,988
Maintenance of Buildings and Grounds	592,184	978,020	1,927,670	2,137,072	2,572,676
Other Maintenance	5,713,462	5,885,576	5,231,948	5,813,176	6,414,868
Capital Expenditure	3,686,064	4,782,742	4,615,642	4,647,392	6,102,190
Total	19,961,524	22,557,062	23,429,182	25,330,686	28,897,722

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 Hollywood which was opened in 1958 as the Perth Chest Hospital.

There is a leprosarium at Derby in the Kimberley Division.

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, Bunbury, Geraldton, Kalgoorlie and Northam; Saint Anne's, Mt. Lawley; the Mount Hospital, Perth and the Hillcrest Maternity Hospital, North Fremantle.

Private hospitals collect fees from patients and receive Commonwealth hospital benefit payments provided under Part V of the National Health Act 1953-1966. At the 30th June, 1965 there were 93 private hospitals in Western Australia approved for payment of hospital benefits under the Act. These hospitals had a total bed capacity of 2,894 at that date.

MENTAL HEALTH SERVICES

The Mental Health Act, 1962-1965, which consolidates and amends the law relating to the treatment of mental disorders, came into operation on the 1st July, 1966. By its provisions, the Lunacy Act, the Inebriates Act, the Mental Treatment Acts and the Mental Treatment (War Service Patients) Act are repealed.

The Mental Health Services established under the new Act are administered, subject to the control of the Minister of Health, by the Director of Mental Health Services. The Director must be a psychiatrist and is appointed by the Governor. Institutions authorized by the Act include hospitals for the treatment of mental illness, reception homes, out-patient and child guidance clinics, day hospitals, training centres, geriatric centres, hostels and sheltered workshop units.

The Act provides for the admission of patients to hospitals approved for the purpose, either on referral by a medical practitioner or by order of a Justice of the Peace supported by the referral of a medical practitioner. A person so received into a hospital must be examined within 72 hours by the superintendent or another psychiatrist, and admission as a patient is dependent upon the result of the examination. Unless found to be in need of treatment, the patient is required to leave the hospital. Special provisions exist for the detention for observation or treatment of persons admitted by order of a court or from a prison. The Act also provides for voluntary admissions. A person not less than 18 years of age may be granted admission on his own request in writing. Younger persons may be admitted on the written application of a parent or guardian.

Except in the case of a person admitted by order of a court or from a prison, a patient may be released on leave or discharged by the hospital superintendent. A Board of Visitors or the Supreme Court of Western Australia may also, after due consideration, order the release of a patient. A voluntary patient must be discharged within 72 hours of the receipt by the superintendent of the application in writing of the patient for his discharge or, in the case of a patient under the age of 18 years, the application in writing of the parent or guardian at whose request the patient was admitted.

The principal institution of the Mental Health Services is the Claremont Hospital. Other institutions include the Nathaniel Harper Homes for Children, the Heathcote Reception Hospital, Lemnos Hospital, Whitby Falls Hospital, Greenplace Hospital, the Shenton Park Day Hospital, the Havelock Out-patient Clinic, the Fremantle Out-patient Clinic, the Child Guidance Clinic, the Prisons Psychiatric Clinic, the Irribena Referral Centre, the Industrial Therapy Centre and a rehabilitation hostel at Belmont.

The former Graylands Day Hospital is being remodelled and will be used as an Early Treatment Centre working in close co-operation with the Department of Psychiatry of the University of Western Australia. A training centre for the intellectually handicapped is under construction at Guildford and is expected to accept its first patients early in 1967. The old North Fremantle Technical School was acquired by the Department and commenced operation in 1966 as a sheltered workshop for the intellectually handicapped.

The treatment of inebriates as provided for by the Inebriates Act, 1912-1919 (now repealed) is continued under the Mental Health Act. At the 30th June, 1966 there were 22 patients detained under the Inebriates Act in mental hospitals.

The following table relates to patients of Claremont Hospital, Lemnos Hospital, Whitby Falls Hospital and Greenplace Hospital. The figures refer mainly to patients certified as insane under the Lunacy Act, 1903-1954 (now repealed), but include a small number of voluntary patients. Patients admitted under the Inebriates Act are not included. Statistics were formerly compiled on the basis of calendar years but from the year ended 30th June, 1965 figures relate to financial years.

PATIENTS OF MENTAL HOSPITALS

Particulars	1960		1961		1962		1963-64(a)		1964-65	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Readmissions	181	120	165	79	171	95	350	112	229	134
Discharges—										
Recovered	8	1	1	1	3	.....	4	1	.....	.....
Relieved	86	67	74	75	81	47	167	107	122	69
Not improved	17	6	17	4	10	10	31	5	7	3
Not insane	1	.....	1	.....	2	.....	1	.....	.....	.....
Deaths	64	46	63	44	53	46	88	77	94	50
Total	176	120	156	124	149	103	291	190	223	122
Number remaining at end of year—										
In hospital	987	708	979	677	982	680	1,044	646	1,025	675
On trial leave	106	170	123	156	142	145	139	101	164	84
Total	1,093	878	1,102	833	1,124	825	1,183	747	1,189	759

(a) Eighteen months ended 30th June, 1964.

Heathcote Reception Hospital did not admit patients certified under the Lunacy Act but admitted other persons suffering from nervous or mental disorders. Details of these patients are shown in the next table.

PATIENTS OF HEATHCOTE RECEPTION HOSPITAL (a)

Particulars	1960		1961		1962		1963-64(b)		1964-65	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Readmissions	593	535	573	562	735	669	1,041	948	716	709
Discharges—										
Recovered	350	337	111	218	126	220	19	24	23	38
Relieved	118	140	278	271	424	380	759	798	451	521
Not improved	73	23	93	22	87	30	120	68	120	73
Deaths	3	4	1	2	1	2	4	3	1	1
Transfers to other Mental Hospitals	56	32	90	37	93	48	156	51	123	70
Total	600	536	573	550	731	680	1,053	944	718	703
Number remaining at end of year—										
In hospital	38	36	43	43	46	35	38	53	33	60
On leave	83	102	78	107	11	21	2	7	5	6
Total	121	138	121	150	57	56	40	60	38	66

(a) Prior to 1962, figures for patients remaining at the end of each year include those on trial leave. From 1962, patients leaving the hospital on trial leave are counted as discharges; numbers of patients on leave comprise only those on daily leave.

(b) Eighteen months ended 30th June, 1964.

HOMES FOR THE AGED AND INFIRM

A number of homes for the aged and infirm are conducted by religious and charitable organizations. Government homes in Western Australia were "Sunset" at Dalkeith and "Mount Henry" near Canning Bridge but from the 1st July, 1966 these two institutions were redesignated as public hospitals for the accommodation of geriatric patients. The number of inmates of the government institutions at the 30th June, 1966 was 806, comprising 383 men and 423 women.

The Commonwealth Government extends financial assistance to religious and charitable organizations in providing accommodation for the aged and infirm. The enabling 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 approaching as nearly as possible normal domestic life...". For the purposes of the Act, the term "aged person" means a man 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 erecting or purchasing approved homes to be used permanently 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. An organization conducted or controlled by a Commonwealth Government, State Government or local government authority is not eligible for assistance. When the original Act commenced on the 16th 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 \$2 for each \$1 raised by the organization. Grants are made from moneys appropriated by the Parliament from the Consolidated Revenue Fund.

From the inception of the scheme to the 30th June, 1965, 77 grants aggregating \$3,841,852 had been made to organizations in Western Australia to provide accommodation for 1,688 persons.

AGED PERSONS HOMES GRANTS—WESTERN AUSTRALIA

Particulars	Year ended 30th June—					From Inception to 30th June, 1965
	1961	1962	1963	1964	1965	
Number of Grants	8	6	16	9	12	77
Number of Persons Accommodated	115	181	420	188	255	1,688
Amount of Grants Approved	\$ 314,758	\$ 416,238	\$ 941,193	\$ 573,696	\$ 814,018	\$ 3,841,852

A supplementary grant may be approved in a year subsequent to the year when the original grant was approved. In the preceding table each such supplementary grant has been included in the year in which the additional amount was actually approved.

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. Moneys are provided similarly by parliamentary appropriation from the Consolidated Revenue Fund. The first grant to be made in Western Australia under the Disabled Persons Accommodation Act was approved in 1965-66 for an amount of \$5,510.

CHAPTER V—*continued*

PART 4—HOUSING

HOUSING AND THE CENSUS

NOTE—Dwellings occupied solely by full-blood aboriginals are excluded from all tables in this Part which contain information compiled from census schedules (see also letterpress relating to *Aboriginals* in the final section of Chapter IV, Part 1—*Population*).

For the purpose of the census, an "occupied dwelling" is any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building. The term has therefore a very wide reference and includes, in addition to houses and flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution.

The term "unoccupied dwellings" is not synonymous with vacant houses and flats available for sale or renting. While these are included, the figures refer also to dwellings, including those used for week-end and holiday 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, rooms, and the like. "Dwellings other than Private" include such habitations as hotels, boarding houses, lodging houses, hostels, hospitals, educational, religious and charitable institutions, defence and penal establishments.

"Private Houses" include houses, sheds, huts, garages, etc. used for dwelling purposes, and shared private houses for which only one Householder's Schedule was received. "Share 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. "Flat" 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 apartments, rooms, etc., which are parts of buildings but are not self-contained units.

The following table shows the number of occupied dwellings in Western Australia according to class of dwelling at the Censuses of 1954 and 1961. Private houses constituted 93·5 per cent. of all occupied private dwellings in 1961 compared with 90·8 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	140,383	175,495
Shed, Hut, etc.	4,480	3,641
Total, Private Houses	144,863	179,136
Share of Private House	7,487	2,788
Flat	5,257	8,672
Other	1,889	1,020
Total—Private Dwellings	159,496	191,616
Occupied Dwellings other than Private—		
Boarding House, Private Hotel, Motel, etc.	1,594	1,089
Licensed Hotel	445	451
Educational, Religious or Charitable Institution	216	225
Other	(a) 1,072	936
Total—Other Dwellings	3,327	2,701
GRAND TOTAL—OCCUPIED DWELLINGS	162,823	194,317
Unoccupied Dwellings	6,614	13,705

(a) Includes "caretakers' 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	1,466	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	3	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	586	1,043	148	57,874
Other	3,286	48	17	9	3,360	2,141	16	19	3	2,179
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	1,683	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	309	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	364	4	3	2	373	422	....	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 37.8 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 48.3 per cent. and 38.6 per cent. respectively. There were notable increases since 1954 in the number of flats with two and three rooms, the increases being 198.7 per cent. and 77.1 per cent. respectively.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO
NUMBER OF ROOMS (a)

Number of Rooms (a) per 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	2,734	902	31	673	4,340	1,757	202	93	251	2,303
2	4,566	1,698	384	620	7,268	2,456	592	1,147	296	4,491
3	8,736	1,640	1,561	334	12,271	6,241	842	2,764	283	10,130
4	38,176	1,262	1,943	133	41,514	37,390	605	2,891	112	40,998
5	46,781	898	905	48	48,632	70,540	393	1,143	32	72,108
6	29,162	570	296	19	30,047	40,177	66	403	8	40,654
7	9,262	191	87	16	9,556	13,124	15	107	3	13,249
8	3,120	68	24	12	3,224	4,315	5	50	1	4,371
9	1,071	32	7	5	1,115	1,486	1	29	....	1,516
10	450	4	2	4	460	628	5	2	....	635
11 and over	425	2	2	2	431	473	1	2	3	479
Not Stated	380	220	15	23	638	549	61	41	31	682
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 Rooms per Dwelling (a)	4.91	3.36	3.90	2.21	4.77	5.15	3.27	3.69	2.45	5.05

(a) Includes kitchen and permanently enclosed sleep-out, but does not include bathroom, pantry, laundry, or storehouse.
(b) Includes Sheds, Huts, 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	2,083	666	123	80,420	86,926	886	982	77	88,871
Purchaser by Instalments	22,573	421	60	22	23,076	44,255	206	118	19	44,598
Tenant (b)	40,032	4,792	4,450	1,700	50,974	43,077	1,612	7,315	891	52,885
Caretaker	1,890	65	47	27	2,029	1,994	22	163	14	2,193
Other Methods of Occupancy	1,951	62	19	8	2,040	1,999	19	72	6	2,096
Not Stated	869	64	15	9	957	885	43	22	13	963
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. (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 (†) CLASSIFIED ACCORDING TO
WEEKLY RENT (UNFURNISHED)**

Weekly Rent (Unfurnished)	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
Under \$2	4,293	210	36	78	4,617	2,477	27	116	36	2,656
\$2 and under \$3	4,643	433	146	61	5,283	2,524	61	138	21	2,744
\$3 " " \$4	4,874	437	347	62	5,720	2,194	66	161	32	2,453
\$4 " " \$5	3,660	441	212	88	4,401	3,269	140	191	45	3,645
\$5 " " \$6	2,384	295	196	70	2,945	2,401	101	205	22	2,729
\$6 " " \$7	1,903	244	259	53	2,459	3,005	131	266	38	3,440
\$7 " " \$8	712	107	186	26	1,031	2,484	63	261	29	2,837
\$8 " " \$9	566	88	231	12	897	1,960	48	292	16	2,316
\$9 " " \$10	240	25	178	6	449	1,209	33	374	4	1,620
\$10 and over	711	74	344	23	1,152	3,196	59	1,864	19	5,138
Not Stated (b)	8,034	2,364	2,049	1,202	13,649	8,093	856	2,749	616	12,314
Total	32,020	4,718	4,184	1,681	42,603	32,812	1,585	6,017	878	41,892

(†) Excludes particulars of dwellings occupied by "Tenants (Governmental Housing)" in 1954 and by "Tenants (State Housing Commission)" in 1961. (a) Includes Sheds, Huts, etc. (b) Includes tenanted dwellings which were rent-free, those rented on a furnished basis, and those for which the rents were not applicable (e.g., for shop and dwelling combined).

Of those tenanted private dwellings for which rent (unfurnished) was stated, 38·9 per cent. had rentals below \$5 in 1961 compared with 69·1 per cent. in 1954. In the range \$5 and under \$10 the proportion rose from 26·9 per cent. in 1954 to 43·7 per cent. in 1961. The proportion in the category \$10 and over rose from 4·0 per cent. in 1954 to 17·4 per cent. in 1961. The greatest number of tenanted private houses at the 30th June, 1961 were in the rental range \$4 and under \$5 while the greatest number of tenanted flats were in the range \$10 and over.

Dwellings According to Facilities

The following table shows the facilities (gas, electricity and television set) recorded for each class of private dwelling and the distribution of the facilities in various Divisions of the State.

The question on facilities was answered for 190,457 occupied private dwellings in Western Australia. Of these 116,758 (61·3 per cent.) had electricity without gas and 63,767 (33·5 per cent.) had both electricity and gas, making a combined total of 180,525 (94·8 per cent.) with electricity. Occupied private dwellings with gas but not electricity numbered only 432 (0·23 per cent.).

In the Metropolitan Statistical Division 99·8 per cent. of occupied private dwellings had electricity, while in Other Urban areas and the Rest of State the proportions with electricity were 98·0 per cent. and 79·7 per cent. respectively.

The proportion of private dwellings with both electricity and gas was 49·9 per cent. in the Metropolitan Statistical Division, 6·1 per cent. in Other Urban areas and 11·3 per cent. in the Rest of State.

The number of occupied private dwellings stated to have a television set was 71,788, of which 61,999 (86·4 per cent.) were in the Metropolitan Statistical Division. More than one-half (54·5 per cent.) of occupied private dwellings in the Metropolitan Statistical Division were stated to have a television set.

**OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO FACILITIES
CENSUS, 30th JUNE, 1961**

Facilities	Class of Dwelling				Total Occupied Private Dwellings	Division of State			Total Western Australia
	Private House (a)	Share of Private House	Flat	Other Private Dwellings		Metropo- litan Statistical Division	Other Urban (b)	Rest of of State	
Gas or Electricity—									
With Gas only	419	4	7	2	432	67	24	341	432
With Electricity only With Gas and Electric- ity	112,086	1,322	2,948	402	116,758	56,707	29,461	30,590	116,758
Without Gas or Elec- tricity	56,101	1,395	5,667	604	63,767	56,723	1,966	5,078	63,767
Not Stated	9,401	58	33	8	9,500	115	621	8,764	9,500
Total	1,129	9	17	4	1,159	138	107	914	1,159
Total	179,136	2,788	8,672	1,020	191,616	113,750	32,179	45,687	191,616
With Television Set (c)	68,424	709	2,514	141	71,788	61,999	4,032	5,757	71,788

(a) Includes Sheds, Huts, etc. (b) Comprises the towns, other than Perth and suburbs, listed in the table on page 131.
(c) So stated in census schedules.

Unoccupied Dwellings

In the following table, private dwellings unoccupied at the 30th June, 1961 are classified according to the reason for being unoccupied. The principal category was holiday or week-end home or seasonal workers' quarters which accounted for 4,771 private dwellings, the majority (70.2 per cent.) being located in other than urban areas.

**UNOCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO
REASON FOR BEING UNOCCUPIED : CENSUS, 30th JUNE, 1961**

Reason for Being Unoccupied	Class of Dwelling			Total Unoccupied Private Dwellings	Division of State			Total Western Australia
	Private House (a)	Flat	Other Private Dwellings		Metro-politan Statistical Division	Other Urban (b)	Rest of State	
For Sale or for Renting	2,240	226	21	2,487	986	634	867	2,487
Holiday Home, Week-ender, Seasonal Workers' Quarters	4,569	156	46	4,771	186	1,238	3,347	4,771
Occupants temporarily absent	3,199	247	17	3,463	1,606	724	1,133	3,463
To be Demolished, Condemned	293	.....	3	296	107	51	138	296
Other and Not Stated	2,048	216	9	2,273	684	410	1,179	2,273
Total	12,349	845	96	(c) 13,290	3,569	3,057	6,664	(c) 13,290

(a) Includes Huts. (b) Comprises the towns, other than Perth and suburbs, listed in the table on page 131. (c) Excludes 98 unoccupied dwellings other than private and 317 unoccupied dwellings for which the class was not stated, making a total of 13,705 unoccupied dwellings.

Of 11,017 unoccupied private dwellings (excluding 2,273 in the category "Other and Not Stated"), more than two-fifths (4,771 or 43.3 per cent.) were holiday or week-end homes or seasonal workers' quarters, 3,463 (31.4 per cent.) were dwellings whose usual occupants were temporarily absent, 2,487 (22.6 per cent.) were for sale or for renting, and 296 (2.7 per cent.) had been condemned or were due to be demolished.

Dwellings at Censuses from 1901

The following table shows the numbers of occupied and unoccupied dwellings in Western Australia at each Census from 1901 to 1961. It should be borne in mind that unoccupied dwellings include not only vacant house and flats available for sale or renting but other dwellings as detailed in the preceding table.

DWELLINGS—CENSUSES, 1901 TO 1961

Census Date	Occupied Dwellings				Unoccupied Dwellings	Total Dwellings (a)
	Private		Other	Total		
	Number	Average Number of Inmates				
1901—31st March	(b) 46,436	(c) 3.35	2,070	48,506	2,263	50,769
1911—3rd April	(d) 66,553	(e) 3.68	2,222	68,775	3,158	71,933
1921—4th April	70,185	4.11	3,363	73,548	3,274	76,822
1933—30th June	100,441	3.95	3,137	103,578	4,029	107,607
1947—30th June	122,078	3.73	2,689	124,767	2,606	127,373
1954—30th June	159,496	3.64	3,327	162,823	6,614	169,437
1961—30th June	191,616	3.59	2,701	194,317	13,705	208,022

(a) Excludes dwellings which were in course of construction and not occupied at the time of the Census. (b) Comprises 17,702 dwellings of calico, canvas, and hessian, with an average of 2.10 inmates, and 28,734 other dwellings with an average of 4.12 inmates. (c) See note (b). (d) Comprises 14,216 dwellings of calico, canvas, and hessian, with an average of 1.93 inmates, and 52,337 other dwellings with an average of 4.16 inmates. (e) See note (d).

GOVERNMENT AND GOVERNMENT-SPONSORED HOUSING**The State Housing Commission**

The State Housing Commission was established in January, 1947 under the State Housing Act of 1946 to replace the Workers' Homes Board which had been created in 1912 to "erect and dispose of workers' dwellings, and to make advances to people of limited means to provide homes for themselves." The Act confers on the Commission the legal authority formerly vested in the Board and has as its objects "the improvement of existing housing conditions" and "the provision of adequate and suitable housing accommodation for persons of limited means and certain other persons not otherwise adequately housed."

The legislation is comprehensive in scope, providing for the erection of homes for workers, the making of advances to workers for the purchase of homes, the erection of homes for letting on a weekly rental basis, the acquisition and development of land, the clearing of slums, the erection of hostels and the planning of community facilities.

The Commission consists of seven members of whom two must be officers of the State Public Service, one a representative of the building trades unions, one a registered builder (or a person qualified to be so registered), one a woman, one a discharged member of the Forces, and one a person with a wide knowledge of and experience in housing conditions in the State. 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 uses funds provided by the State Government to build dwellings for sale and to lend money for home building. Eligibility for assistance is restricted to persons with income below a prescribed amount, which varies according to movements in the State basic wage, but north of 26°S. latitude the Minister may allow assistance to a family having a higher income. Loans of up to \$6,000 (or more, in some cases) may be made on a minimum deposit of \$200 including the ingoing fees (or less, at the discretion of the Commission), the maximum period of repayment being 45 years. The rate of interest (30th June, 1966) is $5\frac{3}{4}$ per cent. per annum reducible.

Various forms of assistance have been granted to encourage home ownership, including loans secured by mortgage, advances made under contract of sale, advances for acquiring homes under leasehold conditions, second mortgage loans and loans for the completion of partly-built dwellings.

Operations under Commonwealth and State Housing Agreements—The final draft of an agreement on housing between the Commonwealth and State Governments was prepared at the Conference of Premiers in August, 1945 and was later ratified by Commonwealth and State legislation. The Commonwealth and State Housing Agreement Act, passed by the State Parliament in 1945, enabled Western Australia to participate in the Agreement, the purpose of which was to provide homes quickly, primarily for persons at the lower income levels, by standardization of design and erection in large groups. The Agreement provided a broad basis of collaboration between the Commonwealth and the State, with the Commonwealth providing advances of money, general direction on policy and co-ordination of effort and the State undertaking the actual site acquisition and planning, the construction of the dwellings, the selection of tenants and the detailed administrative work.

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 near the basic wage level should pay 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 80 cents per week. The Commonwealth Government was to bear three-fifths and the State two-fifths of all losses 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 houses 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, 1955 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 \$4,000 of the purchase price and 10 per cent. of the balance. The rate of interest specified was $4\frac{1}{2}$ per cent. per annum, subject to alteration by agreement between the Commonwealth and the State, the maximum loan being \$5,500 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 complementary 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, at least 20 per cent. of the money allocated to the State was to be advanced to building societies and other approved institutions for lending to private persons for the building or purchase of homes, the proportion to be increased to not less than 30 per cent. during the remainder of the period. The balance of the allocation was to be used by the State for the erection of houses for either rental or sale. The Commonwealth was entitled to specify that of this balance a portion not exceeding 5 per cent. in any one year should be set aside for the erection of houses for serving members of the defence forces. The Commonwealth provided supplementary advances to the State equal to the amounts set aside for this purpose.

On the introduction of the 1956 Agreement, the State Housing Commission adopted the policy of offering for sale before occupancy one-half of the total number of houses built, the remainder being made available on a rental basis. The proportion has since been varied several times.

Under the provisions of Commonwealth and State legislation passed in 1961 the period of operation of the Commonwealth and State Housing Agreement was extended for a further five years to the 30th June, 1966. The 1961 Agreement incorporated all the main features of the earlier arrangement, with only minor modifications. The requirement that building societies and other approved institutions should receive at least 30 per cent. of moneys allocated to a State was continued. Provision was made for the use of funds in excess of the previous maximum of 5 per cent. of the balance for the erection of dwellings for members of the defence forces. Supplementary advances by the Commonwealth of amounts equal to the funds so used were continued.

In terms of the Housing Agreement Act 1966 (Commonwealth) and the Commonwealth and State Housing Agreement Act, 1966 (State) the operation of the Agreement, with minor amendments, has been extended until the 30th June, 1971.

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 was \$280,288 in 1964-65 and \$298,469 in 1965-66.

State Housing Death Benefit Scheme Act—The State Housing Death Benefit Scheme Act, 1965 establishes, with effect from the 20th February, 1965, a scheme to provide benefits for the families of purchasers of dwellings who die leaving unpaid the whole or part of a liability to the State Housing Commission under a contract of sale or mortgage. The benefit is applied to the credit of the deceased purchaser's account, and the instalments payable during the unexpired term of the loan are reduced accordingly.

The amount of the benefit varies with the purchaser's age at death and the number of children under 16 years of age. Where the age at death does not exceed 35 years the benefit is \$1,000; where it exceeds 35 years but does not exceed 45 years, \$800; where it exceeds 45 years but does not exceed 55 years, \$600; and where it exceeds 55 years but does not exceed 65 years, \$400. The benefit is increased by \$200 in respect of each child under 16 years of age. Where the purchaser is aged over 65 years at death and is survived by a child or children under 16 years of age, the amount of the benefit is \$200 in respect of each such child.

The benefit applies, in general, in the case of purchasers or lessees under the provisions of the State Housing Act or the Commonwealth and State Housing Agreement, but does not apply to a purchaser who has received an advance granted by a building society from funds made available to it as part of the State's allocation of Commonwealth moneys. The family of a purchaser is not eligible for benefit if he has obtained from the Commission an advance on second mortgage under the State Housing Act to supplement a first mortgage loan from private sources.

Where a dwelling is being purchased in the joint names of a husband and wife, the benefit is granted only on the death of the breadwinner, who is usually the husband, but may be either the wife, in the case of invalidity of the husband, or one of the children.

The scheme is financed from the profits of the State Housing Commission and is therefore similar to the rental rebate system, which allows for an adjustment of rental where the income of a family is reduced following the loss of the breadwinner.

The McNess Housing Trust—The State Housing Commission 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 acquire 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, 937 houses were built in the period 1952-53 to 1965-66 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, 1961-1965 has been made the responsibility of the Commission. Up to the 30th June, 1966 the Commission had completed 74 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 Koolyanobbing area. The provision of these houses has also been made the responsibility of the State Housing Commission which, to the 30th June, 1966, had erected 30 houses at the site. In 1964 the Commission built 30 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 1960-61 to 1964-65 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 or such other areas as may be declared from time to time. 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 dependent widowed mother of a member of the Forces. Loans are made within statutory limits for the building of new homes and arrangements may be made in some circumstances for the discharge of mortgages on existing properties.

The State Housing Commission acts as representative in Western Australia of the War Service Homes Division of the Department of Housing (Commonwealth).

Homes Savings Grants

The Homes Savings Grant Act 1964-1965 (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 home unit or a flat. The maximum benefit is \$500 payable on savings of \$1,500 which must be "acceptable" savings within the meaning of the Act.

To qualify for the grant a person must be married; 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 home or to have a home built, or have begun to build a home; 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 home or at the date on which building began; must not have already received a grant and must not be, nor previously have been, married to a person who has received a grant during the marriage. An undischarged bankrupt or a person serving a term of imprisonment may not receive a grant.

The grant is not payable in respect of a home where the cost, including the value of land, exceeds \$14,000.

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 amounted to \$698,698 in 1964-65 and \$761,652 in 1965-66.

CONTROL OF BUILDING

Each of the local government authorities as constituted under the provisions of the Local Government Act, 1960-1966 has power to exercise general control over the erection of buildings in its own district. At the 31st December, 1966 there were 5 Cities, 13 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 recreational use, the prescription of building standards, and the general planning of new subdivisions. Town planning measures proposed by a local authority are subject to the approval of the Minister for Town Planning, who has the advice of a Town Planning Commissioner and a Town Planning Board.

The Local Government Act, 1960-1966 contains provisions for the control of building which are compatible with those exercised under the Town Planning and Development Act but are in a more detailed form. Many local government authorities have 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.

The survey covers the activities of building contractors who undertake the construction of new buildings; the building operations of Commonwealth, State, semi-government and local government authorities; and work performed by owner-builders.

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 "contract-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 (†)—CLASSIFIED ACCORDING TO MATERIAL OF OUTER WALLS

Year	Brick, Stone, Cement		Wood or predominantly Wood		Fibro-cement or predominantly Fibro-cement		Other		Total	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
1960-61—Contract-built Owner-built	4,023	\$'000 27,136	6	\$'000 40	951	\$'000 5,594	17	\$'000 20	4,997	\$'000 32,790
	452	3,216	7	20	511	2,058	6	18	976	5,312
	Total	4,475	30,352	13	60	1,462	7,652	23	38	5,973	38,102
1961-62—Contract-built Owner-built	3,972	27,178	71	692	882	5,358	84	142	5,009	33,370
	514	3,768	8	32	545	2,282	6	18	1,073	6,100
	Total	4,486	30,946	79	724	1,427	7,640	90	160	6,082	39,470
1962-63—Contract-built Owner-built	4,739	34,384	37	232	872	5,504	13	32	5,661	40,152
	483	3,782	15	62	430	1,770	4	14	932	5,628
	Total	5,222	38,166	52	294	1,302	7,274	17	46	6,593	45,780
1963-64—Contract-built Owner-built	5,234	38,596	17	102	1,051	7,020	40	78	6,342	45,796
	505	4,120	17	60	412	1,798	....	....	934	5,978
	Total	5,739	42,716	34	162	1,463	8,818	40	78	7,276	51,774
1964-65—Contract-built Owner-built	5,286	42,050	9	86	1,013	7,890	88	278	6,396	50,104
	585	5,044	18	62	441	2,010	5	18	1,049	7,134
	Total	5,871	47,094	27	148	1,454	9,700	93	296	7,445	57,238

(†) Includes operations of The State Housing Commission; see separate table on next page.

The following table shows completions of dwellings other than houses. The figures relating to flats refer to individual living-units provided. In the case of dwellings attached to shops, the value of the dwelling(s) 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	Dwellings other than Houses							
	Flats (b)		Hotels, Guest-houses, etc.		Dwellings attached to Shops		Total	
	Number	Value	Number	Value	Number	Value	Number	Value
1960-61	440	\$'000 1,580	29	\$'000 1,104	5	\$'000 42	474	\$'000 2,726
1961-62	285	1,342	36	1,204	9	104	310	2,650
1962-63	642	2,984	47	3,080	8	132	697	6,196
1963-64	1,295	5,596	45	1,850	13	124	1,353	7,570
1964-65	1,841	9,046	42	2,744	9	134	1,892	11,924

(a) Includes operations of The State Housing Commission; see next table.

(b) Individual living-units.

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 1960-61 to 1964-65. It also shows the numbers of housing units in connexion with which the Commission provided design and supervisory services free of cost to private charitable organizations.

STATE HOUSING COMMISSION—SUMMARY OF OPERATIONS

Category	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Housing Units (†) Completed—					
State Housing Act	519	396	610	630	887
Commonwealth and State Housing Agreements	742	873	1,104	1,092	692
McNess Housing Trust	41	6	10	73	.....
Departmental Homes	53	147	93	165	212
Government Employees' Housing	29	16	18	14	31
War Service Homes	276	193	141	176	174
Other (a) .....	.....	.....	29	31	38
Total	1,660	1,636	2,005	2,181	2,034
Other Activities (b) .....	.....	55	130	139	97

(†) Comprises houses and individual flat units. (a) Comprises houses built by the Commission in terms of the Laporte Industrial Factory Agreement Act, 1961-1965 and the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act, 1960. (b) The figures shown represent housing units built by charitable organizations 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 increases in the several States provides some interesting comparisons. The following table relates to the period between the Censuses of the 30th June, 1954 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, 1954 and 7·01 per cent. at the 30th June, 1961. Completions of houses and flats in Western Australia during the period numbered 47,945, representing 8·38 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 376 for Australia as a whole. Western Australia's population increased during the period by 96,858 or 15·14 per cent., compared with a gain of 16·93 per cent. in the Australian population.

DWELLINGS COMPLETED AND POPULATION—STATES AND TERRITORIES 30th JUNE, 1954 TO 30th JUNE, 1961

State or Territory	Population (a)				New Houses and Flats (‡) Completed 1st July, 1954 to 30th June, 1961	Number	Proportion of Australian Total	Per thousand of Population Increase
	Census, 30th June—		Increase					
	1954	1961	Number	Per cent.				
	persons	persons	persons	%		%		
New South Wales	3,423,529	3,917,013	493,484	14·41	206,136	36·02	418	
Victoria	2,452,341	2,930,113	477,772	19·43	170,357	29·77	357	
Queensland	1,315,259	1,518,828	200,569	15·21	60,292	10·53	301	
South Australia	797,094	969,340	172,246	21·61	59,261	10·35	344	
Western Australia	639,774	736,629	96,858	15·14	47,945	8·38	495	
Tasmania	308,752	350,340	41,588	13·47	18,811	3·29	452	
Northern Territory	16,469	27,095	10,626	64·52	2,214	0·39	208	
Australian Capital Territory	30,315	58,828	28,513	94·06	7,263	1·27	255	
Australia	8,986,530	10,508,186	1,521,656	16·93	572,279	100·00	376	

(a) Exclusive of full-blood aboriginals.

(‡) Individual living-units.

CHAPTER V—*continued*

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

NOTE—The rates and the conditions applying to payment of the several benefits dealt with in this Part are described as they existed at the 1st January, 1966. 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 1947-1966 provides for the payment of age and invalid pensions, widows' pensions, unemployment, sickness, and special benefits, maternity allowances and child endowment; the Repatriation Act 1920-1966, 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 1953-1966.

War pensions, child endowment, maternity allowances and health service benefits, other than tuberculosis allowances, are paid regardless of income received from other sources or of property owned by the claimant. These payments do not affect eligibility for other social services benefits.

Age and invalid pensions (other than pensions paid to blind persons), widows' pensions and service pensions are subject to a means test in respect of both income and property. Only income is taken into account in assessing eligibility for unemployment and sickness benefits or tuberculosis allowances. Generally, a person receiving a pension or an allowance under one category is ineligible for benefit under any other.

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 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 student children of recipients of tuberculosis allowances. The Social Services Act 1964 provides for the payment of child endowment on account of students until the twenty-first birthday.

In terms of amendments made to the Social Services Act and the Repatriation Act in 1965, the payment of allowances in respect of student children, which previously ceased at the end of the calendar year in which the child attained the age of 18 years, was extended until the twenty-first birthday.

The State Government makes certain payments for the relief of women and others in necessitous circumstances which in most cases supplement benefits provided by the Commonwealth Government.

SOCIAL SERVICES BENEFITS

Age and Invalid Pensions

Age pensions were first paid on the 1st July, 1909 and invalid pensions on the 15th December, 1910. Pensions are payable subject to a means test which does not, however, apply to pensions paid to persons who are permanently blind.

The age pension is payable to men aged 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 not less than five years (including certain absences), and are permanently incapacitated for work to the extent of at least 85 per cent. or are permanently blind. If the incapacity or blindness first occurred outside Australia, except during a temporary absence, a period of not less than 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 \$12 per week. This rate applies also to a married pensioner where the spouse is not receiving an age or invalid pension, 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 \$11 for each pensioner. A wife's allowance may be granted, subject to the means test, to the wife of an invalid pensioner or of an age pensioner permanently incapacitated or blind, or if she has the care of a child and is not receiving an age or invalid pension, or a service pension. The maximum weekly rate of a wife's allowance is \$6. A child's allowance of \$1.50 per week, free of the means test, is payable for the first child under 16 years of age, and the pension may also be increased by \$1.50 per week, subject to the means test, for each other child under 16 years. This allowance applies also to each student child of a pensioner. A guardian's allowance of up to \$4 per week is payable to widowers and other unmarried age or invalid pensioners who have one or more children in their care.

If the pensioner pays rent and is entirely or substantially dependent on the pension, supplementary assistance to a maximum of \$2 per week, subject to a means test, may be paid to a single pensioner or to a married pensioner whose spouse does not receive a pension or tuberculosis allowance.

The rate of pension is reducible by the application of a means test in respect of income and property which, for the purposes of assessment, excludes the pensioner's home, furniture and personal effects and some other specified assets.

AGE AND INVALID PENSIONS—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of Pensioners at 30th June—					
Age—					
Males	11,931	12,061	12,190	12,467	12,596
Females	25,725	27,043	28,471	29,352	30,110
Persons	37,656	39,104	40,661	41,819	42,706
Invalid—					
Males	3,898	4,399	4,628	4,719	4,911
Females	3,047	3,427	3,542	3,587	3,704
Persons	6,945	7,826	8,170	8,306	8,615
	\$	\$	\$	\$	\$
Average Fortnightly Pension at 30th June (a)—					
Age	19.45	20.38	20.29	21.35	22.22
Invalid	20.08	21.07	21.11	22.47	23.42
	\$'000	\$'000	\$'000	\$'000	\$'000
Amount Paid during Year ended 30th June (b)	21,586	24,344	25,582	27,373	29,413

(a) Includes allowances and supplementary assistance. (b) Includes amounts paid to benevolent homes for maintenance of pensioners and to pensioner inmates of these homes. Includes also allowances and supplementary assistance.

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 \$158,486 in 1960-61; \$157,352 in 1961-62; \$149,228 in 1962-63; \$161,966 in 1963-64; and \$173,944 in 1964-65.

Funeral Benefit—From the 1st July, 1943, a funeral benefit of up to \$20 has been payable to persons who are required to meet the funeral expenses of an age or invalid pensioner. This benefit is increased to a maximum of \$40 where a person receiving either an age, invalid or widow's pension, or a wife's allowance, is required to meet the funeral expenses of another pensioner or those of a non-pensioner spouse or dependent child. Commonwealth payments of funeral benefit in Western Australia amounted to \$51,890 in 1960-61; \$51,978 in 1961-62; \$51,392 in 1962-63; \$54,850 in 1963-64 and \$59,386 in 1964-65.

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 \$16 per week (including a mother's allowance of \$4 per week), together with an additional \$1.50 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 \$10.75 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 necessitous circumstances. Pension at the rate of \$10.75 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 or substantially dependent on her pension may, subject to a means test, receive supplementary assistance up to a maximum of \$2 per week.

The rate of pension is reducible by the application of a means test in respect of income and property which, for the purposes of assessment, excludes the pensioner's home, furniture and personal effects and some other specified assets.

WIDOWS' PENSIONS—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of Pensions current at 30th June—					
Class "A" Pensioners (a)	1,749	1,905	1,930	2,120	2,221
Class "B" Pensioners (b)	2,592	2,657	2,548	2,607	2,692
Class "C" Pensioners (c)	7	8	8	7	13
Total	4,348	4,570	4,486	4,734	4,926
Average Fortnightly Pension at 30th June (d)	\$ 19.18	\$ 20.53	\$ 20.51	\$ 26.81	\$ 27.56
Amount Paid during Year ended 30th June (d)	\$'000 2,104	\$'000 2,371	\$'000 2,377	\$'000 3,115	\$'000 3,463

(a) Widow having custody, care and control of one or more children aged less than 16 years, or of a student child or children. (b) Widow aged 50 years or over with no dependent children. (c) Widow, other than Class "A" or "B", in necessitous circumstances following death of husband. (d) Includes allowances and supplementary assistance.

Unemployment, Sickness and Special Benefits

Payments to persons unemployed or temporarily incapacitated for work by sickness or accident were introduced on 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 \$8.25 per week. For unmarried juveniles, the rate is \$3.50 for those aged under 18 years and \$4.75 for those aged 18 and under 21 years. A married claimant with dependent spouse may receive \$14.25 per week, with an additional \$1.50 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 \$4 per week is allowed in addition to the benefit but any income in excess of \$4 is deducted from the benefit. Where the claimant is less than 21 years of age, the permissible weekly income is \$2 and the rate of benefit is reducible by the amount of any income in excess of \$2 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.

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.

UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS—WESTERN AUSTRALIA

Item	1960-61	1961-62	1962-63	1963-64	1964-65
Unemployment Benefit—					
Number Admitted to Benefit during Year	12,595	15,525	15,115	14,971	10,175
Average Number on Benefit at end of each Week	2,154	2,932	2,674	2,677	1,679
Number on Benefit at end of Year—					
Males	2,749	1,824	2,062	1,360	503
Females	668	843	1,117	1,007	634
Persons	3,417	2,667	3,179	2,367	1,137
Sickness Benefit—					
Number Admitted to Benefit during Year	5,012	5,412	6,008	6,127	5,862
Average Number on Benefit at end of each Week	665	685	790	866	832
Number on Benefit at end of Year—					
Males	512	529	658	623	581
Females	165	185	249	236	236
Persons	677	714	907	859	817
Special Benefit—					
Ordinary—					
Number Admitted to Benefit during Year	122	157	115	101	84
Average Number on Benefit at end of each Week	148	151	129	122	106
Number on Benefit at end of Year—					
Males	48	27	33	26	21
Females	100	100	97	86	78
Persons	148	127	130	112	99
Migrants—					
Number Admitted to Benefit during Year	....	....	247	45	....
Average Number on Benefit at end of each Week	....	....	16	1	....
Number on Benefit at end of Year	....	....	24	....	....
Benefits Paid during Year—					
Unemployment	\$ 958,318	\$ 1,452,164	\$ 1,437,766	\$ 1,402,950	\$ 842,214
Sickness	306,696	381,412	505,014	522,010	512,462
Special (a)	44,392	53,410	63,384	53,526	46,360
Total (a)	1,309,406	1,886,986	2,006,164	1,978,486	1,401,036

(a) Includes benefits paid to migrants in reception centres.

Maternity Allowances

Maternity allowance payments were introduced on the 10th 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 \$30 where there are no other children, \$32 where the mother has one or two other children under 16 years of age, or \$35 where she has three or more other such children. The amount payable is increased by \$10 for each additional child of a multiple birth.

MATERNITY ALLOWANCES—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of Claims Paid during Year ended 30th June—					
Single Births : Amount of Allowance—					
\$30	5,012	5,060	5,097	5,275	5,451
\$32	8,378	8,040	8,012	7,852	7,654
\$35	4,071	4,112	3,879	3,680	3,389
Multiple Births : Amount of Allowance—					
Twins—					
\$40	43	34	27	48	42
\$42	83	85	79	87	88
\$45	59	34	58	45	43
Triplets—					
\$50	2	1	.....	1	.....
\$52 .....	.....	.....	.....	.....	.....
\$55 .....	.....	.....	.....	.....	.....
Total Number of Claims Paid	17,648	17,366	17,152	16,988	16,687
Amount Paid during Year ended 30th June	\$'000 568	\$'000 559	\$'000 552	\$'000 546	\$'000 534

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 50c per week. Endowment for the second child is at the rate of \$1 per week and for the third and each subsequent child, \$1.50 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 \$1.50 per week for each such child.

An approved institution is qualified to receive \$1.50 per week in respect of each child (including student children) in its care.

CHILD ENDOWMENT—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1961	1962	1963	(a) 1964	(a) 1965
Endowed Families at 30th June—					
Number of Claims in Force in respect of—					
Children under 16 years of age	109,499	112,006	113,464	115,645	117,528
Student Children (a) .....	.....	.....	.....	7,386	8,248
Number of Endowed Children—					
Children under 16 years of age	253,258	262,646	267,268	272,356	275,978
Student Children (a) .....	.....	.....	.....	7,809	8,784
Average Number of Endowed Children per Claim—					
Children under 16 years of age	2.31	2.34	2.36	2.36	2.35
Student Children (a) .....	.....	.....	.....	1.06	1.06
Institutions at 30th June—					
Number of Institutions	68	69	69	69	64
Number of Endowed Child Inmates—					
Children under 16 years of age	3,779	3,421	3,468	3,554	3,664
Student Children (a) .....	.....	.....	.....	56	60
Total Number of Endowed Children at 30th June—					
In Families	253,258	262,646	267,268	(b) 280,165	(b) 284,762
In Institutions	3,779	3,421	3,468	(b) 3,610	(b) 3,724
Total	257,037	266,067	270,736	(b) 283,775	(b) 288,486
Amount Paid during Year ended 30th June (c) (d)	\$'000 (e) 11,402	\$'000 10,205	\$'000 10,485	\$'000 (e) 12,994	\$'000 13,406

(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 1920-1966 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 on service.

WAR PENSIONS(†)—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of Pensions current at 30th June—					
Incapacitated Ex-servicemen	18,509	18,814	19,089	19,273	19,253
Dependants of Incapacitated Ex-servicemen.....	34,679	34,977	34,340	33,540	32,366
Dependants of Deceased Ex-servicemen	3,935	4,113	4,114	4,197	4,262
Miscellaneous (a)	43	43	37	37	39
Total	57,166	57,947	57,580	57,047	55,920
Amount Paid in Pensions during Year ended 30th June (b)	\$'000 10,118	\$'000 10,177	\$'000 10,527	\$'000 11,564	\$'000 11,447

(†) Including pensions in respect of ex-servicewomen. (a) Pensions payable under Seamen's War Pensions and Allowances Act, Interim Forces Benefits Act, Native Members of the Forces Benefits Act, Repatriation (Special Overseas Service) Act and various Cabinet decisions. (b) Includes widows' allowances.

The main classes of war pensions are the special (T.P.I.) rate, the intermediate rate, the general rate and the war widows' pension. The special rate of war pension, \$28.50 per week, is payable to those who are totally and permanently incapacitated and are unable to earn more than a negligible percentage of a living wage. The intermediate rate of war pension, \$20.25 per week, was introduced in October, 1965. It is payable to an ex-serviceman who, because of the severity of a war-caused incapacity, can work only part-time or intermittently and, in consequence, is unable to earn a living wage. The wife of a pensioner receiving the special rate or the intermediate rate of war pension is paid \$4.05 per week plus \$1.38 per week for each child under 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 \$12 per week. A wife and children also receive pensions at rates according to the assessed degree of incapacity of the ex-serviceman, the maximum being \$4.05 per week for a wife and \$1.38 per week for each child under 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 \$12, for the first child \$3.90, and for the second and each subsequent child \$2.75.

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 \$7 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 unemployable; 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 \$10.50 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 payable where an ex-serviceman is prevented from following his usual occupation through necessities of treatment of a disability accepted as due to war service, or while undergoing medical investigation. The rate payable is the difference between the general (100 per cent.) rate pension and his current war pension. In certain circumstances, when the period exceeds 28 days and the ex-serviceman is still under treatment which prevents him from following his usual occupation, an additional sustenance allowance may be paid to bring the allowance to the equivalent of the special (T.P.I.) rate. Where an ex-serviceman is receiving in-patient treatment for a war-caused disability or undergoing periods of essential convalescence immediately following discharge from hospital, a higher rate to bring the sustenance allowance up to the equivalent of the special (T.P.I.) rate is payable. A wife and any children aged under 16 years may also receive sustenance equal to the difference between the general (100 per cent.) rate for wives and children and their current rate of war pension. A clothing allowance at rates ranging from 38c to 75c 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. An amount of up to \$19.50 a year may be paid for other damage to clothing under specified conditions. A recreation transport allowance not exceeding \$20 per calendar month may be paid in certain circumstances.

Service Pensions

The payment of service pensions is provided for in the Repatriation Act 1920-1966 and has operated since the 1st January, 1936. A means test is applied in respect of income and property.

A service pension may be granted to a former member of the forces who is suffering incapacity from pulmonary tuberculosis, or who has served in a theatre of war (or, in the case of an ex-servicewoman, served abroad) and has attained the age of 60 years (or, in the case of an ex-servicewoman, 55 years) or is permanently unemployable.

The maximum weekly rate of pension for an ex-serviceman is \$12, and for his wife, \$6 if she has the care and control of a child or children of the ex-serviceman. The rate for eligible children is \$1.50 for the first child, and 25c 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 21 years who is not receiving an invalid pension and is undergoing full-time education. The service pension of an ex-serviceman is increased by \$1.50 per week for each eligible child other than the first, whether or not such children qualify for pension in their own right.

A service pensioner who is unmarried, widowed, divorced, or married but separated, and who has care and control of one or more children, qualifies for a guardian's allowance of \$4 per week.

Supplementary assistance up to a maximum of \$2 per week may be paid to an ex-serviceman who is paying rent, or for lodging, or board and lodging.

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

Item	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of Pensions current at 30th June—					
Ex-servicemen	4,588	5,455	5,875	6,103	6,181
Dependants of—					
Living Service Pensioners	1,231	1,305	1,293	1,262	1,181
Deceased Service Pensioners	282	355	358	389	417
Miscellaneous .....	.....	.....	.....	.....	1
Total	6,101	7,115	7,526	7,754	7,780
Amount Paid in Pensions during Year ended 30th June	\$'000 2,102	\$'000 2,687	\$'000 2,927	\$'000 3,177	\$'000 3,320

(†) Including pensions in respect of ex-servicewomen.

NATIONAL HEALTH SERVICES

The National Health Act 1953-1966 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 Fund are the nutrition of children by the free supply of milk, the payment of allowances to sufferers from tuberculosis, reimbursement to State Governments of maintenance expenditure in relation to the diagnosis, treatment and control of tuberculosis, and a number of miscellaneous health services.

Hospital and Nursing Home Benefits

The payment of hospital and nursing home benefits is authorized under Part V of the National Health Act. Benefits are payable only in respect of treatment received in approved hospitals and approved nursing homes. For the purposes of the National Health Act, premises which provide medical treatment, care and accommodation for sick persons are approved either as hospitals or as nursing homes depending mainly on their clinical standards and the type of patients accommodated. The basic principle of the provision of Commonwealth hospital benefits is the encouragement of voluntary insurance by individuals against the costs involved.

An amendment to the National Health Act passed in 1962 and effective from the 1st January, 1963 altered the basis and method of payment of Commonwealth benefit. Prior to the amendment, Commonwealth hospital benefits were of two types, "ordinary" hospital benefit and "additional" hospital benefit. Commonwealth ordinary hospital benefit was provided for patients in public and approved private hospitals, by way of deduction from the patient's hospital account, at the rate of 80c a day. For pensioners enrolled in the Pensioner Medical Service and their dependants while patients in public hospitals, \$1.20 a day was provided. Commonwealth additional benefit was paid through approved hospital benefit organizations to their financial members at rates varying with the amount of fund benefit for which the member was contributing.

Payment of \$2 per day is now made for patients in approved hospitals who are contributors to a registered hospital benefit fund, the benefit being paid through the fund. Payment of 80c per day is made direct to the hospital for patients who are not contributors to a benefit organization.

Under arrangements made with the States, pensioners who are enrolled in the Pensioner Medical Service and are treated in public wards of public hospitals are entitled (with a few exceptions) to free public ward treatment. For this the Commonwealth pays the hospitals a benefit of \$3.60 per day for each pensioner.

Commonwealth benefit of \$2 per day is paid for all qualified patients in approved nursing homes, whether the patient is insured or not.

The following table shows the amounts of benefit paid in Western Australia during each financial year from 1960-61 to 1964-65, and the number and membership of registered benefit organizations at the 30th June in each year. It should be noted that the total number of persons covered by hospital benefit schemes is considerably higher than the number of members shown, as many members contribute on account of dependants as well as for personal benefits.

HOSPITAL BENEFITS—WESTERN AUSTRALIA

Item	Year ended 30th June—				
	1961	1962	1963	1964	1965
Registered Organizations—					
Number at 30th June	10	11	10	9	9
Membership at 30th June	257,992	269,123	265,765	260,663	267,694
Amount of Benefit Paid—					
Commonwealth Benefit—					
Under arrangements applying before 1st January, 1963—	\$	\$	\$	\$	\$
Ordinary Benefits (a)	1,514,450	1,560,548	856,966	.....	.....
Additional Benefits (b)	1,813,596	1,953,262	1,346,616	.....	.....
Under arrangements applying from 1st January, 1963—					
Insured Patients	.....	.....	499,948	1,550,198	1,568,814
Uninsured Patients	.....	.....	56,682	150,680	151,084
Pensioner Patients	.....	.....	397,998	1,203,664	1,349,464
Nursing Home Patients	.....	.....	600,242	1,565,444	1,733,704
Special Account Deficits (c)	489,448	482,442	430,870	235,118	183,582
Total	3,817,494	3,996,252	4,189,322	4,705,104	4,986,648
Fund Benefit	2,499,900	3,066,706	3,256,336	3,361,864	3,855,906

(a) Paid to hospitals in respect of occupied beds. (b) Paid through benefit organizations. (c) Reimbursements paid to benefit organizations; see letterpress immediately following table.

A "special account" system was introduced on the 1st January, 1959 to provide an assured rate of hospital fund benefits to contributors who would otherwise have been excluded from fund benefits on account of organizations' rules covering pre-existing ailments, chronic illnesses and maximum fund benefit. The hospital fund benefit generally payable in such cases is \$1.60 a day and is paid either from special accounts guaranteed 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 paid was given in an approved hospital, although fund benefit is 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 oversea countries, while temporarily absent from Australia, are eligible to receive the Commonwealth and fund benefits to which they are entitled.

Medical Benefits

A Medical 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 those 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 insured, to the Commonwealth benefit and the medical fund benefit to which they would be entitled if the service were rendered in Australia.

The following table shows the number of medical services rendered in Western Australia to members of medical benefit organizations and their dependants during each financial year from 1960-61 to 1964-65. 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—				
	1961	1962	1963	1964	1965
Registered Organizations—					
Number at 30th June	9	9	8	8	8
Membership at 30th June	216,891	225,328	237,029	247,192	254,440
Number of Medical Services Received—					
General Practitioner Services	1,215,758	1,314,437	1,384,189	1,416,045	1,394,624
Other	486,992	511,523	591,145	653,809	726,439
Total	1,702,750	1,825,965	1,975,334	2,069,854	2,121,063
Amount of Benefit Paid—					
Commonwealth Benefit—					
Ordinary	\$ 1,703,662	\$ 1,842,742	\$ 1,984,406	\$ 2,116,564	\$ 3,000,804
Special Account Deficits (a)	66,006	40,672	41,290	44,108	55,226
Total	1,769,668	1,883,414	2,025,696	2,160,672	3,056,030
Fund Benefit	2,200,038	2,414,484	2,596,560	2,928,078	3,096,386

(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 to Pensioners) Regulations made under the provisions of the National Health Service Act 1948-1949. The service has been continued under the provisions of the National Health Act 1953-1966.

From the 1st November, 1955 to the 31st December, 1965, a special means test applied in determining eligibility for benefits provided by the Pensioner Medical Service. By an amendment to the National Health Act operative from the 1st January, 1966, this provision was relaxed so that all pensioners satisfying the means test in force at that date for payment of a full or partial age, invalid, widow's or service pension become eligible for enrolment in the Pensioner Medical Service. The benefits extend also to persons who receive a tuberculosis allowance and are able to satisfy this means test. Under the scheme, qualified persons and their dependants, including student children aged up to 21 years, are provided with a free general practitioner service. Specialist services are not provided. A small fee may be charged by practitioners who attend qualified patients outside normal surgery or visiting hours. Practitioners in the scheme are remunerated on a fee-for-service basis by the Commonwealth Government.

Pharmaceutical Benefits

The Pharmaceutical Benefits Scheme was inaugurated on the 4th 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 50c has been levied, except in the case of pensioners or their dependants, for each prescription dispensed and for each repeat supply. This amount represents the first 50c 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 hold a Pensioner Medical Service entitlement card, and the dependants of such persons including student children aged up to 21 years.

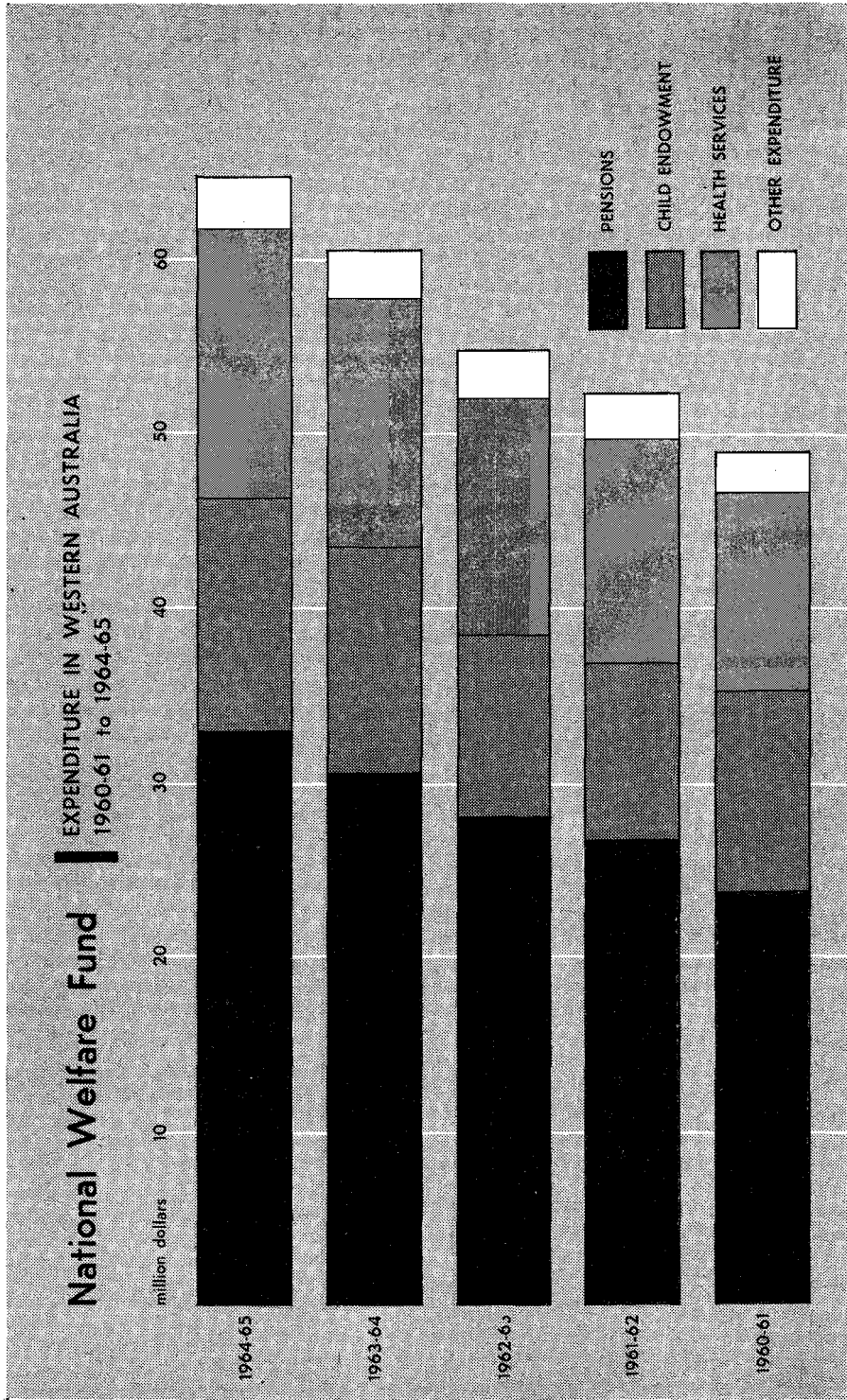
Free Milk for School Children

The States Grants (Milk for School Children) Act 1950 provides for the distribution of free milk to school children throughout the Commonwealth, with the object of improving their diet. All children under the age of 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 \$25.25 per week. An amount of \$1.50 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 \$15.25 per week or, if receiving hospital treatment free of charge, \$12 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 \$14 per week in the case of a married sufferer and \$7 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 connexion with the campaign. These payments were \$43,026 in 1960-61; \$23,780 in 1961-62; \$66,988 in 1962-63; \$43,778 in 1963-64 and \$11,434 in 1964-65.

Miscellaneous Health Services

Other expenditure from the National Welfare Fund in relation to health services includes the cost of Commonwealth Health Laboratory services, subsidies to home-nursing services, the cost of radioactive 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 1960-61 to 1964-65 is summarized in the following table.

NATIONAL WELFARE FUND EXPENDITURE ON HEALTH SERVICES—WESTERN AUSTRALIA

Service	Year ended 30th June—				
	1961	1962	1963	1964	1965
	\$	\$	\$	\$	\$
Hospital Benefits (a)	3,817,494	3,996,252	4,189,322	4,705,104	4,986,648
Medical Benefits (a)	1,769,668	1,883,414	2,025,696	2,160,672	3,056,030
Medical Benefits for Pensioners	569,780	572,012	631,734	647,602	660,234
Pharmaceutical Benefits	2,632,084	3,589,370	3,343,776	3,855,526	3,823,534
Pharmaceutical Benefits for Pensioners	998,326	1,219,594	1,317,468	1,386,440	1,470,288
Free Milk for School Children	448,104	526,134	583,758	615,444	637,200
Tuberculosis Campaign—					
Allowances	114,854	79,978	85,022	88,520	79,636
Maintenance	996,612	793,276	799,908	750,912	742,396
Miscellaneous Services	38,660	34,596	24,676	27,398	29,944
TOTAL	11,385,582	12,694,626	13,501,360	14,237,618	15,485,910

(a) For further details, see tables *Hospital Benefits—Western Australia* on page 193 and *Medical Benefits—Western Australia* on page 194.

Mental Health Institutions

The Commonwealth provides financial assistance to the States for or in connexion with the building or equipment of mental health institutions. Payments are made from the Consolidated Revenue Fund.

Under the provisions of the States Grants (Mental Institutions) Act 1955 the Commonwealth was authorized to make payments up to a total of \$20 million, of which Western Australia's share was fixed at \$1.44 million. 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 connexion with mental institutions. The first payments were made in respect of the financial year 1955-56.

The States Grants (Mental Health Institutions) Act 1964 repeals the earlier legislation and authorizes 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.

Assistance extended to Western Australia under these Acts amounted to \$1,368,666 during the period from 1955-56 to 1964-65.

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 Summary Relief Court or a Children's Court for an order requiring the husband or the father to provide maintenance. Court orders are enforceable throughout Australia and in certain oversea countries.

State monetary assistance to widows, not in receipt of a Commonwealth widow's pension, is at the rate of \$10.25 per week, plus \$4 per week for the first dependent child and \$1.50 per week for each other dependent child. To a widow receiving a Commonwealth pension the State pays \$3.00 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 \$2 per week where there is one child, \$2.50 per week where there are two children and \$3.50 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 \$7.50 per week by the State.

Where Commonwealth unemployment or sickness benefits are payable to married men, the State allows \$3 per week where there are one or two dependent children, \$2.50 where there are three or four children and \$2 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—				
	1961	1962	1963	1964	1965
Widows	175	183	206	94	88
Unmarried Mothers	30	40	35	64	39
Deserted Wives	323	322	414	300	377
Husband Pensioner	171	142	156	170	160
Husband Sick or Unemployed	1,111	472	645	320	173
Husband Imprisoned	82	62	63	48	38
Divorced Women	10	8	13	3	4
Foster-mothers	94	76	74	102	89
Special Cases.....	10	9	2	3	3
Total	2,006	1,314	1,608	1,104	971

CHILD WELFARE

Under the provisions of the Child Welfare Act, 1947-1965 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 may be excluded from Court hearings and names of juvenile offenders are withheld from publication unless with the express authority of the Court. Adults charged with certain indictable offences against children may forgo the right to trial by jury and agree to be dealt with summarily by Children's Courts. This power to exercise summary jurisdiction is designed to eliminate as far as possible the necessity for children to appear in open courts as witnesses in cases dealing with sex offences. A Children's Court may commit such offenders for sentence by the Supreme Court.

Children guilty of minor offences may be cautioned, fined, bound over, placed on probation, or dismissed without a conviction being recorded. A Court may declare a child to be neglected or destitute and may order the child to be committed to the care of the Child Welfare Department or released on probation. Children found guilty of offences punishable by imprisonment may be committed to the care of the Department, released on security given by parents, or released on probation under the supervision of the Department. Those guilty of less serious or first offences are generally placed in the care of their parents or suitable guardians under appropriate supervision by officers of the Child Welfare Department. Superintending and probation cases, other than State wards, numbered 537 at the 30th June, 1965.

Expenditure—The following table gives details of the annual expenditure of the Child Welfare Department during the five-year period ended 30th June, 1965.

EXPENDITURE OF CHILD WELFARE DEPARTMENT

Nature of Expenditure	Year ended 30th June—				
	1961	1962	1963	1964	1965
	\$	\$	\$	\$	\$
Administration	295,068	326,412	351,878	395,832	410,982
Departmental Institutions	319,542	345,400	375,724	408,382	516,142
Maintenance of Wards	246,190	264,972	266,770	331,718	357,598
Maintenance of Migrant Children	54,364	44,994	29,302	25,658	19,228
Outdoor Relief (a)	299,740	295,872	313,162	321,416	336,592
Unemployment Relief	243,982	239,272	100,698	90,976	69,190
Parole Classes	3,528	3,810	3,068	3,096	3,504
Burial of Indigents	6,996	7,872	6,158	8,822	7,158
Total Expenditure	1,469,410	1,528,604	1,446,760	1,585,900	1,720,394
Total Revenue	127,378	138,798	140,986	153,726	166,270
Net Expenditure	1,342,032	1,389,806	1,305,774	1,432,174	1,554,124

(a) Assistance to women with dependent children and to the infirm.

Wards of the Child Welfare Department—A child committed to the care of the Child Welfare Department or to the custody of the Director of Child Welfare becomes a ward of the Department. A ward may be placed in an institution, boarded out with a relative or other approved person, paroled or placed in suitable employment. The Director of Child Welfare has authority to place wards of working age in employment or apprenticeship. Where a ward is required to live at the place of employment, a service 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, 1965 there were 3,349 wards, of whom 831 were in institutions (including 329 at native missions, 37 in hospital and 7 in prison), 827 were boarded out on subsidy, and 1,691 were on parole or probation.

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, 1965 the Department had under its supervision 137 private children in institutions and 49 in the care of foster-mothers.

Institutions—The State Government subsidizes homes for children in Western Australia. Most of these institutions are conducted by religious organizations and several of them provide 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.

"Hillston" 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 cares for delinquent and maladjusted 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. "Longmore" Remand Home at Bentley is a maximum security institution which provides personal supervision for boys and girls aged 13 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, 1965.

CHILDREN IN INSTITUTIONS AT 30th JUNE, 1965 (a)

Institution	State Wards		Migrant Children (b)		Private Children		Total		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Children
CHILD WELFARE DEPARTMENT—									
Longmore, Bentley (c)	14	16	.....	.....	1	.....	15	16	31
Reception Home, Mt. Lawley	46	26	.....	.....	3	2	49	28	77
Riverbank, Caversham	30	.....	.....	.....	.....	.....	30	.....	30
Total	90	42	.....	.....	4	2	94	44	138
ANGLICAN—									
Hillston Farm School, Stoneville	51	.....	.....	.....	.....	.....	51	.....	51
Parkerville Children's Home, Parkerville	36	16	.....	.....	68	31	104	47	151
Swanleigh, Middle Swan	6	4	1	1	20	14	27	19	46
Total	93	20	1	1	88	45	182	66	248
METHODIST—									
Mofflyn, Victoria Park	.....	2	.....	.....	25	21	25	23	48
PRESBYTERIAN—									
Sister Kate's Children's Home, Queens Park	10	8	.....	.....	20	16	30	24	54
ROMAN CATHOLIC—									
Castledare Boys' Home, Cannington	18	.....	10	.....	82	.....	110	.....	110
Clontarf Boys' Town, Victoria Park	24	.....	8	.....	140	.....	172	.....	172
Home of the Good Shepherd, Leederville	.....	50	.....	.....	.....	18	.....	68	68
Nazareth House, Geraldton	.....	1	.....	3	.....	42	.....	46	46
Saint Joseph's Boys' Town, Bindoon	1	.....	2	.....	48	.....	51	.....	51
Saint Joseph's Orphanage, Wembley	.....	8	.....	8	.....	59	.....	75	75
Saint Mary's Agricultural School, Tardun	4	.....	14	.....	28	.....	46	.....	46
Saint Vincent's Foundling Home, Wembley	10	.....	.....	.....	96	.....	106	.....	106
Total	57	59	34	11	394	119	485	189	674
SALVATION ARMY—									
Boys' Home, Hollywood	33	.....	.....	.....	20	.....	53	.....	53
Girls' Home, Cottesloe	.....	18	.....	.....	.....	23	.....	41	41
Total	33	18	.....	.....	20	23	53	41	94
UNDENOMINATIONAL—									
Kingsley Fairbridge Farm School, Pinjarra	1	.....	55	30	24	14	80	44	124
Ngal-a, South Perth	11	14	.....	.....	14	17	25	31	56
Total	12	14	55	30	38	31	105	75	180
GRAND TOTAL	295	163	90	42	589	257	974	462	1,436

(a) Excludes 37 State wards in mental hospitals and 7 State wards in prison. Excludes also children at native missions.
 (b) Children brought to Western Australia under child migration schemes. (c) Officially opened 27th January, 1965.

Maintenance of Children—Payments by the Child Welfare Department to foster-parents having the care of State wards are at the weekly rate of \$5.60 for the first child, \$5.20 for the second child and \$5 for each additional child. Institutions are paid subsidies at the rate of \$5.10 per week for each ward in their care. The British Government pays \$2.50 per week for each British migrant child in institutions or boarded out and the State Government pays an additional amount of 60c per week. A further grant of \$1 per week for each child maintained is paid to the institutions by the State Lotteries Commission. Where an institution refuses assistance from the Commission on religious or moral grounds the State Government may grant an equivalent allowance to the institution for each ward maintained. All institutions and foster-parents having the care of children receive Commonwealth child endowment payments.

Parents or step-parents are required to contribute towards the maintenance of wards in institutions or boarded out.

Employment of Children—The Child Welfare Act, 1947–1965 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 12 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 licence, except in the case of an occasional entertainment for the benefit of a school or charitable or patriotic object. Most of these licences are issued for concerts arranged by dancing teachers and other tutors.

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, 1965, adoption orders numbering 487 were granted. Of this total, 232 were arranged by the Department and 255 were arranged privately.

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, Courts of Session, the Magistrates' and Coroners' Courts, the Summary 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 1903–1966. 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 Albany, Bunbury, Geraldton and Kalgoorlie 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 Courts and Courts of Session 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 1903–1966 (Commonwealth), and may also be made direct to the Privy Council. Under the Bankruptcy Act 1966 (Commonwealth) the Supreme Court is invested with federal jurisdiction in bankruptcy.

Courts of Session

Courts of Session are held four times a year, or as required, at the principal court house of each of the fourteen session divisions. Either a Judge of the Supreme Court or the Chairman of the Court of Session may preside. The Chairman of a Court of Session is the Stipendiary Magistrate stationed at the centre at which a Court is held. 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' 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 certain specified 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.

Summary Relief Court—The Summary Relief Court is established under the provisions of the Married Persons and Children (Summary Relief) Act, 1965 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 \$1,000.

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.

Civil Proceedings

Particulars of civil cases (including divorce cases) dealt with by the courts in the ten years ended 31st December, 1965 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 Cases other than Divorce						Divorce			
	Higher Courts			Lower Courts			Petitions Filed	Decrees Granted		
	Writs Issued	Judgments Signed and Entered		Plaints Entered	Verdicts for Plaintiffs			Dissolution of Marriage	Nullity of Marriage	Judicial Separation
		Number	Amount Awarded		Number	Amount Awarded				
			\$			\$				
1956	715	270	561,062	40,313	12,460	831,396	662	544	4	4
1957	718	262	674,098	39,259	14,058	1,050,128	633	541	1	3
1958	792	273	601,252	46,077	14,816	1,124,332	665	536	6	2
1959	822	219	713,610	45,794	14,382	1,055,610	681	584	2	1
1960	890	285	621,002	43,810	15,125	1,179,954	570	540	2	5
1961	1,020	321	834,680	46,657	21,495	1,726,082	622	466	....	1
1962	1,054	388	1,191,614	49,832	21,567	1,799,180	654	582	2	1
1963	1,121	380	1,137,496	54,916	24,283	2,182,224	629	553	1	....
1964	1,255	408	1,237,396	60,023	26,834	2,534,230	656	542	2	1
1965	1,463	490	2,227,816	56,141	27,910	2,627,496	738	604	2	....

(a) Excludes proceedings in bankruptcy (see page 234).

CRIME STATISTICS

Statistics appearing in this section exclude particulars of aborigines 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, 1965.

CONVICTIONS IN MAGISTRATES' COURTS

Year	Offences against the Person		Offences against Property		Forgery and Offences against Currency		Offences against Good Order		Other Offences (a)		Total Convictions (a)		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1956	489	17	4,430	352	1	....	7,185	481	44,577	2,351	56,682	3,201	59,883
1957	377	15	4,439	374	....	....	6,571	578	41,842	2,101	53,229	3,068	56,297
1958	448	22	5,139	407	....	....	6,023	571	32,707	1,720	44,317	2,720	47,037
1959	381	13	4,671	354	4	....	6,675	710	32,768	2,003	44,499	3,080	47,579
1960	356	26	4,896	483	3	....	6,302	616	32,431	2,349	43,988	3,474	47,462
1961	393	18	4,493	351	1	....	6,721	461	30,826	2,509	42,434	3,339	45,773
1962	490	18	5,838	467	....	1	7,035	417	32,545	2,880	45,908	3,783	49,691
1963	516	11	6,703	575	4	4	6,499	484	33,731	3,185	47,453	4,259	51,712
1964	544	19	6,084	532	10	....	6,184	475	33,833	3,285	46,655	4,311	50,966
1965	513	22	5,857	522	3	8	6,470	527	35,682	4,074	51,525	5,153	56,678

(a) Including traffic offences; for separate particulars see next table. Amended regulations, operative from 1st January, 1956, under the Traffic Act allow fines to be imposed without court action for minor traffic offences. Similar provisions under the City of Perth Parking Facilities Act, 1956-1965 became operative on 28th July, 1958. These minor offences are not included in the figures shown. They numbered 32,130 in 1956; 31,405 in 1957; 36,999 in 1958; 44,973 in 1959; 50,879 in 1960; 44,392 in 1961; 42,582 in 1962; 43,970 in 1963; 49,488 in 1964; and 51,167 in 1965.

CONVICTIONS IN MAGISTRATES' COURTS FOR CERTAIN OFFENCES

Year	Assault, Wounding, etc.		Breaking, Entering, and Stealing		Stealing, Receiving, etc.		Drunkness		Disorderliness		Traffic Offences (a)	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1956	323	15	472	5	2,973	330	5,552	360	889	59	37,473	1,911
1957	259	15	599	28	2,936	337	4,968	460	924	54	35,022	1,637
1958	303	20	672	5	3,263	362	4,409	412	990	66	25,194	1,053
1959	303	12	608	2	3,025	329	5,046	541	900	97	25,219	1,183
1960	249	25	872	17	3,106	431	4,679	465	903	86	26,178	1,242
1961	303	17	701	20	2,983	320	4,997	336	820	46	24,664	1,216
1962	333	18	877	7	3,685	435	5,024	303	1,444	91	25,726	1,343
1963	390	10	961	22	4,434	504	4,542	335	1,041	69	27,313	1,619
1964	385	18	777	14	3,983	472	4,176	353	1,212	70	27,165	1,517
1965	415	22	671	21	3,876	469	4,214	347	1,253	76	31,351	2,011

(a) 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 1965 for certain offences are shown in the following table.

CONVICTIONS OF JUVENILES, 1965

Age (years)	Breaking, Entering, and Stealing		Stealing, Receiving, etc.		Wilful Damage		Assault, Wounding, etc.		Unlawful Use of Motor Vehicle		Disorderliness	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
7
8	5	.....	4	.....	5	.....	.....	.....	.....	.....	.....
9	17	.....	26	.....	2	.....	.....	.....	.....	.....	.....
10	21	.....	43	1	5	.....	.....	.....	1	.....	.....
11	48	.....	59	4	8	.....	.....	.....	1	1	.....
12	61	.....	136	3	14	.....	1	.....	4	1	1
13	136	.....	292	18	19	.....	3	.....	12	.....	.....
14	134	4	292	34	27	3	4	.....	31	2	6
15	65	10	212	70	20	1	4	.....	133	.....	17
16	77	4	222	50	36	4	25	.....	101	3	47
17	90	1	260	33	29	2	14	1	87	3	84
Not Stated	12	2	54	10	15	.....	4	.....	16	.....	4
Total	666	21	1,800	223	180	10	55	1	386	10	158

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.		Wilful Damage		Traffic Offences		Other Offences		Total Convictions		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1956	468	5	1,078	102	90	2	1,753	66	826	29	4,215	204	4,419
1957	586	28	1,125	92	97	1	2,037	56	915	29	4,760	206	4,966
1958	664	5	1,229	131	162	2	2,067	77	1,231	38	5,353	253	5,606
1959	605	1	1,065	91	125	3	2,698	151	941	32	5,434	278	5,712
1960	849	17	1,282	177	148	3	1,986	80	964	41	5,229	318	5,547
1961	673	20	1,229	109	147	.....	1,368	40	825	34	4,242	203	4,445
1962	843	7	1,300	156	100	3	1,707	66	1,225	43	5,175	275	5,450
1963	931	22	1,827	196	173	4	1,773	72	1,245	98	5,947	392	6,341
1964	766	14	*1,634	*192	155	5	2,146	85	1,544	117	*6,245	*413	*6,658
1965	666	21	1,600	223	180	10	2,344	72	1,320	110	6,110	436	6,546

* Revised.

Higher Courts

Details of penalties inflicted by the Higher Courts during the ten years ended 31st December, 1965 are shown in the following table. The category *Probation* became operative with the commencement on the 1st January, 1965 of the relevant sections of the Offenders Probation and Parole Act of 1963. The numbers shown for 1964 represent persons placed on probation after the 1st January, 1965 in respect of charges laid in 1964.

HIGHER COURTS—NATURE OF PUNISHMENT OF DISTINCT PERSONS

Year	Probation		Bound Over		Fined		Imprisoned		Sentenced to Death (a)		Total Convictions		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1956	37	5	3	....	184	10	2	....	226	15	241
1957	53	2	3	....	134	5	3	....	193	7	200
1958	55	3	7	1	185	4	....	....	247	8	255
1959	28	1	4	1	175	6	1	....	208	8	216
1960	45	1	2	....	132	2	1	....	180	3	183
1961	35	3	17	2	141	4	1	....	194	9	203
1962	41	....	10	1	169	7	....	....	220	8	228
1963	54	3	20	....	214	7	2	....	290	10	300
1964	3	2	42	1	(b)21	160	7	2	....	228	12	240
1965	48	4	3	....	6	219	11	1	....	277	15	292

(a) Four executions were carried out during the period ; all other death sentences were commuted to life imprisonment.
 (b) Includes one forfeiture of bond.

Particulars of persons dealt with in Higher Courts are shown in the following table. Where a person was charged with more than one offence, only the most serious charge has been included.

HIGHER COURTS, 1965

Offence	Distinct Persons Charged			Distinct Persons Convicted		
	Males	Females	Total	Males	Females	Total
I—Offences against the Person—						
Murder	2	1	3	1	1	2
Attempted murder	1	....	1	1	....	1
Manslaughter	19	....	19	6	....	6
Negligent driving causing death	6	....	6	6	....	6
Rape	9	....	9	8	....	8
Incest	6	....	6	5	....	5
Unlawful carnal knowledge	3	....	3	3	....	3
Indecent assault	4	....	4	4	....	4
Indecent dealing	4	....	4	4	....	4
Unnatural offences	7	....	7	7	....	7
Abortion	4	3	7	4	3	7
Bigamy	1	....	1	1	....	1
Assault, wounding, etc.	15	1	16	11	1	12
Total, Class I	81	5	86	61	5	66
II—Offences against Property—						
Robbery	13	....	13	13	....	13
Breaking, entering, and stealing	152	4	156	151	4	155
Stealing, receiving, etc.	44	4	48	38	3	41
Unlawfully using motor vehicle	1	....	1	1	....	1
Arson	2	....	2	1	....	1
Wilful damage	1	....	1	....	....	....
Total, Class II	213	8	221	204	7	211
III—Forgery and Offences against Currency						
	8	2	10	8	2	10
IV—Offences against Good Order						
	3	....	3	3	....	3
V—Other Offences						
	2	1	3	1	1	2
GRAND TOTAL	307	16	323	277	15	292

Offences by Aborigines

Particulars are given in the next table of charges brought against aboriginal natives and convictions recorded in Magistrates' and Higher Courts during the year 1965. It will be seen that more than one-half of the charges are in connexion with the consumption of alcoholic liquor. From the 1st July, 1964, when

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. The restricted area which, from the 1st July, 1964 was the portion of Western Australia outside the South-West Land Division, was reduced, with effect from the 1st November, 1966 so as to comprise approximately that area of the State lying east of longitude 121° E.

OFFENCES BY ABORIGINES, 1965
(Inclusive of concurrent 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	2	1	3	.....	.....	.....	1	.....	1
Manslaughter	2	.....	2	.....	.....	.....	1	.....	1
Negligent driving causing death	2	1	3	.....	.....	.....	1	1	2
Attempted suicide	1	.....	1	1	.....	1	.....	.....	.....
Rape	2	.....	2	.....	.....	.....	2	.....	2
Unlawful carnal knowledge	18	.....	18	8	.....	8	1	.....	1
Indecent dealing	2	.....	2	2	.....	2	.....	.....	.....
Unnatural offences	3	.....	3	2	.....	2	1	.....	1
Assault, wounding, etc.	233	37	270	206	31	237	2	2	4
Other offences	1	.....	1	1	.....	1	.....	.....	.....
Total, Class I	266	39	305	220	31	251	9	3	12
II—Offences against Property—									
Robbery	1	.....	1	.....	.....	.....	1	.....	1
Breaking, entering, and stealing	111	.....	111	98	.....	98	10	.....	10
Unlawfully on premises	63	3	66	61	3	64	.....	.....	.....
Stealing, receiving, etc.	408	51	459	392	50	442	.....	.....	.....
Unlawfully using vehicle, etc.	111	5	116	108	5	113	.....	.....	.....
Wilful damage	81	19	100	78	19	97	.....	.....	.....
Other offences .....	.....	1	1	.....	1	1	.....	.....	.....
Total, Class II	775	79	854	737	78	815	11	.....	11
III—Forgery and Offences against Currency									
IV—Offences against Good Order—									
Drunkenness	2,757	888	3,645	2,748	887	3,635	.....	.....	.....
Habitual drunkenness	82	25	107	82	25	107	.....	.....	.....
Disorderliness	612	343	955	602	336	938	.....	.....	.....
Vagrancy	138	35	173	132	33	165	.....	.....	.....
Uncontrollable child	1	12	13	1	12	13	.....	.....	.....
Indecent behaviour	2	1	3	2	1	3	.....	.....	.....
Escaping legal custody	38	1	39	38	1	39	.....	.....	.....
Offences against police	130	36	166	129	35	164	.....	.....	.....
Total, Class IV	3,760	1,341	5,101	3,734	1,330	5,064	.....	.....	.....
V—Other Offences—									
Breach of Native Welfare Act	363	62	425	358	62	420	.....	.....	.....
Traffic offences	538	14	552	524	13	537	.....	.....	.....
Breach of liquor laws	74	18	92	73	18	91	.....	.....	.....
Gaming	11	5	16	11	5	16	.....	.....	.....
Industrial offences	1	.....	1	1	.....	1	.....	.....	.....
Maintenance offences	23	1	24	26	1	27	.....	.....	.....
Other offences	94	22	116	92	22	114	.....	.....	.....
Total, Class V	1,109	122	1,231	1,085	121	1,206	.....	.....	.....
GRAND TOTAL	5,910	1,581	7,491	5,776	1,560	7,336	20	3	23

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 specialized 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.

At the 30th June, 1965, the Police Force had a chief inspector, 35 inspectors, 225 sergeants and 996 constables. Of these, four were detective inspectors, 39 detective sergeants and 59 detective constables. In addition, there were eighteen women police, comprising two sergeants and sixteen 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, Kalgoorlie, Narrogin and Northam. The Branch is equipped with radio patrol cars and the usual facilities for work on fingerprints, photography and ballistics.

Special staffs attached to the Criminal Investigation Branch are responsible for security and for police work in connexion with gold stealing, pillaging 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 Plain Clothes Branch is concerned mainly 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 Police—Policewomen are stationed at Perth, Fremantle and Kalgoorlie. They are employed mainly 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 1965, there were seven clubs in the metropolitan area and 20 in country districts, with a total membership of approximately 5,600.

PRISONS

There are four common gaols, at Fremantle, Albany, Broome and Geraldton, and fifteen police gaols in Western Australia. There are outstations of the Fremantle Prison at Barton's Mill, Pardelup Prison Farm, and Karnet 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 tinsmithing. 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 fairly open. Karnet 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 inebriates. 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 used mainly 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, 1965, a prisoner is counted once for each time he is received.

PRISONERS RECEIVED FOR PENAL IMPRISONMENT

Year	Prisoners other than Aborigines			Aborigines			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1960-61	2,967	168	3,135	797	281	1,078	3,764	449	4,213
1961-62	3,268	149	3,417	868	320	1,188	4,136	469	4,605
1962-63	3,360	172	3,532	920	276	1,196	4,280	448	4,728
1963-64	3,191	151	3,342	1,053	384	1,437	4,244	535	4,779
1964-65	2,763	114	2,877	1,303	373	1,676	4,066	487	4,553

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 PERSONS IMPRISONED

Year	Prisoners other than Aborigines			Aborigines			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1960-61	1,697	90	1,787	511	149	660	2,208	239	2,447
1961-62	1,903	81	1,984	563	178	741	2,466	259	2,725
1962-63	1,960	100	2,060	588	134	722	2,548	234	2,782
1963-64	2,089	87	2,156	659	213	872	2,728	300	3,028
1964-65	1,904	67	1,971	839	209	1,048	2,743	276	3,019

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 1961 to 1965.

PRISONERS IN GAOL

At 30th June—	Prisoners other than Aborigines			Aborigines			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1961	509	17	526	104	15	119	613	32	645
1962	558	15	573	110	23	133	668	38	706
1963	620	20	640	121	13	134	741	33	774
1964	651	11	662	143	20	163	794	31	825
1965	553	15	573	200	30	230	758	45	803

PROBATION AND PAROLE SERVICE

The Probation and Parole Service, a branch of the Crown Law Department, is constituted under the provisions of the Offenders Probation and Parole Act, 1963-1965.

Part II of the Act, dealing with the probation of offenders, came into operation on the 1st January, 1965. Probation officers appointed under the Act carry out supervision of offenders placed on probation by the courts. A court may require the Chief Probation Officer to report on an offender before sentence is imposed.

Part III, which relates to the parole of offenders, came into operation on the 1st October, 1964. It established 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.

The Act requires that where a person is sentenced to imprisonment for twelve months or longer the court shall, unless special circumstances make it inappropriate, fix a minimum term during which the convicted person is not eligible to be released. The court is given discretionary power to fix a minimum term where the sentence is for less than twelve months. Provision is made for the reduction of a minimum term, as a reward for good conduct or industry. Where no minimum term has been fixed, remission of up to twenty-five per cent. of the sentence may be allowed for diligence and good conduct.

The Parole Board is empowered to release on parole a prisoner who has served a minimum term fixed by a court, or a prisoner being detained at the Governor's pleasure. The Governor may direct the release on parole of a prisoner sentenced to imprisonment for life, a prisoner undergoing a sentence of imprisonment for life commuted from a sentence of death, or an unconvicted person held in custody during the Governor's pleasure following acquittal because of unsoundness of mind.

Parole officers establish contact with prisoners before release on parole and supervise them during the parole period.

CHAPTER VI—FINANCE

PART 1—PUBLIC FINANCE

In Western Australia there are three groups of authorities responsible for the collection and expenditure of public moneys. They are the State Government and associated semi-governmental authorities, the Commonwealth Government, and the local government authorities, comprising City Councils, Town Councils and Shire Councils.

COMMONWEALTH-STATE FINANCIAL RELATIONS

The Financial Agreement of 1927

Under the terms of the Financial Agreement, the Commonwealth Government took over from the States their public debts existing at 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 58 years from the 1st July, 1927 an amount of \$15,169,824 towards the interest payable on the State debts, Western Australia's share of this amount being \$946,864. 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 three-eighths 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 53 years from the date of the raising, the sinking fund contribution shall be at the rate of one-half 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 one-half 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 one-quarter per cent. from the Commonwealth and three-quarters 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 deficit to be funded. The Commonwealth Government's borrowings for defence purposes are expressly excluded from its submissions to the Council. If the Council decides that the total amount of the loan programme for a year cannot be borrowed at reasonable rates and conditions it decides the amount to be borrowed during the year, and may by unanimous decision allocate this amount between the Commonwealth and the States. Where the members fail to arrive at a unanimous decision the Commonwealth is entitled to a maximum of one-fifth of the total sum to be borrowed. Of the balance, each State is entitled to an amount in the proportion which its net loan expenditure during the preceding five years bears to the aggregate for all the States.

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 relative financial disadvantages 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 efficiently 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 1960-61 to 1964-65 after an annual authorization by the Commonwealth Parliament under a States Grants (Special Assistance) Act is shown against the item "Special Grants" in the table on page 211.

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 incorporated an arrangement, unanimously agreed to by the States at a Premiers' Conference in June, 1959, which was designed to eliminate the need for supplementary grants in the form of Special Financial Assistance and to reduce to a marginal 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 \$50,924,000. The grant was essentially a *per capita* payment, which varied as between States. For each year subsequent to 1959-60, this *per capita* payment was 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 were the effects on State finances of population changes and wage increases taken into account but a "betterment factor" was also introduced to enable a State Government to extend the range or improve the standard of its services.

The Act was repealed by the States Grants Act 1965 which gives effect to an agreement, reached at a Premiers' Conference held at Canberra in June, 1965, 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 1966-67 is expected to be \$84.9 million. The Act provides that the system may be reviewed in relation to grants for any year subsequent to 1969-70.

Other Financial Assistance

As well as providing general financial assistance to the States by means of grants, the Commonwealth Government has allocated to them funds for specific purposes. These include moneys for roads (see letterpress, Chapter IX, Part 2), railway standardization (Chapter IX, Part 2), the tuberculosis campaign (Chapter V, Part 5), mental health institutions (Chapter V, Part 5), universities (Chapter V, Part 1) and also, in the case of Western Australia, for waterworks (Chapter VII, Part 2) and the development of the part of the State north of 20° S. latitude (Chapter VII, Part 2). These payments, together with various forms of assistance to industries and contributions for road safety practices, blood transfusion services, housekeeper services and the relief of natural disasters, are made from the Consolidated Revenue Fund. In addition, finance for housing (see letterpress, Chapter V, Part 4) is provided from Loan Fund, for social services and health services (Chapter V, Part 5) and homes savings grants (Chapter V, Part 4) from the National Welfare Fund, for war and service pensions (Chapter V, Part 5) aged persons' homes and the accommodation of disabled persons (Chapter V, Part 3) and assistance to schools in science teaching and technical training (Chapter V, Part 1) from Consolidated Revenue and for war service land settlement (Chapter VII, Part 1) from Consolidated Revenue and from Loan Fund.

FINANCIAL ASSISTANCE TO WESTERN AUSTRALIA

Consolidated Revenue Fund

The following table gives particulars of payments made by the Commonwealth Government from Consolidated Revenue Fund to or on behalf of the Government of Western Australia in each of the financial years 1960-61 to 1964-65. The items included are those dealt with in the corresponding paragraphs of the preceding section *Commonwealth-State Financial Relations*.

COMMONWEALTH CONSOLIDATED REVENUE FUND
FINANCIAL ASSISTANCE TO WESTERN AUSTRALIA (a)

(\$'000)

Nature of Payment	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Financial Agreement—					
Interest Contributions on State Debts	948	948	948	948	948
Sinking Fund on State Debts	1,218	1,306	1,403	1,519	1,616
Special Grants (b)	8,618	12,312	12,420	12,144	17,120
Financial Assistance Grants	55,954	60,171	62,480	65,597	70,498
Additional Assistance Grants (c)		1,320	2,728	3,764	
Commonwealth Aid Roads—					
Grants	14,774	15,424	16,164	16,988	21,945
Additional Grants	1,407	2,103	2,811	3,538	1,062
Eyre Highway—Contribution to Maintenance	52	25	25	25	25
Road Safety Practices	23	16	17	16	17
Railway Standardization Agreement (d)			4,325	7,526	10,265
Tuberculosis Act—Reimbursement of Capital Expenditure	43	24	67	44	11
Mental Institutions—Contribution to Capital Expenditure	31	154	116	332	447
Grants for Universities	1,806	1,988	2,300	2,756	3,000
Grants for Science Laboratories					708
Grants for Technical Training					714
Water Resources Investigation and Measurement—					
Underground					84
Surface					52
Western Australian Waterworks Grant	1,034	122			
Exmouth Township Development					380
Development of North Western Australia (e)	2,416	3,410	2,864	2,166	2,568
Replacement of Derby Jetty (f)			600	700	300
Encouragement of Meat Production	4	6			
Beef Cattle Roads Grant		1,000	1,400	1,500	1,500
Dairy Industry Extension Grant	26	34	42	50	48
Expansion of Agricultural Advisory Services	54	54	52	54	54
Natural Disaster Payments	65	(g) 387			
Coal Mining Industry Long Service Leave	32	30	31	30	32
Blood Transfusion Services	29	32	35	37	42
Housekeeper Services	2	2	2	2	1
Migrant Centre				34	
TOTAL	88,536	100,868	110,830	119,770	133,437

(a) Excludes subsidy and bounty payments. Payments from the National Welfare Fund and War and Service Pension payments are also excluded. (b) See letterpress *The Commonwealth Grants Commission* on pages 209-10. (c) The amounts shown represent Western Australia's share of grants of \$20 million, \$35 million and \$40 million made to the States for the stimulation of employment, in terms of the States Grants (Additional Assistance) Acts of 1962, 1963 and (No. 2) 1963. (d) Includes repayable advances: 1962-63, *\$2,544,000; 1963-64, *\$4,427,000; 1964-65, \$6,038,000. (e) Includes repayable advances: 1963-64, \$350,000; 1964-65, \$550,000. (f) Includes repayable advances: 1962-63, \$300,000; 1963-64, \$350,000; 1964-65, \$150,000. (g) Includes an amount of \$67,000 in respect of personal relief. * Revised.

National Welfare Fund

The National Welfare Fund was established in 1943 by the National Welfare Fund Act passed by the Commonwealth Parliament in that year. The purpose of the Fund is to provide for the payment of social service and health benefits. 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.

NATIONAL WELFARE FUND—PAYMENTS IN WESTERN AUSTRALIA (a)

Pension or Benefit	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Social Services—	\$	\$	\$	\$	\$
Age and Invalid Pensions	21,586,380	24,343,944	25,581,812	27,372,910	29,413,122
Rehabilitation Service	158,486	157,352	149,228	161,966	173,944
Funeral Benefits	51,890	51,978	51,392	54,850	59,386
Widows' Pensions	2,103,904	2,371,208	2,377,278	3,115,008	3,463,094
Unemployment, Sickness and Special Benefits—					
Unemployment	958,318	1,452,164	1,437,766	1,402,950	842,214
Sickness	306,696	381,412	505,014	522,010	512,462
Special	44,392	53,410	63,384	53,526	46,360
Maternity Allowances	567,932	558,888	551,962	545,512	533,800
Child Endowment	11,402,150	10,204,956	10,485,312	12,994,076	13,405,556
National Health Services—					
Hospital Benefits—					
Ordinary	1,514,450	1,560,548	856,966	.....	.....
Additional	1,813,596	1,953,262	1,346,616	.....	.....
Other (b) .....	.....	.....	1,554,870	4,469,986	4,803,066
Special Account Deficits (c)	489,448	482,442	430,870	235,118	183,582
Medical Benefits—					
Ordinary	1,703,662	1,842,742	1,984,406	2,116,564	3,000,804
Special Account Deficits (c)	66,006	40,672	41,290	44,108	55,226
Medical Benefits for Pensioners	569,780	572,012	631,734	647,602	660,234
Pharmaceutical Benefits	2,632,084	3,589,370	3,843,776	3,855,526	3,823,534
Pharmaceutical Benefits for Pensioners	998,326	1,219,594	1,317,468	1,386,440	1,470,288
Milk for School Children	448,104	526,134	583,758	615,444	637,200
Tuberculosis Campaign—					
Allowances	114,854	79,978	85,022	88,520	79,636
Maintenance (d)	996,612	793,276	799,908	750,912	742,396
Miscellaneous (c)	38,660	34,596	24,676	27,398	29,944
Home Savings Grants .....	.....	.....	.....	.....	698,698
Rental Rebates (e)	246,358	.....	.....	.....	.....
TOTAL	48,812,088	52,269,938	54,704,508	60,460,426	64,634,546

(a) For conditions applying to payment of social service and health benefits, see Chapter V, Part 5. (b) For details, see table *Hospital Benefits—Western Australia* in Chapter V, Part 5. (c) See letterpress *National Health Services*, Chapter V, Part 5. (d) Figures exclude payments and reimbursements from Consolidated Revenue Fund in respect of capital expenditure by the State Government. See preceding table. (e) Represents a payment towards the Commonwealth's contribution of three-fifths of rental losses incurred under the Commonwealth and State Housing Agreement Act 1945 (see letterpress *Operations under the Commonwealth and State Housing Agreement*, Chapter V, Part 4).

COMMONWEALTH TAXATION COLLECTIONS IN WESTERN AUSTRALIA

The taxes levied in Western Australia by the Commonwealth Government are listed in the following table, which shows the net amounts collected in each year from 1960-61 to 1964-65.

COMMONWEALTH TAXATION—NET COLLECTIONS IN WESTERN AUSTRALIA

Tax, Duty, Charge or Levy	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Customs Duties	\$ 7,075,920	\$ 6,845,684	\$ 8,573,914	\$ 9,781,902	\$ 10,076,692
Excise Duties	33,755,410	35,623,900	35,873,914	37,746,284	43,083,223
Sales Tax	18,841,808	17,649,710	18,925,968	19,109,272	20,054,873
Income Tax and Social Services Contribution	73,041,666	82,608,840	84,981,262	94,018,082	119,239,545
Pay-roll Tax	6,704,498	7,014,222	7,372,626	8,045,464	8,745,644
Estate Duty	997,902	1,549,548	1,075,210	1,458,980	1,783,520
Gift Duty	287,638	257,576	289,796	488,238	478,916
Wool Tax (a)	392,966	631,344	667,720	777,692	1,755,772
Stevedoring Industry Charge (a)	804,226	764,450	878,616	941,232	938,674
Export Charges on Primary Products (a)	61,222	43,920	64,456	68,060	45,748
Tobacco Charge (a)	6,972	3,308	686	.....	.....
Dairy Produce Levy (a)	28,780	29,334	26,310	26,626	29,698
Canning-Fruit Charge (a)	72	134	300	134	274
Cattle Slaughter Levy (a)	13,544	27,468	52,094	64,612	100,706
Honey Levy (a) .....	.....	.....	102	6,926	8,820
Livestock Slaughter Levy .....	.....	.....	.....	.....	41,500
TOTAL	142,012,624	153,049,438	158,782,974	172,533,504	206,383,618

(a) Paid to Trust Funds or relevant authorities and used for the purposes of the industry concerned.

It is important to note that, although the figures shown in the preceding table represent the amounts of taxes actually collected in Western Australia, they do not necessarily indicate the amounts contributed by the people of the State, as moneys may be collected in one State in respect of goods consumed or assessments made in other States. Further, administrative arrangements for the collection of certain taxes are such that a large proportion of the revenue (or, as in the case of Wheat Tax, the whole of the revenue) is brought to account in a State other than Western Australia.

STATE GOVERNMENT FINANCE

Moneys collected and expended by the State Government are dealt with through accounts based on funds of three types, the Consolidated Revenue Fund, the General Loan Fund and Trust Funds. The transactions of these Funds are summarized 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 1960-61 to 1964-65 appear in the table on page 211. Not all of these moneys are paid to the State Consolidated Revenue Fund, as some of them are provided for specific purposes and are therefore paid to trust or other accounts.

CONSOLIDATED REVENUE FUND—SOURCES OF REVENUE

Nature of Revenue	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Collected by the State—	\$	\$	\$	\$	\$
Taxation (a)	12,078,512	12,926,338	14,762,202	17,604,304	19,512,382
Territorial Revenues (b)	2,796,618	3,282,662	3,501,264	3,750,548	4,106,326
Public Utilities—					
Railways	32,556,830	33,650,732	33,817,330	34,928,674	36,381,420
Water Supplies, Sewerage and Drainage	7,749,838	8,305,670	9,223,812	9,967,966	(c) 2,905,688
Other Public Utilities	523,338	500,042	517,892	479,554	491,236
Departmental Revenue—Reimbursements, Fees, etc.	16,372,078	16,548,818	18,133,828	20,948,398	26,711,758
Other	1,069,392	1,207,598	1,377,736	1,221,512	1,468,486
Total	73,146,606	76,421,860	81,334,064	88,900,956	91,577,796
Received from the Commonwealth (d)—					
Interest on State Debts	946,864	946,864	946,864	946,864	946,864
Special Grants	8,618,000	12,312,000	12,420,000	12,144,000	17,120,000
Financial Assistance Grants	55,953,950	60,170,846	62,480,608	65,596,650	70,498,358
Additional Financial Assistance .....	.....	.....	.....	300,000	.....
Total	65,518,814	73,429,710	75,847,472	78,987,514	88,566,222
GRAND TOTAL	138,665,420	149,851,570	157,181,536	167,888,470	180,143,018

(a) For net amounts collected, see table *Net Collections of State Taxation* on page 214. (b) Comprises revenue from sales, leases and licences relating to lands, timber and mining. (c) Excludes particulars of the Metropolitan Water Supply, Sewerage, and Drainage Board which replaced the former Metropolitan Water Supply, Sewerage and Drainage Department from 1st July, 1964. (d) See table on page 211.

Approximately one-half of the revenue collected by the State comes from public utilities, predominant among which is the Railways undertaking 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 revenues amount to more than one-fifth of all receipts, the main contributing Departments in 1964-65 being Treasury (\$15,970,214, including \$14,366,216 on account of interest and sinking funds), Harbour and Light (\$1,819,760), Forests (\$1,032,538), Public Works (\$814,320), Printing (\$792,960), Education (\$727,484), Police (\$700,062) and Agriculture (\$675,560).

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 licences, bookmakers' turnover tax, bookmakers' licences, Totalisator Agency Board betting tax, betting investment tax, and certain other licences. Some account of the rates and conditions applying to these and other levies is given in the *Western Australian Pocket Year Book*.

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 trust or special accounts as well as to Consolidated Revenue are shown.

NET COLLECTIONS OF STATE TAXATION

Nature of Tax	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Paid to Consolidated Revenue Fund—					
Probate and Succession Duties	\$ 2,814,474	\$ 3,018,178	\$ 3,073,880	\$ 3,068,736	\$ 3,006,154
Stamp Duties not elsewhere included	3,912,642	4,240,030	5,342,062	*6,848,882	7,670,048
Land	2,143,090	2,498,044	2,498,796	2,645,634	2,831,100
Entertainments (a)	278,726	107,538	.....	.....	.....
Liquor Licences	1,006,056	1,057,372	1,381,692	1,808,808	1,926,744
Racing—					
Stamp Duty on Betting Tickets	249,362	117,916	84,924	64,468	57,792
Totalisator Duty	268,572	281,982	275,216	278,842	307,022
Totalisator Licences	4,624	4,604	4,644	4,606	4,776
Stamp Duty on Totalisator Dividends	3,148	3,396	2,178	916	1,022
Bookmakers' Betting Tax and Licences	887,714	374,824	250,764	174,340	131,794
Betting Tax—Totalisator Agency Board	15,322	646,440	1,114,062	1,354,540	1,679,888
Betting Investment Tax	265,122	359,608	418,578	439,714	514,306
Motor Vehicle—					
Registration Fees (b)	.....	.....	23,436	29,378	50,792
Drivers' and Riders' Licences and Fees (b) (c)	38,136	32,226	29,474	91,500	126,606
Third Party Insurance Surcharge	.....	.....	222,562	538,426	572,378
Stamp Duty on Registration and Transfer	.....	.....	.....	271,782	689,564
Other	(d)	(d)	5,600	4,278	10,940
Licences not elsewhere included	143,114	*196,614	*324,072	*521,290	594,678
Total	12,030,102	*12,938,772	*15,051,970	*18,146,140	20,175,604
Paid to Trust or Special Accounts—					
Motor Vehicle (e)—					
Registration Fees (f) (g)	5,380,910	5,754,796	6,292,840	6,852,128	7,406,356
Drivers' and Riders' Licences (g)	526,754	550,648	581,082	649,230	658,314
Passenger and Carriers' Licences	41,240	42,534	40,442	41,736	39,086
Transport Department Licences	143,568	162,078	165,760	198,510	247,770
Taxi Control Board Licences	.....	.....	.....	.....	16,996
Other	(d)	(d)	950	1,530	1,792
Other Vehicle Registration Fees	5,564	5,650	*7,218	*8,974	12,856
Metropolitan Region Improvement	442,434	471,062	371,394	389,648	474,280
Noxious Weeds	.....	.....	.....	.....	56,180
Vermin—					
Fruit Fly Eradication	34,322	34,008	35,114	35,558	41,614
Other	219,594	243,284	260,034	306,900	373,558
Total	6,794,386	7,264,060	7,754,834	8,484,214	9,328,802
GRAND TOTAL	18,824,488	*20,202,832	*22,806,804	*26,630,354	29,504,406
Per Head of Mean Population (h)	25.8	27.1	29.8	33.8	36.6

(a) Entertainments Tax discontinued from 1st January, 1962. (b) Part collections only; for amounts paid to Trust or Special Accounts, see below. (c) Includes Conductors' Licences. (d) Not available. (e) See letterpress *Finance for Roads*, Chapter IX, Part 2. (f) For purposes of comparison with other States, fees collected by local government authorities outside the Metropolitan Traffic Area have been treated as State Taxation and included here. See also table *Summary of Local Government Revenue* on page 222. (g) Part collections only; for amounts paid to Consolidated Revenue Fund, see above. (h) Figures subsequent to 1960-61 have been revised in accordance with the preliminary results of the Census of 30th June, 1966. * Revised.

The amounts shown for each of the years 1960-61 to 1964-65 are grouped according to the nature of the tax rather than the method of collection. Thus stamp duties on betting tickets and revenue from bookmakers' licences and totalisator licences are included under the heading "Racing" and not under "Stamp Duties" or "Licences." It will be seen that, although the figures represent net collections, the aggregates of the amounts shown as payments to the Consolidated Revenue Fund generally

exceed those appearing as taxation revenue (gross) in the table on page 213. 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 revenue. Items dealt with in this way include Drivers' and Riders' Licences and Fees as shown in the first part of the table, as well as licences relating to firearms; factories and shops; fishing, pearling and game; 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, 1962-1965. The Act imposes a surcharge, subject to certain statutory exemptions, at the rate of \$2 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).

The amounts shown as "Stamp Duty on Registration and Transfer" included with payments to Consolidated Revenue Fund under the heading "Motor Vehicle" represent collections under the provisions of the Stamp Act, 1921-1965. An amendment to the Act, effective from the 31st December, 1963, imposed a duty, subject to certain statutory exemptions, on a motor vehicle licence or the transfer of a licence at the rate of \$1 for every \$200, or part of \$200, of the value of the vehicle to which the licence or transfer relates. A further amendment to the Act increased the rate to \$1.50 with effect from the 1st December, 1965.

**CONSOLIDATED REVENUE FUND
EXPENDITURE ACCORDING TO NATURE OF SERVICE**

Nature of Expenditure	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Expenditure on Public Utilities—					
Railways	\$ 33,731,246	\$ 34,507,304	\$ 34,068,158	\$ 35,339,678	\$ 36,965,310
Water Supplies, Sewerage and Drainage	6,481,214	6,762,288	7,332,774	8,035,572	(a) 5,441,460
Other	859,534	827,866	866,302	871,666	953,620
Total	41,071,994	42,097,458	42,267,234	44,246,916	43,360,390
Departmental Expenditure—					
Agriculture	2,109,718	2,374,106	2,581,490	3,047,264	3,215,486
Child Welfare and Outdoor Relief	1,469,410	1,528,604	1,446,760	1,585,900	1,720,398
Crown Law	1,319,354	1,448,172	1,598,970	1,771,890	1,976,212
Education	19,540,984	21,417,320	22,849,762	25,879,704	29,132,900
Forests (b)	819,464	891,720	972,226	1,090,174	1,247,840
Harbour and Light and Jetties	796,132	879,306	881,206	1,104,820	1,299,354
Lands and Surveys	1,759,954	1,860,714	2,183,004	2,352,746	2,408,154
Mental Health Services	2,357,050	2,496,796	2,670,162	2,835,704	3,151,522
Metropolitan (Perth) Passenger Transport					
Trust—Loss	912,000	1,212,000	1,068,000	840,000	956,000
Mines	1,056,208	1,161,678	1,273,666	1,453,322	1,638,906
Native Welfare (c)	1,501,532	2,577,616	3,289,044	(c) 1,516,736	(c) 1,860,234
Police	3,959,354	4,127,326	4,263,736	4,632,870	5,166,062
Printing	1,037,336	1,109,860	1,357,284	1,384,290	1,448,684
Public Health	11,459,182	12,438,510	13,402,990	15,869,182	18,008,636
Public Works and Buildings	3,477,912	3,777,644	4,205,398	4,990,542	5,358,508
State Shipping Service—Loss	2,049,414	2,111,770	2,322,690	2,451,536	2,805,178
Treasury	331,446	284,746	288,750	313,660	338,728
University of Western Australia—Additional Payments (b)	1,194,908	1,413,362	1,658,098	1,927,544	2,421,366
Other	12,568,102	13,372,572	11,864,088	12,966,442	15,540,222
Total	69,719,460	76,483,822	80,177,324	88,014,326	99,694,190
Expenditure under Special Acts—					
Forests Act (d)	1,569,246	1,804,704	1,823,432	1,956,022	2,152,252
Loan Acts (Public Debt)—Interest	20,120,688	22,270,850	24,551,154	25,924,574	28,222,794
Sinking Fund Contributions	4,507,392	4,978,994	5,428,562	5,846,724	6,445,784
Parliamentary Allowances	392,530	389,666	410,784	436,390	459,790
Superannuation Acts—Government Employees	2,087,264	2,098,322	2,242,998	2,409,918	2,586,754
University of Western Australia Act (d)	500,000	500,000	500,000	500,000	500,000
Other	891,324	926,216	1,030,764	1,070,616	1,130,776
Total	30,068,444	32,968,752	35,987,694	38,144,244	41,478,150
Other Expenditure	214,674	229,564	255,034	275,344	307,338
GRAND TOTAL	141,074,572	151,770,596	158,687,286	170,680,830	184,840,068

(a) Excludes particulars of the Metropolitan Water Supply, Sewerage, and Drainage Board which replaced the former Metropolitan Water Supply, Sewerage and Drainage Department from 1st July, 1964. (b) For expenditure under Special Acts, see below. (c) From 1st July, 1963 Native Welfare expenditure on 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 losses incurred by the State Shipping Service and the Metropolitan (Perth) Passenger Transport Trust. By a provision of the State Trading Concerns Act of 1917, any loss sustained by a Concern is to be treated in such manner as 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, 1965 aggregated \$5,128,728, and of this amount \$5,085,834 had been recouped from the Fund.

Expenditure on public utilities amounts to approximately one-quarter of the total, the predominant item being the Railways undertaking.

Commitments under Special Acts account 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, 1938-1965 and other legislation providing pensions for government employees.

The amount paid under the Forests Act, 1918-1964 represents nine-tenths of the net annual revenue of the Department and is credited to a fund for forests improvement and reforestation. The University of Western Australia Act, 1911-1964 provides for the payment of an annual subsidy of \$500,000 and "such additional amounts as may be appropriated by Parliament from time to time." In 1964-65 additional payments amounting to \$2,421,366 were made from Departmental Expenditure. Further details of University finance are given in Chapter V, Part 1.

The particulars shown in the preceding table and in the table on page 213 are an abridged form of the presentation given in the Public Accounts. It is, of course, possible to present the figures of income and expenditure of the Consolidated Revenue Fund on other bases for particular purposes. One such grouping is a dissection according to function as in the following table. The classification used is one which was devised by the Conference 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 Finance*.

CONSOLIDATED REVENUE FUND
REVENUE AND EXPENDITURE CLASSIFIED ACCORDING TO FUNCTION

Function	Financial Year					
	1963-64			1964-65		
	Revenue	Expenditure		Revenue	Expenditure	
		Gross	Net		Gross	Net
	\$	\$	\$	\$	\$	\$
Legislation .....	....	1,155,110	1,155,110	550	1,320,758	1,320,208
General Administration and Services, not elsewhere included	*98,423,622	5,300,490	*†93,123,132	110,224,874	6,985,646	†103,239,228
Law, Order and Public Safety	1,315,962	7,674,496	6,358,534	1,388,232	8,553,554	7,165,322
Education	760,376	30,583,760	29,823,384	800,688	34,700,628	33,899,940
Cultural and Recreational Facilities .....	....	966,808	966,808	....	1,080,772	1,080,772
Public Health	867,606	19,054,428	18,186,822	870,926	21,567,722	20,696,796
Welfare	790,616	4,893,630	4,103,014	840,464	5,208,358	4,367,894
War and Defence .....	....	32,660	32,660	....	24,724	24,724
Immigration .....	....	127,872	127,872	....	141,590	141,590
Regulation of Trade and Industry and Industrial Safety	362,076	640,634	278,558	398,364	679,398	281,034
Development and Conservation of National Resources and Assistance to Industry	17,229,904	23,308,348	6,078,444	11,133,286	22,184,068	11,050,782
Transport and Communication	36,586,778	40,844,370	4,257,592	38,379,566	43,136,658	4,757,092
Housing	15,376	42,898	27,522	9,952	45,488	35,536
Banking and Insurance	220,720	50,774	† 169,946	128,738	50,654	† 78,084
Public Debt Charges	11,076,946	*(a)33,048,650	*21,971,704	15,632,832	(a)35,988,434	20,355,602
Miscellaneous	*238,488	*2,955,902	*2,717,414	334,546	3,171,616	2,837,070
TOTAL	167,888,470	170,680,830	(b) 2,792,360	180,143,018	184,840,068	(b)4,697,050

(a) Comprises the amounts shown under "Loan Acts (Public Debt)" in the preceding table and exchange on interest payments and other charges aggregating *\$1,277,352 in 1963-64 and \$1,319,856 in 1964-65. (b) Published Budget deficit.
* Revised. † Credit.

The table is designed to show (in respect of the Consolidated Revenue Fund only) the gross and net cost of each function of Government irrespective of the Department or Departments administering these functions. In cases where an activity is such that it involves more than one function, each of its components has been included in that function which is considered to be the most appropriate. For example, in classifying revenue and expenditure attributable to the care of aborigines, the education of natives is included in "Education," and hospitals for natives in "Public Health," only the balance being assigned to the item "Welfare."

The amount shown as revenue under the heading "General Administration and Services, not elsewhere included" is approximately 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 213), amounting in all to \$95,344,954 in 1963-64 and \$107,130,740 in 1964-65. The figure shown in the table for 1963-64 includes, in addition, the amount of \$300,000, 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, 1938-1965 the State Government Insurance Office is required to pay each year to the Treasury the equivalent of the amount of State taxes on profits or income that any insurance company, other than a life insurance company, would be liable to pay. The amounts shown as revenue under Banking and Insurance include sums of \$211,020 for 1963-64 and \$114,504 for 1964-65 in relation to such payments. The expenditure under the heading of Banking and Insurance comprises mainly reimbursements from the Treasury to The Rural and Industries Bank of Western Australia of administration expenses incurred in the conduct of its Government Agency Department. These recoups amounted to \$48,754 in 1963-64 and \$49,846 in 1964-65.

General Loan Fund and Public Debt

General Loan Fund—The first Loan Act in Western Australia was assented to in 1872 and gave authority for the raising of a loan for public works, mainly in 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 merging in the Fund of all loan balances unexpended at the 30th June, 1896, and since 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, 1965 were those relating to Public Buildings (\$71,508,806), Water Supplies, Sewerage and Drainage (\$53,529,688), Railways, Tramways and Omnibuses (\$30,153,062), Harbours and Rivers (\$12,841,118), Housing (\$12,028,436), Development of Agriculture (\$2,643,970) and Electricity Supply (\$1,994,444).

NET LOAN EXPENDITURE

Nature of Expenditure	From 1872 to 30th June, 1960	Financial Year					From 1872 to 30th June, 1965
		1960-61	1961-62	1962-63	1963-64	1964-65	
	\$	\$	\$	\$	\$	\$	\$
Public Works, Services, etc.—							
Railways, Tramways and Omnibuses	141,111,008	4,221,448	5,432,136	6,203,802	7,496,028	6,799,648	171,264,070
Electricity Supply	41,446,970	400,000	300,000	500,000	794,444	794,444	43,441,414
Harbours and Rivers	34,222,024	1,966,122	2,587,056	2,437,780	3,028,214	2,821,946	47,063,142
Public Buildings—							
Schools	30,985,364	5,435,556	5,737,992	5,312,560	5,753,426	7,007,864	60,232,762
Hospitals	20,341,050	3,494,544	4,435,284	4,840,162	*5,032,334	6,514,166	44,667,540
Other	8,536,280	1,548,774	1,853,248	3,267,236	*4,844,258	6,426,402	26,481,198
Housing (a)	25,320,988	2,290,846	2,701,190	2,115,276	3,381,734	1,539,390	37,349,424
Water Supplies, Sewerage and Drainage	106,297,744	10,313,932	10,951,910	10,769,538	10,536,848	10,957,460	159,827,432
Development of Goldfields and Mineral Resources	15,059,298	329,940	154,494	173,926	113,140	125,972	15,956,770
Development of Agriculture	54,793,370	529,894	569,718	625,684	489,602	429,072	57,437,340
Miscellaneous	58,636,462	4,886,556	3,023,138	2,647,772	2,424,108	3,362,442	74,980,478
Total	536,750,558	35,417,612	37,751,166	38,893,736	43,099,692	46,778,806	738,691,570
Other Expenditure—							
Discounts and Flotation Expenses	12,860,528	Cr. 2,040,268	Cr. 862,996	Cr. 2,256,960	Cr. 43,706	173,386	7,829,984
Revenue Deficits	32,616,582	1,691,466	1,119,628	1,909,154	564,026	5,750	37,906,606
Total	45,477,110	Cr. 348,802	256,632	Cr. 347,806	520,320	179,136	45,736,590
GRAND TOTAL	582,227,668	35,068,810	38,007,798	38,545,930	43,620,012	46,957,942	784,428,160

(a) Excludes expenditure from Commonwealth loans under Commonwealth-State Housing Agreement.

* Revised.

Of the total expenditure of \$71,508,806 on Public Buildings, \$29,247,398 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 both metropolitan and country areas accounted for \$24,316,490. Other expenditure included the cost of work on the completion of a new Government Printing Office, a reformatory institution for boys at Caversham and a remand home at Collier for boys and girls, extensions to Parliament House and the Supreme Court building, the construction of the first section of a new administration centre to house Government Departments, the erection of new court houses and police stations at a number of centres and additions to homes for the aged and infirm.

Expenditure on Water Supplies, Sewerage and Drainage included the cost of work on the Goldfields and Agricultural Water Supply and the Great Southern Towns Water Supply, completion of Serpentine Reservoir and duplication of the Serpentine trunk main as far as Forrestdale, the Ord River diversion dam and the raising of the wall of Wellington Dam, a weir on the Fitzroy River for the Liveringa project, developmental and improvement work in northern and south-west irrigation districts including the building of Logue Brook Dam and Waroona Dam, sewerage works construction and extension of services in the metropolitan area and in country towns, and water supplies for towns and stock routes in northern and north-western areas. An account of progress in the field of water conservation and supply is given in Chapter VII, Part 2.

Expenditure under the heading of Railways, Tramways and Omnibuses included the cost of new rolling stock, maintenance and renewals of permanent way, the construction of a new railway bridge over the Swan River at North Fremantle, land resumptions for, and construction of marshalling yards at Kewdale, construction of a railway between bauxite deposits at Jarrahdale and alumina works at Kwinana, and contribution to costs of railway standardization. Advances were made to the Metropolitan (Perth) Passenger Transport Trust for the purchase of new omnibuses 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 to the State Housing Commission for the erection of houses, land acquisition and development, and assistance to home builders. The expenditure, which relates only to the General Loan Fund, does not, of course, include moneys applied to the Commission's purposes from Commonwealth loans under the Commonwealth-State Housing Agreement. Reference to the Agreement and to the work of the State Housing Commission will be found in Chapter V, Part 4.

The principal works under the heading of Harbours and Rivers were those undertaken at the Port of Fremantle, including the building of a passenger terminal and new headquarters for the Fremantle Port Authority, the reconstruction of quays, dredging, and the installation of new mechanical equipment. Among other works were the construction of breakwaters and land-backed berths at Bunbury and Esperance, harbour improvements at Albany and Geraldton and at ports on the north and north-west coasts, including installation of new mechanical equipment at Carnarvon 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 Muja on the Collie coalfield, 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 raisings. 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, improvements to research stations operated by the Department and to the Agricultural College at Muresk, land regeneration at the Ord River, advances made to Northern Developments (Ord River) Pty. Ltd. to assist the Company in developing a pilot farm in the vicinity of the diversion dam, and the provision of a cotton ginnery at Kununurra.

Expenditure on the Development of Goldfields and Mineral Resources relates to moneys spent on assistance to prospectors, loans to mine owners, drilling in connexion with mineral exploration, hydrological drilling and miscellaneous works at various State Batteries.

The aggregate expenditure described as "Miscellaneous" amounted to \$16,344,016, of which \$3,465,612 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 \$1,635,076 was spent on account of the State Shipping Service to meet instalment payments on ships, to provide for structural alterations to some of its fleet and expenditure on cargo containers and radar installations. The remaining expenditure relates to such items as industrial development and assistance to industry, the purchase and resumption of land for industrial purposes, pine 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, loans and grants to a number of welfare organizations and, in 1964-65, expenditure on road works.

Public Debt—Reference is made on page 209 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, 1965, was \$665,619,966, compared with \$493,574,584 at the 30th June, 1960, representing an increase of \$172,045,382 during the five years. Total raisings in the financial years 1960-61 to 1964-65 amounted to \$204,405,000 and the value of securities repurchased and redeemed in Australia, London, New York and Canada by the National Debt Commission was \$32,359,618. The State's balance on Sinking Fund available to the National Debt Commission at the 30th June, 1965 was \$473,006 and Western Australia's net public debt at that date was therefore \$665,146,960.

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, 1965 and provides a reconciliation between public debt and the aggregate net loan expenditure to each of those dates as shown in the preceding table.

NET LOAN EXPENDITURE AND PUBLIC DEBT

Particulars	As at 30th June—					
	1960	1961	1962	1963	1964	1965
Debits—						
Aggregate Net Loan Expenditure	\$ 582,227,668	\$ 617,296,478	\$ 655,304,276	\$ 693,850,206	\$ 737,470,218	\$ 784,428,160
Inscribed Stock issued under Agricultural Bank Act	3,132,000	3,132,000	3,132,000	3,132,000	3,132,000	3,132,000
Rural and Industries Bank Debenture Stock (b)	....	....	....	....	2,134,100	2,134,100
Unexpended Balance of General Loan Fund	8,034	1,102	1,160	....	4,944	78,442
Total Debits	585,367,702	620,429,580	658,437,436	696,982,206	742,741,262	789,772,702
Credits—						
Aggregate Redemptions	91,793,118	97,359,542	103,307,480	109,642,932	116,696,574	124,152,736
Over-expenditure from General Loan Fund	....	....	....	3,092	....	....
Total Credits	91,793,118	97,359,542	103,307,480	109,646,024	116,696,574	124,152,736
Balance—Gross Public Debt	493,574,584	523,070,038	555,129,956	587,336,182	626,044,688	665,619,966
Amount of Public Debt Maturing in—						
Australia	423,095,504	455,938,912	486,849,516	515,465,000	550,362,188	591,340,142
London	60,980,982	60,863,928	60,823,923	62,753,928	66,852,928	65,844,376
New York	4,498,098	5,215,658	5,865,818	7,530,258	7,266,824	6,389,962
Canada	....	666,188	666,188	662,488	638,242	620,980
Netherlands	....	....	539,154	539,154	*539,154	539,154
Switzerland	....	385,352	385,352	385,354	*385,352	385,352
Total—Gross Public Debt	493,574,584	523,070,038	555,129,956	587,336,182	626,044,688	665,619,966
Sinking Fund available for further Debt Redemption	171,058	93,802	221,932	485,284	442,006	473,006
Net Public Debt	493,403,526	522,976,236	554,908,024	586,850,898	625,602,682	665,146,960

(a) From preceding table. (b) Stock issued in connexion with the acquisition by the Government of the assets of The Midland Railway Company of Western Australia Limited (see Chapter IX, Part 2). * Revised.

Trust Funds

Trust Funds are divided into three groups, Governmental, Private, and those which deal with moneys advanced by the Commonwealth Government for specific purposes.

The detailed list of Trust Fund transactions, as published quarterly in the *Statement of Receipts and Disbursements of Western Australia*, is an extensive one, and in the following summary only selected items are shown separately. They have been chosen as being among those under which the largest totals of

receipts and expenditure, though not necessarily the largest balances, are recorded, and as giving some indication of the diverse nature of the government Trust Funds.

SUMMARY OF TRUST FUNDS—RECEIPTS AND EXPENDITURE

Title of Account	Financial Year				
	1963-64		1964-65		Balance of Fund at 30th June
	Receipts	Expenditure	Receipts	Expenditure	
Governmental Trust Funds—					
Agriculture Protection Board	\$ 389,342	\$ 432,514	\$ 342,686	\$ 364,268	\$ 60,636
Crown Law Advance	5,182,974	5,057,448	5,195,530	5,340,612	81,122
Forests Improvement and Reforestation	3,025,224	3,062,384	3,270,792	3,027,730	613,904
Hospital Buildings and Equipment	993,580	824,928	1,277,274	1,629,330	56,440
Hospital Fund Contributions	18,425,358	18,425,358	20,937,290	20,937,290	....
Housing—					
Kwinana Housing	235,066	242,470	227,888	260,368	49,382
State Housing Commission	20,100,714	17,298,022	20,046,182	19,034,338	7,449,072
Infant Welfare Centres	286,820	283,026	297,400	301,856	20
Insurance—					
Government Fire and Marine Insurance	1,184,834	1,254,474	976,468	958,862	45,240
Government Workers' Compensation	1,055,028	1,100,962	1,124,150	1,042,654	339,632
Railway Accident and Fire Insurance	144,042	151,552	214,100	232,832	286,314
State Insurance	6,331,096	6,347,034	7,779,232	7,790,226	33,978
Library Board of Western Australia	418,686	417,016	468,532	469,802	474
Metropolitan Region Improvement	1,208,948	1,588,170	1,681,542	1,748,372	232,584
National Parks Board	262,074	270,322	292,514	282,458	22,878
Native Welfare Administration	1,666,512	1,660,202	1,903,668	1,909,978	....
Noxious Weeds .....	....	424,478	....	418,464	6,014
Plant Hire	2,582,544	2,314,276	2,392,264	2,427,820	2,075,702
Public Debt Sinking Fund	7,386,012	7,429,290	8,067,406	8,036,406	473,006
Railways Rolling Stock Replacement	2,324,600	412,566	1,007,244	1,465,518	1,640,544
Roads—					
Central Road Fund	7,515,394	5,839,398	5,734,058	13,020,304	....
Main Roads	4,695,476	4,250,350	12,525,046	7,864,300	6,890,470
Main Roads Contribution	2,635,248	2,066,114	3,064,700	4,587,648	....
Metropolitan Traffic	3,857,584	3,857,584	4,208,484	4,208,484	....
Mitchell Freeway	402,290	226,728	33,666	33,666	1,251,940
Rural and Industries Bank	2,195,316	2,210,180	3,773,036	1,592,816	2,216,312
State Electricity Commission Loans—Sinking Funds	284,836	301,160	283,732	163,886	864,674
Tourist Fund	394,872	384,168	403,774	442,690	71,938
Transport Co-ordination	809,062	796,632	946,966	910,118	164,396
VermIn Act	548,258	490,738	792,380	662,802	277,878
Western Australian Museum	136,572	140,096	161,604	154,058	14,962
Other	4,454,256	4,277,624	4,452,264	4,545,168	5,529,050
Total	101,132,618	93,412,786	114,306,350	115,865,124	30,748,562
Private Trust Funds—					
Cancer Council of Western Australia	90,012	95,426	57,244	58,868	....
Charitable Institutions	296,130	271,886	230,386	351,810	115,268
Clerk of Courts	3,289,616	3,270,158	3,650,088	3,641,336	134,060
Coal Mine Workers' Investment Reserve	234,108	84,798	477,222	478,070	14,818
Coal Mine Workers' Pensions	422,790	463,366	139,780	37,022	1,901,680
Country High School Hostels Authority	300,854	606,866	321,606	444,616	45,128
Public Trustee Common Fund	4,542,822	4,598,910	5,151,702	5,250,710	1,432
Superannuation Fund	7,283,848	7,130,650	8,132,504	8,020,116	290,902
Superannuation Investment Reserve	2,412,348	142,854	3,355,416	672,856	22,624,980
Workers' Compensation in Suspense	237,822	278,582	291,552	276,976	27,158
Other	2,160,778	1,856,834	2,770,914	2,543,700	2,310,222
Total	21,271,128	18,800,330	24,578,414	21,776,080	27,474,598
Funds financed from Commonwealth Advances—					
Housing—					
Commonwealth-State Housing Agreement	14,679,656	14,477,616	14,096,956	13,408,600	2,578,720
Home Builders	2,728,422	2,771,708	3,054,528	3,037,338	37,708
War Service Homes	6,949,262	6,942,218	6,761,306	6,765,098	6,092
Independent Schools Science Buildings and Equipment .....	....	....	190,600	190,448	152
Pharmaceutical Benefits	892,486	892,486	763,764	763,764	....
Roads—					
Beef Cattle Roads	1,526,768	1,527,226	1,561,374	1,561,374	....
Commonwealth Aid Roads Acts	24,807,092	24,807,216	36,441,736	34,492,268	1,950,640
Scholarship Scheme	467,530	474,476	557,296	553,054	5,186
Stimulation of Employment	5,464,000	3,314,000	....	2,300,000	....
Technical Training Buildings and Equipment .....	....	714,594	....	406,274	308,320
War Service Land Settlement	2,632,586	2,812,498	1,659,976	1,565,656	206,632
Other	441,298	395,890	1,213,098	903,576	970,580
Total	60,589,100	58,415,334	67,015,228	65,947,450	6,064,030
GRAND TOTAL	182,992,846	170,628,450	205,899,992	203,588,654	64,287,190

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—*Constitution and Government*. Among other statutes affecting local government finance are the Traffic Act, the Health Act, the Water Boards Act, the Vermin Act and the Fire Brigades Act.

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 one-third 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 loan 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 as 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 almost one-quarter 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 recoups 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 recouped by the Department of Agriculture. From 1960–61, grants made by the Tourist Development Authority established under the Tourist Act of 1959 are included.

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, 1965 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 IX, Part 2.

Other Revenue—Revenue derived from the supply of electricity is the largest item under this heading. Some details of local government operations in the generation of electricity during 1964–65 appear in the table “Summary of Factories according to Industry” in Chapter VIII, Part 2.

SUMMARY OF LOCAL GOVERNMENT REVENUE
(Exclusive of Loan Receipts)

Source of Revenue	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Taxation—					
Rates—					
General	4,781,078				
Loan	2,696,778				
Health and Sanitary	839,574	} 8,234,538 (a)	10,389,312 (a)	11,189,226 (a)	12,216,395 (a)
Vermin	122,648				
Other	294,688				
Total	8,734,766	8,234,538	10,389,312	11,189,226	12,216,395
Licences and Fees (b)	151,386	134,460	175,714	210,856	221,930
Total—Taxation (b)	8,886,152	8,368,998	10,565,026	11,400,082	12,438,325
Public Works and Services—					
Sanitary Services, including Garbage Collection	1,023,158	900,704	1,053,964	1,062,914	1,113,990
Water Supply	27,404	31,786	36,336	35,022	35,910
Income from Property and Plant—					
Parks, Gardens and Recreational Facilities	286,540	336,984	629,200	697,236	719,591
Halls and other Buildings	329,312	299,176	437,238	621,116	655,923
Vehicles and Plant	444,926	487,678	652,780	653,906	673,991
Other Property (c)		901,080	1,489,146	1,671,733	3,163,949
Other Properties and Services (c)	1,376,804				
Sundry Works and Services (c)	180,054	378,410	561,902	646,192	1,030,005
Contributions for Road Construction, etc.	719,342	902,944	1,046,112	1,549,786	1,607,665
Total—Public Works and Services	4,387,540	4,238,762	5,906,678	6,937,910	9,006,024
Government Reimbursements and Grants—					
Roads	3,082,882	3,229,624	3,461,768	4,072,908	(d) 9,109,022
Vermin Destruction Bonuses	13,856	19,034	17,376	15,726	15,751
Recreational Facilities (e)	93,226	(f) 662,240	243,953	149,518	115,295
Electricity Supply	72,766	93,056	74,832	12,740	36,726
Infant Health	13,738	19,064	10,240	5,440	24,320
Other	11,432	84,364	27,558	64,130	70,848
Total—Reimbursements and Grants	3,287,900	4,107,382	3,835,732	4,320,462	9,371,962
Motor Vehicle Registration Fees—					
Direct Collections (g)	2,501,384	2,470,844	2,832,618	3,033,508	3,253,511
Allocations from Metropolitan Traffic Trust Account (h)	1,244,014	1,173,526	1,454,854	1,643,438	(h)
Total—Vehicle Registration Fees	3,745,398	3,644,370	4,287,472	4,676,946	3,253,511
Other Revenue—					
Electricity Undertakings	1,533,350	1,444,042	1,723,484	1,924,688	1,938,082
Fines and Penalties	111,184	97,610	153,236	169,514	189,184
Other	669,756	707,604	736,522	929,080	1,078,755
Total—Other Revenue	2,314,290	2,249,256	2,613,242	3,023,282	3,206,021
GRAND TOTAL (i)	22,621,280	22,608,768	27,213,150	30,358,682	37,275,843

(a) The Local Government Act of 1960 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 *Net Collections of State Taxation* on page 214 for purposes of comparison with other States. Excludes also sanitary and garbage fees (see “Public Works and Services” below). (c) From 1961–62, part of the revenue formerly attributed to the item “Other Properties and Services” has been allocated to a new item “Other Property”, and the remainder to “Sundry Works and Services”. (d) Includes special grants paid under the Traffic Act Amendment Act (No. 2), 1964. See also note (b). (e) From 1960–61 includes grants from Tourist Development Authority. (f) Includes grants to Perth City Council of \$300,000 from the State Government and \$200,000 from the Commonwealth Government as contributions towards the cost of an aquatic centre built in connexion with the VII British Empire and Commonwealth Games. (g) Fees collected by local government authorities outside the Metropolitan Traffic Area. (h) From 1964–65 classified to “Government Reimbursements and Grants—Roads”. (i) 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 224).

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				
	1960-61	1961-62	1962-63	1963-64	1964-65
General Administration	\$ 2,451,662	\$ 1,955,950	\$ 2,318,874	\$ 2,537,642	\$ 2,740,143
Debt Services (a) —					
Interest and other Charges	1,198,664	1,262,448	1,676,922	1,894,254	2,065,286
Redemptions	2,092,076	2,038,142	2,546,320	2,834,134	3,137,830
Total—Debt Services (a)	3,290,740	3,300,590	4,223,242	4,728,388	5,203,116
Public Works and Services —					
Roads, Paths and Bridges —					
Construction and Maintenance	5,097,422	6,056,606	7,029,032	8,086,320	9,761,607
Other Road Work	610,882	572,006	632,566	582,118	651,052
Street Lighting	319,908	287,580	410,112	440,630	477,345
Property and Plant —					
Parks, Gardens and Recreational Facilities	1,776,956	2,256,132	2,238,060	2,585,270	2,575,407
Halls and other Buildings	1,149,932	1,059,690	1,758,672	1,599,654	1,762,768
Vehicles and Plant	2,130,516	1,252,050	1,530,980	1,876,040	2,409,827
Other Property (b) .....	.....	571,162	937,798	1,591,146	1,022,717
Other Public Works and Services (b) —					
Sanitary and Garbage Services	1,169,800	989,416	1,280,278	1,331,170	1,366,253
Other Health Services	730,068	439,038	531,954	542,342	639,474
Water Supply	101,024	105,690	117,568	124,554	153,249
Sundry Works and Services	1,646,898	1,080,778	1,330,804	1,770,638	2,212,313
Total—Public Works and Services	14,733,406	14,670,148	17,797,824	20,529,882	23,032,012
Grants and Donations —					
Fire Brigades	250,482	232,560	266,294	296,244	299,738
Hospitals and Ambulances	14,632	14,404	21,006	20,910	20,941
Other	63,478	87,428	115,768	122,362	160,851
Total—Grants and Donations	328,592	334,392	403,068	439,516	481,530
Electricity Undertakings (including debt services) (c)	1,470,098	1,322,316	1,670,748	1,746,010	1,872,936
Other Expenditure	526,864	601,440	445,548	636,734	576,860
GRAND TOTAL (c)	22,801,362	22,184,836	26,859,304	30,618,172	33,906,597

(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 authorized to raise loans for works and undertakings and for the liquidation of existing loan debts. The conditions imposed by the Local Government Act, 1960-1966 in relation to loan raisings, the levying of loan rates, the expenditure of loan moneys and the repayment of loans are summarized 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 at the Treasury.

LOCAL GOVERNMENT LOAN RECEIPTS AND EXPENDITURE

Item	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
RECEIPTS					
	\$	\$	\$	\$	\$
Ordinary Services	5,566,000	4,966,718	6,638,598	5,994,156	6,701,040
Health Services	254,200	406,310	342,944	193,400	176,480
Water Supply	76,000	30,200	95,000	80,000	78,080
Electricity Undertakings	285,000	393,000	591,000	712,800	906,760
Total	6,181,200	5,796,728	7,667,542	6,980,356	7,862,360
EXPENDITURE					
	\$	\$	\$	\$	\$
Roads, Paths and Bridges	1,689,772	1,686,578	1,505,000	1,773,964	1,951,026
Property and Plant	1,987,196	2,400,680	3,908,778	2,587,186	2,717,499
Parks, Gardens and Recreational Facilities	657,990	1,181,978	1,148,318	1,050,688	975,685
Water Supply	69,566	21,426	87,134	108,986	58,606
Electricity Undertakings	271,302	311,282	588,104	509,304	861,976
Other Works and Services	141,618	201,430	194,882	168,412	261,004
Redemptions	14,660	14,000	10,588	7,908	6,547
Other Loan Charges, Transfers, etc.	272,990	603,916	517,584	427,948	280,282
Total	5,105,094	6,421,290	7,960,388	6,634,396	7,112,625

The following table shows the aggregate local government loan debt outstanding at the end of each financial year during the period from 1960-61 to 1964-65.

LOCAL GOVERNMENT LOAN DEBT

Nature of Debt	At End of Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
	\$	\$	\$	\$	\$
Loan Debt Outstanding	27,777,634	31,474,050	36,329,124	40,292,918	44,723,219
Sinking Fund Balances	164,438	187,146	115,528	127,266	139,515
Net Loan Debt	27,613,196	31,286,904	36,213,596	40,165,652	44,583,704
Net Loan Debt on Account of—					
Ordinary Services	25,175,840	28,224,852	32,442,374	35,733,220	39,326,701
Health Services	738,296	1,067,334	1,319,562	1,432,398	1,509,304
Water Supply	388,802	388,634	*452,064	491,764	525,357
Electricity Undertakings	1,310,258	1,606,084	1,999,596	2,508,270	3,222,342
Total—Net Loan Debt	27,613,196	31,286,904	36,213,596	40,165,652	44,583,704

* Revised.

WESTERN AUSTRALIAN REVENUE DUTY STAMPS



A



B



C

- A BLACK SWAN *(Cygnus atratus)*
- B HONEY POSSUM *(Tarsipes spenserae)*
- C WESTERN CRAYFISH *(Panulirus cygnus)*



D



E



F

- D QUOKKA *(Setonix brachyurus)*
- E SPLENDID BLUE WREN *(Malurus splendens)*
- F MARRON *(Cherax tenuimanus)*
- G WESTERN MAGPIE *(Gymnorhina dorsalis)*
- H DUNNART *(Sminthopsis hirtipes)*



G

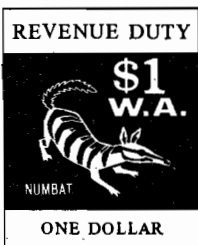


H



I

- I KANGAROO PAW *(Anigasanthos manglesii)*
- J NUMBAT *(Myrmecobius fasciatus)*
- K WESTRALIAN JEW FISH *(Glaucosoma hebraicum)*
- L NOISY SCRUB-BIRD *(Atrichornis clamosus)*
- M KING PARROT *(Purpureicephalus spurius)*
- N SHORT-NECKED TORTOISE *(Pseudemydura umbrina)*



J



K



L



M



N

A new series of Western Australian revenue duty stamps came into use on the 14th February, 1966, with the introduction throughout Australia of the decimal currency system. The stamps are in colour and measure 0.80 in. x 0.64 in. A reproduction of the designs is shown above. They feature thirteen members of the Western Australian fauna and one of the flora. Reference to most of the species depicted will be found in Chapter II of the Year Book.

CHAPTER VI—*continued*

PART 2 – PRIVATE FINANCE

CURRENCY

The power to legislate with respect to currency, coinage and legal tender and the issue of paper money is vested by the Constitution in the Commonwealth Parliament. This power was originally exercised by the Commonwealth Government under the Coinage Act of 1909 and the Australian Notes Act of 1910. The legislation now in force comprises the Reserve Bank Act 1959–1965, the Currency Act 1965, and the Decimal Currency Board Act 1963–1965.

Prior to the introduction of a decimal currency in February, 1966 the Australian monetary system was based on that used in the United Kingdom and therefore had 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 were issued by the Reserve Bank of Australia which was 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 were recently 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 consisted of silver and bronze coins, which were minted by branches of the Royal Mint in Melbourne and Perth. Silver coins were issued in denominations of two shillings, one shilling, sixpence and threepence. The bronze coins were the penny and the halfpenny.

In February, 1959 the Decimal Currency Committee was appointed by the Commonwealth Government to investigate the advantages and disadvantages of a decimal currency and, if a decimal currency was favoured, to make recommendations concerning the unit of account and denominations of subsidiary currency most appropriate for Australia, the method of introduction and the cost involved. The Committee presented its report in August 1960, and in April 1963 the Commonwealth Government announced that, in accordance with the recommendations of the Decimal Currency Committee, a system of decimal currency was to be introduced in Australia. The tentative changeover date was set for February, 1966.

The Currency Act 1965, which replaced the Coinage Act 1909–1947, provides for the adoption of a monetary unit, known as the "dollar", equivalent in value to ten shillings in the currency previously in use. The dollar is divided into 100 minor units, or "cents". Coins are in the denominations of 50 cents (silver); 20, 10 and 5 cents (cupro-nickel); and 2 cents and 1 cent (bronze). Minting of the new coins took place at the Royal Mint, London, its Branches at Melbourne and Perth, and at the Royal Australian Mint, Canberra. The Reserve Bank Act 1965, which came 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. The initial issue of one dollar, 2, 10 and 20 dollar notes was made on the 14th February, 1966. Notes in the denomination of 5 dollars were issued on the 29th May, 1967.

Australian notes are legal tender in Australia to any amount, coins of the denomination of 5, 10, 20 or 50 cents for amounts not exceeding five dollars, and any other coins for amounts up to and including twenty cents.

The changeover to decimal currency in Australia took place on the 14th February, 1966. During a transitional period of about two years from that date, the new and the old currency systems will operate simultaneously. Conversion tables showing whole cent equivalent and exact equivalent values of amounts of £ s. d. appear in the *Appendix*.

BANKING

The banking system in Western Australia comprises the Commonwealth banking institutions, The Rural and Industries Bank of Western Australia and the private trading banks.

Commonwealth Banking Institutions

Prior to the operation of the Reserve Bank Act and the Commonwealth Banks Act, passed by the Commonwealth Parliament in 1959, the Commonwealth banking institutions were the Commonwealth Bank, the Commonwealth Trading Bank and the Commonwealth Savings Bank. The Commonwealth Bank, in addition to performing the functions of a central bank, controlled the Australian note issue

through a Note Issue Department and also provided special banking facilities through the Rural Credits Department, the Mortgage Bank Department and the Industrial Finance Department. The policy of the Banks was determined by a Commonwealth Bank Board.

The Reserve Bank Act 1959 repealed the Commonwealth Bank Acts, the first of which was passed in 1911, and established the Reserve Bank of Australia under the control of a Reserve Bank Board. The Reserve Bank was constituted as the central bank and took over the Note Issue Department and the Rural Credits Department of the former Commonwealth Bank. The function of the Rural Credits Department is to make available to statutory authorities or co-operative associations of primary producers advances to assist the marketing or processing of primary products.

The Commonwealth Banks Act 1959 constituted the Commonwealth Banking Corporation, which came into being on 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.

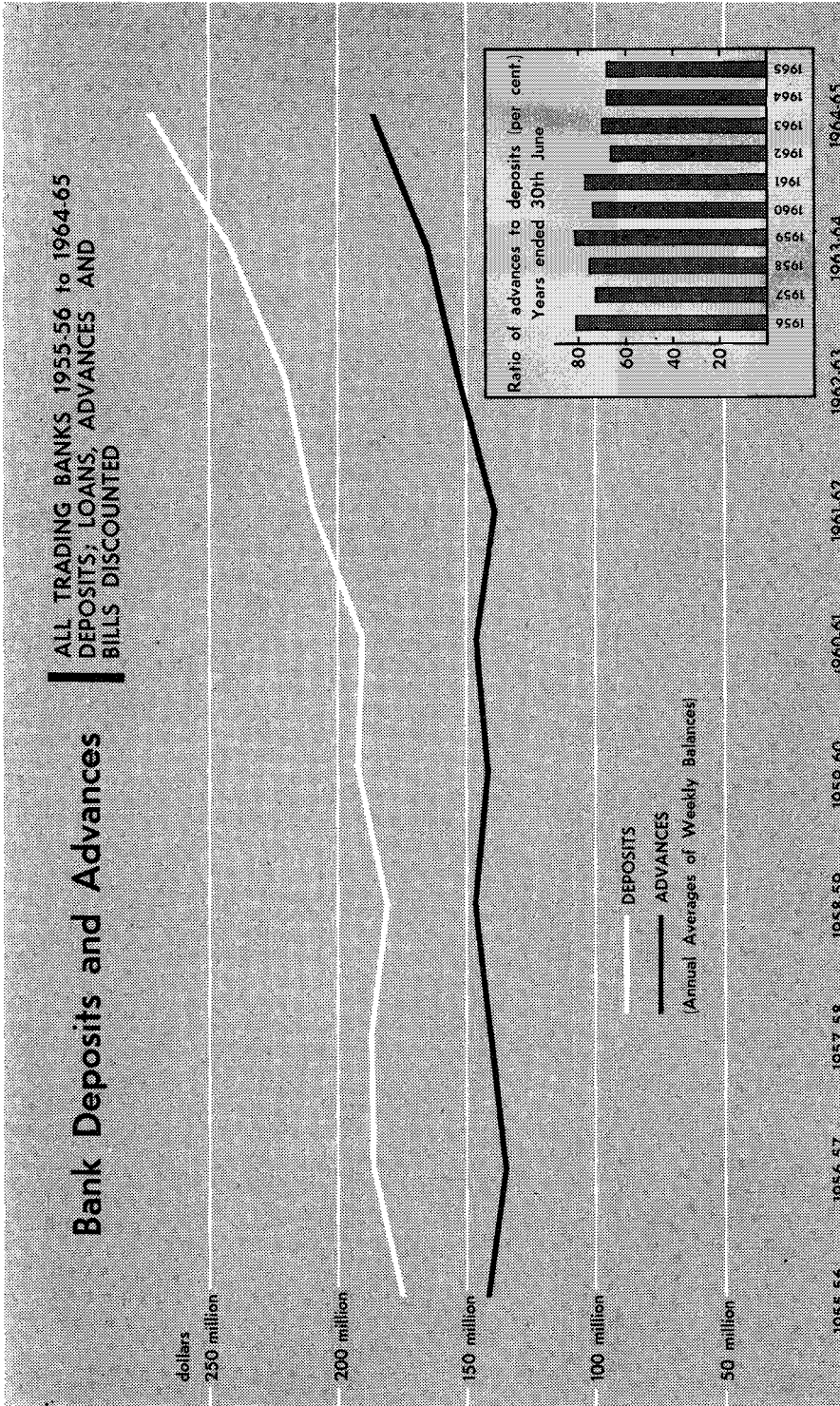
The private banks, each of which has its head office either in London or in another State, are the Australia and New Zealand Bank Limited, The Bank of Adelaide, the Bank of New South Wales, The Commercial Bank of Australia Limited, The Commercial Banking Company of Sydney Limited, The English, Scottish and Australian Bank, Limited and The National Bank of Australasia Limited. The operations of trading banks are governed by the Banking Act 1959-1965 (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 1960-61 to 1964-65. 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 1959-1965 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)

Particulars	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Amounts on Deposit—					
Not bearing interest—					
Australian Governments	1,094	1,152	1,092	1,238	1,957
Other	135,208	139,864	143,248	154,876	159,486
Bearing interest—					
Australian Governments	54	30	20	62	1,586
Other—Current	8,010	7,950	9,338	11,280	12,685
Fixed	45,728	60,280	66,254	74,808	97,316
Total	190,094	209,276	219,952	242,264	272,430
Loans, Advances and Bills Outstanding (a)	146,246	139,204	153,530	164,872	136,000
Ratio of Advances to Deposits (per cent.)	76.9	66.5	69.8	68.1	68.3

(a) Excludes loans to authorized dealers in the short-term money market.



Of outstanding advances amounting in total to \$197.8 million in July, 1965, business advances represented \$156.5 million, personal advances \$35.7 million, advances to non-profit organizations \$4.03 million, and to public authorities other than the Commonwealth and State Governments \$1.61 million. Business advances were mainly for rural industry (\$77.5 million), for retail and wholesale trade (\$32.7 million) and for manufacturing (\$16.7 million). Of the personal advances, loans for the building or purchasing of homes accounted for \$17.2 million.

At the 31st December, 1965 the Commonwealth Trading Bank's discount rate on bills was 6½ per cent. Under the Banking Act 1959-1965 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, 1965, by agreement between the Reserve Bank and the trading banks, the maximum rate applying to any overdraft was 7¼ per cent. At the same date the rate of interest on fixed deposits was 4¼ per cent. per annum on deposits for 3 months but less than 12 months, 4½ per cent. on those for 12 months to 24 months and on deposits of \$100,000 and over for periods of 30 days but less than 3 months, a maximum rate of 4¼ per cent.

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, 1965 are shown, together with the number of branches and agencies of each bank at the 30th June, 1965.

TRADING BANKS—BRANCHES, AGENCIES, DEPOSITS AND ADVANCES : JUNE, 1965

Bank	Number of Branches (a)	Number of Agencies (a)	Amounts on Deposit (b)			Loans, Advances and Bills Outstanding (b) (c)
			Not Bearing Interest	Bearing Interest	Total	
Commonwealth Trading Bank of Australia	61	29	\$'000 24,932	\$'000 25,408	\$'000 50,340	\$'000 26,606
The Rural and Industries Bank of Western Australia (Rural Department)	48	25	17,096	11,570	28,666	34,666
Private Trading Banks—						
Australia and New Zealand Bank Limited	37	32	19,316	12,672	31,988	20,608
The Bank of Adelaide	2	2	1,534	334	1,868	1,606
Bank of New South Wales	97	47	45,862	29,758	75,620	48,270
The Commercial Bank of Australia Limited	33	27	11,798	6,874	18,672	13,028
The Commercial Banking Company of Sydney Limited	2	....	980	782	1,762	3,168
The English, Scottish and Australian Bank, Limited	20	....	8,674	3,670	12,344	10,088
The National Bank of Australasia Limited	79	42	26,854	26,142	52,996	35,690
Total—Private Trading Banks	270	150	115,018	80,232	195,250	132,458
TOTAL—ALL TRADING BANKS	379	204	157,046	117,210	274,256	193,730

(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.

Statistics of debits to customers' accounts have been collected since September, 1945. Generally, they represent the total of all cheques drawn by the customers of the banks. In the following table, the average weekly debits to customers' accounts of trading banks and, in addition, the Rural Credits Department of the Reserve Bank of Australia and the Commonwealth Development Bank, are shown for each of the years from 1961 to 1965 and for each quarter in those years.

TRADING BANKS—AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS (a)
(\$ million)

Particulars	1961	1962	1963	1964	1965
Average for Quarter ended—					
March	79.3	86.5	94.3	100.0	109.8
June	73.1	80.0	88.2	98.0	114.1
September	73.3	81.5	87.5	92.9	107.8
December	81.7	88.9	100.0	107.8	123.7
Average for Year	76.9	84.2	92.5	99.7	113.9

(a) Excludes debits to Commonwealth and State Government accounts at city branches.

Prior to the 1st October, 1962 charges levied by trading banks included exchange on interstate transfers between Perth and other capital cities in Australia, and intrastate exchange payable on the basis of zones 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 200 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 50c 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 20 per quarter. Rebates are allowable on ledger activity fees where credit balances are maintained at the level of \$600 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 1956; the E.S. & A. 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 organizations 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 93,726 accounts at schools was \$1,276,122 at the end of June, 1965. 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 (a)	\$'000 192,334	223,661	258,131	306,144	345,731
Withdrawals (a)	\$'000 192,666	209,387	236,428	281,323	331,252
Excess of—					
Deposits over Withdrawals	\$'000	14,274	21,703	24,822	14,479
Withdrawals over Deposits	\$'000 331	.....	.....	.....	.....
Interest added to Accounts	\$'000 4,511	5,357	6,055	6,132	7,406
Accounts Open at end of Year	No. 577,619	625,070	683,417	736,009	786,340
Amount Due to Depositors at end of Year—					
Total	\$'000 161,424	181,055	208,812	239,766	261,651
Average per Account	\$ 279·5	289·7	305·5	325·8	332·7
Average per head of Population	\$ 219·1	239·7	*268·7	*300·9	321·7

(a) Including inter-branch transfers but excluding transfers from and to other States. * Revised.

The rates of interest paid by savings banks at the 30th June in each of the years from 1961 to 1965 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—				
	1961	1962	1963	1964	1965 (b)
Ordinary Accounts—					
\$2 to \$5,000	3½	3½	3	3½	3½
\$5,001 to \$6,000	nil	3½	3	3½	3½
Friendly and other Society Accounts—					
\$2 to \$5,000	3½	3½	3	3½	3½
\$5,001 to \$6,000	1½	3½	3	3½	3½
\$6,001 and over	1½	2	1½	1½	2

(a) From the 1st January, 1961 the rates paid by The Rural and Industries Bank of Western Australia (Savings Bank Division) have been generally ¼ per cent. higher than those appearing in the table. (b) Operative from 1st April, 1965.

INSURANCE

Life Insurance

Life insurance business throughout Australia is regulated by the Life Insurance Act 1945-1965 (Commonwealth), which requires companies to be registered by the Insurance Commissioner appointed under the Act and to establish statutory funds in relation to their life insurance transactions. The purpose of the Act, which supersedes State legislation, is to place life insurance business on a uniform basis throughout the Commonwealth and to afford protection to policy holders. Under a previous Commonwealth Act, the Insurance Act 1932-1937, 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 1964, 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				
	1960	1961	1962	1963	1964
ORDINARY AND SUPERANNUATION BUSINESS					
Number of Companies	22	27	31	33	33
New Policies Issued—					
Sum Insured	\$'000 89,638	97,618	110,424	123,474	144,446
Single and Annual Premiums	\$'000 2,442	2,635	2,856	3,256	3,648
Policies Existing at End of Year—					
Sum Insured	\$'000 459,740	523,636	597,892	679,161	774,550
Annual Premiums	\$'000 14,764	16,145	17,933	19,939	22,134
Bonus Additions	\$'000 38,672	43,931	52,436	62,017	72,706
INDUSTRIAL BUSINESS					
Number of Companies	7		8	8	8
New Policies Issued—					
Sum Insured	\$'000 5,267	4,983	6,173	6,161	7,195
Annual Premiums	\$'000 234	221	258	248	286
Policies Existing at End of Year—					
Sum Insured	\$'000 44,325	44,745	46,754	47,983	50,588
Annual Premiums	\$'000 2,015	2,016	2,074	2,090	2,162
Bonus Additions	\$'000 1,780	1,969	2,252	2,620	3,041
TOTAL BUSINESS					
Number of Companies	22	27	31	33	33
New Policies Issued—					
Sum Insured	\$'000 94,904	102,601	116,597	129,635	151,641
Single and Annual Premiums	\$'000 2,675	2,856	3,114	3,504	3,934
Policies Existing at End of Year—					
Sum Insured	\$'000 504,065	568,381	644,646	727,144	825,138
Annual Premiums	\$'000 16,779	18,161	20,006	22,030	24,296
Bonus Additions	\$'000 40,452	45,900	54,687	64,637	75,747

General Insurance

General insurance is available to the public in Western Australia from a number of companies and, in some fields, from the State Government Insurance Office. There is also a Motor Vehicle Insurance Trust whose activities are confined to motor vehicle third party insurance.

During 1965, there were 144 companies operative in Western Australia. Of this number, 100 were "tariff" offices, being members of the Fire and Accident Underwriters' Association and issuing the standard policies of the Association at uniform premium rates. The remaining 44 were "non-tariff" companies effecting insurances at competitive rates and reinsuring direct with Lloyd's or other underwriters.

The State Government Insurance Office covers fire, marine and general insurance risks for State Government instrumentalities and semi-government and local government authorities. It also conducts some classes of insurance business for the general public, the principal transactions being workers' compensation and comprehensive motor vehicle insurance. By authority of amendments to the State Government Insurance Office Act in 1954 and 1958 the Office engages in personal accident insurance in respect of school children and students under a policy which indemnifies the parent or guardian against the cost of medical and surgical treatment and funeral and other expenses.

The following table gives details of revenue and expenditure relating to fire, marine and general insurance during each of the years from 1960-61 to 1964-65. It contains only selected items of statistics and is therefore not suitable for the construction of a "Profit and Loss" statement or "Revenue Account". The amounts shown as "Premiums" represent the full amount receivable in respect of policies issued or renewed during the year, less returns, rebates and bonuses paid or credited to policy holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from "earned premium income" appropriate to the year. The amounts shown as "Claims" include provision for outstanding claims and represent claims or losses incurred during the year. Salvage and other amounts recoverable have been deducted. The transactions of The Motor Vehicle Insurance Trust are not included, but are shown in the table on page 232. 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				
	1960-61	1961-62	1962-63	1963-64	1964-65
REVENUE					
Premiums—					
Motor Vehicles	6,322	6,477	7,117	8,182	8,940
Fire	4,544	4,719	4,937	5,187	5,448
Workers' Compensation	5,033	5,688	5,975	6,108	6,411
Personal Accident	1,094	1,208	1,338	1,239	1,305
Hailstone	1,205	1,040	1,102	890	927
Marine	969	1,036	1,146	1,201	1,234
Other Classes	2,440	2,746	3,148	3,477	3,959
Total Premiums	21,607	22,914	24,761	26,285	28,224
Other (Interest, Dividends, Rents, etc.—Net)	685	872	854	874	1,011
Total—Revenue	22,292	23,786	25,615	27,159	29,235
EXPENDITURE					
Claims—					
Motor Vehicles	4,616	4,514	5,372	6,527	6,557
Fire	1,908	1,485	1,709	1,221	1,522
Workers' Compensation	4,124	4,216	4,518	4,693	5,242
Personal Accident	521	674	786	631	563
Hailstone	304	87	780	969	338
Marine	591	460	608	460	372
Other Classes	706	820	949	1,128	1,514
Total Claims	12,770	12,255	14,723	15,629	16,108
Other—					
Management Expenses	4,584	4,923	5,280	5,444	5,858
Commission and Agents' Charges	1,912	2,068	2,228	2,320	2,457
Taxation	487	739	736	559	740
Contributions to Fire Brigades	564	586	666	681	781
Total—Expenditure	20,317	20,570	23,633	24,633	25,943

(a) Excludes transactions of The Motor Vehicle Insurance Trust (see table on page 232). Operations of the State Government Insurance Office are included.

Motor Vehicle Third Party Insurance

Third party insurance in connexion with motor vehicle accidents became compulsory on the 1st July, 1944 under the provisions of the Motor Vehicle (Third Party Insurance) Act of 1943. The Motor Vehicle Insurance Trust was established by an amendment to the Act in 1948 and comprises the general manager of the State Government Insurance Office, three members nominated by the Fire and Accident Underwriters' Association of Western Australia and one nominee of those approved insuring organizations 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—				
	1960-61	1961-62	1962-63	1963-64	1964-65
Revenue—					
Net Premiums	\$ 1,976,400	\$ 2,109,556	\$ 2,557,612	\$ 3,740,138	\$ 4,854,454
Interest Received	189,380	196,746	203,040	219,350	109,890
Total Revenue	2,165,780	2,306,302	2,760,652	3,959,488	4,964,344
Expenditure—					
Claims Paid (a)	2,186,320	2,408,220	3,158,272	3,672,104	3,966,876
Commission	13,808	14,794	16,248	21,026	29,998
Management Expenses	88,126	91,574	91,762	95,666	98,890
Taxation	3,818	4,020	4,012	4,408	4,608
Total Expenditure	2,292,072	2,518,608	3,270,294	3,793,204	4,100,372

(‡) See accompanying letterpress *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 1953-1966 (Commonwealth).

Benefits are available in a wide range to meet the cost, either wholly or in part, of such services as treatment by a general or specialist medical practitioner (including surgical operations and obstetrical attention), X-ray, cardiographic and pathological examinations, physiotherapy, dental treatment, hospital care, home nursing and ambulance transport. In many cases, the Commonwealth Government pays a benefit additional to that received from the organization. Reference to these additional benefits is made in Chapter V—*Social Condition*. 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 1960-61 to 1964-65, 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				
	1960-61	1961-62	1962-63	1963-64	1964-65
Number of—					
Registered Societies	12	12	12	11	11
Branches	261	258	257	255	253
Members at end of Year—					
Benefit Members	18,493	17,898	17,488	17,120	16,744
Honorary Members	24,775	25,367	25,008	29,207	31,943
Sickness Benefits—					
Number of Members Paid	3,172	3,042	2,924	2,716	2,703
Number of Weeks of Sick Pay	57,140	55,343	55,273	57,238	56,364
Revenue—					
Fees, Contributions and Levies	\$ 1,232,866	\$ 1,283,510	\$ 1,351,604	\$ 1,430,414	\$ 1,551,514
Interest and Rent	116,584	120,532	112,966	120,812	128,648
Other	64,978	28,136	46,544	110,054	155,280
Total	1,414,428	1,432,178	1,511,114	1,661,280	1,835,442
Expenditure—					
Sick Pay	48,726	46,886	45,876	46,694	46,162
Medical Attendance and Medicine	1,037,896	1,083,544	1,148,270	1,212,988	1,303,820
Death Benefits	39,874	42,904	36,740	37,282	46,296
Administration	121,350	126,376	130,546	135,844	136,990
Other	74,940	138,776	92,014	118,072	115,774
Total	1,322,786	1,438,486	1,453,446	1,550,880	1,649,042
Balance of Funds at end of Year	3,040,862	3,034,554	3,092,222	3,202,622	3,389,024

BUILDING SOCIETIES

Building societies in Western Australia are registered under the provisions of the Building Societies Act, 1920-1962 primarily for the purpose of raising funds to assist members by granting loans, secured on mortgage, to build or acquire homes. They also provide a means of investment for shareholder members, trustee funds and other depositors. The funds of the societies may be in the form of payment for fully-paid shares, subscriptions for contributing shares, money placed on deposit, or negotiated loans. Another important source of revenue became available to the societies in 1956-57 when, under the Housing Agreement Act 1956 (Commonwealth), it was provided that moneys should be allocated to approved institutions from Commonwealth funds advanced to the States in terms of the Commonwealth and States Housing Agreement. (Reference is made to this Agreement in Chapter V—*Social Condition*.) 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.

BUILDING SOCIETIES

Particulars	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Number of—					
Societies	19	24	38	70	100
Members	26,816	26,482	29,289	31,012	34,366
Borrowers	7,285	7,802	9,114	10,365	11,667
Investors' Deposits and Share Subscriptions	\$ 4,197,830	\$ 4,256,520	\$ 5,795,570	\$ 7,637,164	\$ 7,900,282
Repayment of Mortgage Advances	2,016,362	2,516,604	2,875,724	3,857,526	4,489,340
Interest on Mortgage Advances	1,223,606	1,476,712	1,818,102	2,257,988	2,818,002
Commonwealth-State Housing Advances	1,842,896	1,770,782	2,018,320	2,203,170	2,817,490
Mortgage Advances granted to Subscribers	5,725,530	6,345,478	8,905,536	11,700,068	13,189,706
Working Expenses	183,394	213,580	218,534	292,196	347,734
Assets at end of Year	22,071,566	26,252,876	32,952,040	41,700,984	51,457,404

The preceding table shows details of the activities of societies operative during the years 1960-61 to 1964-65. 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 this source.

BANKRUPTCY

Under the provisions of the Bankruptcy Act 1924-1965 (Commonwealth), which is administered by the Attorney-General, the State of Western Australia is a proclaimed Bankruptcy District and the Supreme Court of Western Australia has federal jurisdiction in bankruptcy matters. There is a Registrar in Bankruptcy whose duties include the holding of public sittings for the examination of bankrupts, the examination of witnesses, the issuing of bankruptcy notices and creditors' petitions, and such other duties as are specified in the Act or delegated to him by the Court. Another bankruptcy officer is the Official Receiver, who acts under the general authority and direction of the Court and whose duties relate to the conduct of the debtor and to the 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.

Compositions, 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 either compound with them to pay a certain sum in the \$ as 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 1960-61 to 1964-65.

BANKRUPTCY PROCEEDINGS

Particulars	Financial Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
Sequestration Orders (a)—					
On Creditors' Petitions	27	16	14	15	11
On Debtors' Petitions (b)	100	125	157	171	225
	\$	\$	\$	\$	\$
Assets	163,584	180,506	157,050	115,624	175,350
Liabilities	512,264	617,888	542,228	646,034	891,884
Compositions and Assignments without Sequestration—					
Number	79	97	70	55	72
	\$	\$	\$	\$	\$
Assets	493,178	808,212	1,987,698	399,788	422,700
Liabilities	586,960	1,147,176	1,840,408	540,914	718,882

(a) Includes orders for administration of deceased debtors' estates.
representatives of deceased debtors.

(b) Includes petitions by legal personal repre-

CHAPTER VII

LAND TENURE AND SETTLEMENT, WATER CONSERVATION AND SUPPLY

PART 1—LAND TENURE AND SETTLEMENT

An outline of the origin and development of the land tenure system in Western Australia from the early years of settlement is given in Chapter VII of the *Official Year Book of Western Australia, Nos. 1 and 2 (New Series)* 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 1898, earlier legislation relating to the sale, occupation and management of Crown lands was consolidated and amended. Under a series of Agricultural Lands Purchase Acts which were passed between 1896 and 1904 and consolidated by the Agricultural Lands Purchase Act, 1909, provision was made for the repurchase by the Crown of land suitable for closer settlement. The principal criteria applied in the purchase of such land were suitability for wheat or mixed farming and proximity to transport, especially the railways.

The operation of subsequent legislation has not greatly changed the pattern of land development which was created by the Land Act, 1898 and the Agricultural Lands Purchase Act, 1909. The Land Act, 1933–1965 is now the basic statute controlling the leasing and disposal of Crown land. Closer settlement legislation relates predominantly to schemes for the benefit of returned war-service personnel. Crown land is also leased under the Mining Act, 1904–1965, the Petroleum Act, 1936–1966 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 closer settlement areas, and the Pastoral Appraisal Board. The Pastoral Appraisal 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 Appraisal 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 those for forestry and timber milling by the Forests Department.

METHODS OF LAND ALIENATION

The principal methods of alienation provided for in the Land Act, 1933–1965 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 satisfactory conclusion of which Crown grants may be obtained. The Act provides that a person shall not be competent to acquire, either as lessee or transferee, an area of land exceeding in the aggregate 5,000 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 10,000 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 20 cents per acre and the purchaser must pay the costs of survey as well as the value of any improvement. He must progressively clear, cultivate and sow to pasture or crop, areas of land which must aggregate 50 per cent. of the total area of the land at the end of the eleventh year. In addition, the purchaser is required to fence in at least the cleared and cultivated land during the first five years and the whole of the land within ten years.

The maximum period allowed for completion of purchase under an ordinary conditional purchase lease ranges 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. Unlike the ordinary conditional purchase lease, which cannot 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 within two years from commencement of the lease and make it his habitual residence during at least six months of each year for the following three years, apply to ordinary conditional purchase leases but are not obligatory under accelerated-payment leases. Restrictions on transfers are imposed in each case.

Sale by Public Auction

The general conditions governing the sale to the public by auction of town or suburban land are set out in Part IV of the Land Act. Lands may be offered for sale by order of the Minister at such times and places as he may think fit, and notice of forthcoming sales 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 erect a residence or business premises within the specified period, or to fence the land on the surveyed boundaries 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 Governor 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 unwanted War Service Land Settlement farms 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 alienation is ultimately required for certain of such purposes the necessary land is granted in fee simple in 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 cemeteries; 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 terminable 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 occupiers may acquire freehold title 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 Governor, by Order in Council, to dedicate Crown land as a State Forest or to reserve Crown land as a Timber Reserve. While the reservation of a Timber Reserve may be revoked in whole or in part by the Governor in Council, the dedication 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 administration of the Conservator of Forests.

METHODS OF LEASING

Brief reference has already been made to the work of the Department of Lands and Surveys, the Department of Mines and the Forests Department in granting leases of Crown lands in Western Australia. The activities of each Department in this field are now described in greater detail.

Department of Lands and Surveys

Approximately 98 per cent. of the Crown land held under lease is covered by tenures granted by the Department of Lands and Surveys under the Land Act, and consists mainly of pastoral leases, special leases, leases of reserves and leases of residential lots. In addition, areas of perpetually-leased farming land have been made available to ex-servicemen under 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 leases 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 Appraisal Board, be capable when fully developed of carrying not less than 6,000 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, 1982. The amending legislation, operative from the 10th 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 Appraisal Board. Rents are subject to reassessment at statutory intervals. A lessee 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 is 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 this 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 commencement of the lease. Other conditions attaching to pastoral leases provide safeguards against the deterioration of land due to excessive grazing and to the unauthorized ring-barking of trees.

Special Leases—Section 116 of the Land Act specifies 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 \$4 and the period of the lease must not exceed 21 years. It is further provided that, in all cases where the intended period of leasing exceeds 10 years, prior notice must be inserted in the *Government Gazette*.

Leases of Reserves—As stated earlier in this Chapter in the section *Methods of Land Alienation* 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 placed 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 depasturing 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 under Section 117 of the Land Act. In earlier years leases of town and suburban lands were offered at public auction and, in most cases, such lessees may apply to purchase the fee simple of the land. Leases granted under Section 117 cannot be converted to fee simple.

Perpetual Leases are authorized under the War Service Land Settlement legislation, which provides that ex-servicemen who have been allotted farms under this 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, 1904–1965, various special tenures, of which gold-mining leases, mineral leases and coal-mining leases are the most important, are granted by the Governor in connexion 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 precious stones as notified in the *Government 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, 1936–1966, 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 rectangles 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 manned 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 96 acres and that the length along the line of reef or lode does not exceed 66 chains. The Minister has discretion, in certain circumstances, to permit the amalgamation of leases which would result in an aggregate area exceeding 96 acres but the length of reef or lode may still not exceed 66 chains. A rent of 50c per acre is charged during the first year and \$2 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 holders to mine for a specified mineral or combination of minerals to any depth within the confines of the lease and convey the same construction 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, land held under a mineral lease may not be mined for gold. Land which is proved to the satisfaction of the Minister to consist of payable alluvial ground is normally exempted from lease. If, however, a tract of land has already been worked as alluvial ground 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, 96 acres. In all other cases mineral leases may not exceed 300 acres and, where practicable, must be rectangles of a length not exceeding twice the width. The labour conditions provide that a mineral lease must be manned by at least two men for the first twelve months and thereafter by at least one man for every six acres or fraction thereof, with a minimum of two men. An annual rent of 50c per acre is charged. Leases may, by application to the Minister, be amalgamated but the total area may not exceed 600 acres.

Coal-mining Leases—Individual leases for coal mining have a maximum area of 320 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. Such leases must be efficiently 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 60 acres or part thereof contained in the lease. The yearly rent of coal-mining leases is 5c per acre and a royalty of 2.5c per ton is payable on all coal raised during the first 10 years of the lease, rising to 5c per ton during the remainder of the term. The Mining Act, 1904–1965 provides for certain royalty rebates on newly-discovered coal deposits, while the Mining Regulations contain special provisions regarding development of the deposits in the Collie district, the only area where coal is being mined in the State.

Other Mining Tenements :

Mineral Claims—An area not exceeding 300 acres may be applied for as a mineral claim, but the length must not exceed twice the breadth. The rent for a mineral claim is calculated at the rate of 25c 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, swamps, marshes, or rivers and the land adjacent thereto, or on the foreshore of, and land under, the ocean. The maximum area of a dredging claim shall not exceed 300 acres. Except in the case of river claims, where there is no restriction on width, the minimum width at right angles 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 \$2,000 shall be continuously employed.

Temporary Reserves—To encourage mining, provision is made for the creation of Temporary Reserves of Crown land by the Minister, and an Authority to occupy such reserve for the purpose of searching for gold or other minerals may be granted. In the case of gold, these Temporary Reserves may not exceed 300 acres except for deep alluvial, when there is no restriction as to the area. Temporary Reserves for any other mineral 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 normal mining tenements before he may commence productive mining.

Miners' Homestead Leases—A miner who is not less than 18 years of age and is resident on a goldfield or mineral field, 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, these maximum areas may be exceeded by the acquisition by transfer of land comprised in a Miners' 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 20c per acre is charged where the total area does not exceed 20 acres and for larger areas the annual rental is 5c per acre. After 20 years the rent is 10c per annum if demanded. Basic improvements must be made by the lessee within the first six months and the land must be fenced on its boundaries within three years after survey of the lease. Improvements to the value of \$1 per acre must be made within the first five years following survey.

Tenures under Special Acts—Because of the amount of finance involved in large-scale development of bauxite and iron-ore deposits the Government has made special agreements 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. Reference to these agreements will be found on pages 19, 22, 24 and 31.

Tenures under provisions of the Petroleum Act, 1936-1966—Exclusive 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 \$200 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 \$2,000. It is further provided that a geologist must be engaged, that drilling be confined to "scout" 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 cover more than 200 nor less than eight square miles and the licensee must put up a bond of not less than \$2,000. 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 50c per square mile during the first year of the licence (maximum fee, \$25) and on \$1 per square mile in subsequent years (maximum annual fee, \$50), 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 \$2,000 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 \$20 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.

Miscellaneous 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 conserve and convey water, and to store machinery.

Forests Department

While not designated as leases, certain of the tenures issued under the Forests Act, 1918-1964, such as Sawmilling Permits and Mill Site Permits, are similar in effect.

Sawmilling Permits—A Sawmilling Permit entitles the holder to sole 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 "coupes," each of which is cut over and closed in turn. Each sawmilling permit holder is required to fall and deliver a specified quantity of logs to the mill, 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.



Toolbrunup (3,341 feet) in the Stirling Range

The Stirling Range National Park of 284,540 acres is situated in the south-west of the State and encloses the entire mountain system of the Stirling Range. The Range reaches to a height of over 3,500 feet and is the dominant landmark of the country to the north of King George Sound. The Stirling Range National Park contains a highly interesting and scientifically important endemic flora and is also of value as a fauna reserve

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 \$6 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 farm 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 confer grazing, agricultural or similar rights over forest areas for any term not exceeding 20 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 \$6 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 975,920 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 saleable or leasable 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 1900 to 1965, the areas of land absolutely alienated or in process of alienation and of Crown land held under certain types of lease or licence. For the years 1900, 1910 and 1920 the basis of classification according to Department has been made to conform to current practice in the issue of leases and licences. For example, tenures relating to forests, which were originally issued by the Department of Lands and Surveys and later by the Department of Mines, have been shown for those years under the heading of Forests Department. For 1930 and later years the figures are as recorded by the Departments concerned. The types of tenure included under the several departmental headings are indicated in the footnotes to the table.

Land which is shown as "absolutely alienated" consists mainly of farming areas, acquired originally as Conditional Purchase Leases and subsequently alienated under Crown grant. While held under lease prior to alienation they account for most of the land shown as "in process of alienation." These two sets of figures taken together consequently give a broad indication of the increased use of land for agricultural purposes during the period under review. Similarly, variations in the area occupied as sheep and cattle stations may be gauged by reference to the area of pastoral leases issued by the Department of Lands and Surveys.

LAND ALIENATED AND LAND HELD UNDER LEASE

Date	Area absolutely alienated	Area in process of alienation	Area of Leases or Licences in Force on Crown Land and Issued (†) by—			
			Department of Lands and Surveys		Department of Mines (b)	Forests Department (c)
			Pastoral Leases	Other Leases (a)		
At 30th June—	acres	acres	acres	acres	acres	acres
1900 (d)	3,462,490	3,156,798	86,429,037	10,654	84,470	851,820
1910	4,449,326	12,880,195	165,463,185	501,315	99,732	1,143,572
1920	8,763,051	14,259,769	253,436,312	2,454,204	97,387	1,612,068
1930	14,506,064	21,533,054	241,504,687	2,397,790	84,381	1,402,898
1940	18,244,428	14,192,666	204,950,557	2,008,124	93,709	2,327,371
1950	21,263,085	11,514,531	219,200,060	3,289,017	97,868	3,418,217
1956	25,228,070	13,001,488	(e) 208,003,368	4,376,227	100,372	3,837,712
1957	25,726,950	12,837,282	208,396,798	4,434,105	97,402	3,882,488
1958	26,205,502	13,053,345	212,543,505	5,202,529	98,392	3,919,067
1959	26,810,081	12,907,720	217,655,338	5,820,659	92,948	4,031,140
1960	27,343,902	12,758,807	216,908,871	6,623,272	93,000	4,024,720
1961	27,786,699	12,829,828	220,782,073	6,919,781	91,874	4,011,966
1962	28,227,002	13,240,996	230,286,920	5,627,281	73,114	4,049,432
1963	28,721,958	13,884,749	237,203,687	6,771,962	74,669	4,196,090
1964	29,101,406	14,542,063	235,062,418	7,246,690	80,575	4,077,057
1965	29,757,989	14,829,752	234,677,404	7,146,560	80,529	4,150,031

(†) See letterpress preceding table. (a) Comprises special leases, leases of reserves, leases of residential lots and perpetual leases. (b) Comprises gold-mining leases, mineral leases and miners' homestead leases. (c) Predominantly sawmilling permits. Includes permits for cutting wandoo for tannin extraction but excludes permits and licences for cutting timber and firewood in Goldfields areas. (d) At 31st December. (e) Apparent decrease in area due mainly to revision in the records of the Department of Lands and Surveys.

The passing of the Homesteads Act in 1893 and of a comprehensive Land Act in 1898 provided the basis for a rapid increase in the settlement of agricultural land. Under the Homesteads Act, any man over the age of 18 years who did not already own an area of 100 acres or more in this State could apply for a free homestead farm of 160 acres, on condition that he resided on his land during at least six months of each of the first five years and carried out prescribed improvements. With a lower minimum age of 16 years, a similar provision is contained in the Land Act, 1933-1965, and this provision, operating in conjunction with the conditional purchase lease system, has also been a factor in the increase in land settlement, particularly in the wheat-growing areas.

About 1905 the Department of Lands and Surveys, by implementing a system of survey and subdivision before selection, partially checked the indiscriminate selection of land by inexperienced farmers. A further stabilizing influence on agricultural development was the introduction in 1909 of a system of grading Crown lands into classes, First, Second and Third according to suitability for farming.

The movement of population from the goldfields to the wheat belt contributed to the increase in the area of land in process of alienation from 3,156,798 acres in 1900 to 12,880,195 in 1910. The ultimate alienation of about one-third of this land by Crown grant is reflected in the greatly increased figures for "absolutely alienated" land in 1920. Settlement of the wheat belt developed rapidly during and after the period 1910 to 1920, in spite of serious droughts which occurred in 1911 and 1914. Although the increased totals at the 30th June, 1930 were principally due to this development, they resulted in part from the acquisition during the previous 10 years of farmland, mainly for dairying, in the south-west

of the State under the Group Settlement Scheme. These holdings were individually much smaller than those in the wheat-growing districts, because of the type of farming and the heavy clearing costs, but the numbers involved made the total area taken up under the Scheme of some significance.

Pastoral leases, which comprise the greatest proportion of Crown land held under lease or licence, increased threefold between 1900 and 1920 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, 1936-1966 and in temporary reserves under the Mining Act, 1904-1965. At the 30th June, 1965 there were current, under the Petroleum Act, permits to explore covering 843,356 square miles and licences to prospect covering 6,186 square miles. The area relating to permits appearing under the heading of Forests Department shows a general increase from less than one million acres in 1900 to more than four million acres in 1965.

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 1953. During the next decade the area fluctuated between 705,874 acres in 1956 and 1,234,516 acres in 1962, and in 1965 it was 1,078,314 acres.

The following table gives details of areas of land for which applications were approved, during each of the years 1956 to 1965, 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					Leases and Licences			
	Con- ditional Pur- chases	Selections under Part VIII of Land Act	Town and Suburban Lots	Miscel- laneous (b)	Total	Pastoral Leases and Licences	Special Leases	Miscel- laneous Leases (c)	Total
	acres	acres	acres	acres	acres	acres	acres	acres	acres
1956	704,053	182	328	1,311	705,874	3,523,487	152,217	204,959	3,880,663
1957	932,686	727	507	6,319	940,239	5,218,047	346,254	224,328	5,788,629
1958	796,865	1,255	285	4,051	802,456	3,175,303	536,222	182,740	3,894,265
1959	976,440	2,179	631	1,266	980,516	10,246,253	1,037,882	276,816	11,560,951
1960	712,410	4,779	266	678	718,133	4,164,358	912,046	251,361	5,327,765
1961	1,017,800	729	381	1,380	1,020,290	6,488,872	131,968	158,062	6,778,902
1962	1,229,889	2,876	499	1,252	1,234,516	15,862,470	226,985	355,546	16,445,001
1963	1,183,247	246	672	3,528	1,187,693	3,859,374	1,101,293	110,432	5,071,099
1964	887,007	2,262	1,340	20,276	910,885	831,631	105,074	180,665	1,117,370
1965	1,077,764	.....	290	260	1,078,314	2,434,099	87,320	48,279	2,569,698

(a) See letterpress 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 free 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 to an average of \$1,000 per settler as working capital for such essentials as initial improvements, implements and seed. Later this was increased to \$1,250 and a further average loan of \$750 towards the cost of land brought the Commonwealth commitment to \$2,000 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, 5,213 soldier settlers had been assisted in Western Australia and advances totalling \$13,475,386 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 its major development resulted from the passage of the Empire Settlement Act of 1922 by the British Parliament. The main purposes of the Act were to relieve the considerable degree of unemployment prevailing in Britain and to expand land settlement in the Dominions. Agreements were consequently 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 loosely-knit community. The settlers were to be assisted British immigrants and dairying and pig raising were to be the main activities. As in the Soldiers' Settlement Scheme, the expenditure 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 1,700 and in 1942, just over twenty years after the scheme was launched, 530 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 on 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 Agreement Act, 1945 (State). Commonwealth moneys have been made available by means of a series of Loan (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 general supervision of the Scheme. The State Government was required to bear 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 excess of the total cost involved in acquiring, developing and improving the holding over the sum of the valuations of land and improvements. The Commonwealth Government agreed to meet other costs of the Scheme, as detailed in the penultimate paragraph of this section.

Those benefited are ex-members of the Forces who served in the second World War, the Korean War and the operations in Malaya. Guidance 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 chosen was closely examined as to accessibility, climate, types of soils, water supply, productive capacity, and the possibilities of development, improvement and subdivision. In order to ensure, as far as possible, the success of each individual 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 holdings were originally available only on perpetual lease, legislation passed by the State Parliament in 1951 enabled War Service Land Settlement lessees to purchase the fee simple 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, 1965 amounted to \$101.4 million, comprising provision of credit facilities to settlers, \$48.2 million; development and improvement of land, \$39.5 million; acquisition of land, \$7.09 million; contribution of three-fifths of the excess cost of land and improvements over valuation, \$2.40 million; cost of administration of credit facilities, \$1.84 million; remission of settlers' rent and interest, \$1.06 million; living allowances to settlers during the assistance period, \$0.96 million; losses on advances, \$0.36 million; and operation and maintenance of vacated holdings, \$0.032 million. Up to the 30th June, 1965 the State Government, in addition to meeting administrative and other costs associated with the Scheme, had spent \$1.60 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 connexion with the Scheme in Western Australia up to the 30th June, 1965 aggregated \$53.8 million, comprising principal repaid by settlers, \$36.3 million; receipts from sales of structural improvements, \$7.50 million; rent paid by settlers \$3.62 million; interest paid by settlers, \$3.30 million; the State's contribution to excess costs of land, and improvements, \$1.60 million; receipts from sales of unwanted land (including interest), \$1.05 million; and other receipts, \$0.45 million.

Other Schemes of Settlement

The 3,500 Farms Scheme in Western Australia was one of the projects proposed to be undertaken under an agreement in 1925 between the British and Australian Governments, whereby \$68 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 3,500 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 \$68 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 Alienation* 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 698,000 acres at the 30th June, 1965. National Parks vested in the Board at that date comprised Kalbarri (358,000 acres), which is situated near the mouth of the Murchison River; Stirling Range (284,540 acres); Nornalup (33,139 acres) on the south coast; Porongorups (5,651 acres); John Forrest (3,648 acres) near Glen Forrest in the Darling Range; Lakes Nowergup-Neerabup (2,900 acres); Kalamunda (919 acres); Grænmount (127 acres); and Lesmurdie Falls (81 acres). At the same date, reserves vested in the Board included Yanchep Park and Caves (6,210 acres) near the coast about thirty miles north of Perth; Yanchep Flora and Fauna Reserves (727 acres); Yanchep Beach Reserve (44 acres); Serpentine Falls Park Lands (1,571 acres); Hamelin Bay (366 acres) on the west coast near Cape Leeuwin; Nornalup Flora Reserve (228 acres); Emu Point Boronia Reserve (115 acres) near Albany; Crawley (57 acres) on the Swan River near Perth; Araluen-Canning Dam (50 acres); Penguin Island (50 acres); and East Perth Cemetery (12 acres), a disused 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 Emu 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. A small boat harbour has been dredged and pen facilities to accommodate 60 boats constructed.

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 in honour of fallen servicemen and also in commemoration of the State's Centenary in 1929. Other features include a restaurant, a floral clock and a wishing well. In 1962 the State Government allocated the sum of \$333,000 to be spent over a five-year period on the establishment of a botanic garden of Western Australian native plants in the Park. Rapid progress has been made with this project and the Garden was officially opened by the Premier on the 4th October, 1965. More than one thousand species of native plants have been established in a natural bushland setting with access by grass paths and there is a central water garden feature. In addition to the Western Australian collection there are smaller collections of Californian, South African and Mediterranean flora and an arboretum comprising a collection of native trees of Western Australia.

Zoological Gardens Board (Acclimatisation Committee)—An area of 45 acres at South Perth is under the control of the Acclimatisation Committee. Animals, birds and reptiles are exhibited in the Zoological Gardens and picnic, sporting and recreational facilities are available to the public. During the financial year ended 30th June, 1965, 134,541 adults and 127,324 children paid for admittance.

The Rottnest Island Board administers as a tourist and holiday resort a reserve comprising almost the whole of Rottnest Island, which is situated about 10 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, Yallingup, 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 Fitness Council controls reserves, principally for youth activities, at Point Peron on the coast south of Fremantle, at Sorrento 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, 1909-1965. 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 southward to Kwinana and Serpentine, northward to Sorrento and eastward to Greenmount.

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 92 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 Camballin. Supplies from the Ord River Diversion Dam (Banicoot 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 and rice.

Five independent town schemes are controlled by local Water Boards in country areas under the Water Boards Act, 1904-1964 and some local authorities supply water under the provisions of the Local Government Act, 1960-1966. Individual water supplies serve railways, timber mill towns, isolated mines, pastoral properties, stock routes and agricultural areas, mainly from dams, tanks, wells and bores.

The principal water storages in Western Australia are shown in the table below. Supplies for the metropolitan area and environs are drawn almost entirely from Serpentine Reservoir and Serpentine Pipehead Reservoir, Canning Reservoir, Wungong Brook Diversion Weir, Churchman Brook Reservoir and Victoria Reservoir. Mundaring Weir, which is the source for the Goldfields and Agricultural Water Supply, is linked to Kalgoorlie by pipeline and serves the more populous parts of the Eastern Goldfields as well as certain towns and farming areas north and south of the main pipeline. As occasion arises Mundaring Weir supplies to or draws from the Metropolitan Water Supply. Stirling Dam, with a supplementary catchment at Harvey Weir, serves part of the irrigation area of the South-West. Drakes Brook Dam, Samson Brook Dam and Logue Brook Dam, which was completed in 1963, are also used for this purpose. Wellington Dam, on the Collie River, has been enlarged to meet not only the needs of the southern parts of the irrigation area but also of towns included in the Great Southern Towns Water Supply. With the completion in 1966 of the Waroona Dam on Drakes Brook, the supply of water to the Waroona Irrigation District has been augmented.

The storage capacity of the several dams and reservoirs at the 30th June, 1965 was as shown below.

DAMS AND RESERVOIRS—STORAGE CAPACITY (a)
(million gallons)

Dam or Reservoir	Storage Capacity	Dam or Reservoir	Storage Capacity
Canning Reservoir	20,550	Serpentine Pipehead Reservoir	850
Churchman Brook Reservoir	480	Serpentine Reservoir	39,000
Drakes Brook Dam	504	17-Mile Dam (c)	1,250
Fitzroy Dam	1,209	Stirling Dam	12,552
Harvey Weir	2,275	Victoria Reservoir	189
Logue Brook Dam	5,358	Waroona Dam (d)	3,290
Mundaring Weir	16,966	Wellington Dam	40,790
Ord River Diversion Dam (b)	21,467	Wungong Brook Diversion Weir	(e)
Samson Brook Dam	2,021		

(a) At 30th June, 1965. (b) Banicoot Bar Dam. (c) On Uralla Creek, an anabranch of the Fitzroy River.
(d) Storage commenced June, 1966. See letterpress on page 252. (e) Diversion weir only.

METROPOLITAN WATER SUPPLY

The sources of the metropolitan water supply are Serpentine Reservoir and Serpentine Pipehead Reservoir, Canning Reservoir, Wungong Brook Diversion Weir, Churchman Brook Reservoir and Victoria Reservoir. The supply from these sources is supplemented as necessary from a pipeline link with Mundaring Weir and from a number of artesian bores. The amount of bore water used, however, is now low in proportion to total metropolitan consumption, being rarely more than 10 per cent. during a severe summer and usually considerably less.

Victoria Reservoir, which was completed in 1891 with a capacity of 189 million gallons, was the first of the existing water conservation projects to be completed in the Darling Range. In 1921 a 23-million gallon reservoir, which is no longer used for water supply, was constructed at Bickley Brook to replace a pipehead dam, and in 1928 one with a capacity of 480 million gallons was completed at Churchman Brook. During the same period pipehead dams were built across the upper course of the Canning River and its tributary, Wungong Brook, preliminary to the construction of Canning Reservoir, which was begun in 1933 and completed in 1940. Canning Reservoir, with an estimated catchment area of 302 square miles, has a storage capacity of 20,550 million gallons retained by a concrete wall 218 feet high and 1,534 feet long at the crest. Serpentine Pipehead Reservoir was completed in 1957 and Serpentine Reservoir, commenced in 1957, was completed in 1961. Serpentine Reservoir is constructed of rolled earth fill and the embankment rises 171 feet above the stream bed, the length at the crest being 1,390 feet. Its capacity, which is slightly less than that of Wellington Dam on the Collie River, is 39,000 million gallons and the area of the catchment is 245 square miles.

Water from storages in the Darling Range is conveyed to service reservoirs at Mount Yokine, Mount Eliza, Bold Park, Thompson Lake, Mount Hawthorn, Richmond, Melville, Buckland Hill and Greenmount, which serve an area of approximately 1,270 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 bores which can provide a daily maximum of 13 million gallons. On the 30th June, 1965, the number of consumer services was 154,051. The following table shows the quantities of water which were drawn from the various sources during each of the five years ended 30th June, 1961 to 1965.

METROPOLITAN WATER SUPPLY—QUANTITIES OF WATER DRAWN (a)
(million gallons)

Source	1960-61	1961-62	1962-63	1963-64	1964-65
Canning Reservoir	7,016	7,247	5,933	4,641	7,200
Churchman Brook Reservoir	547	614	646	1,069	759
Mundaring Weir	228	107	54	194	238
Serpentine Reservoir (b)	6,892	7,381	7,045	11,055	10,194
Victoria Reservoir	302	265	428	132	596
Wungong Brook Diversion Weir	1,661	1,826	2,056	1,937	708
Metropolitan Bores	1,629	1,297	1,429	599	1,093
Total	18,273	18,736	17,591	19,627	20,788

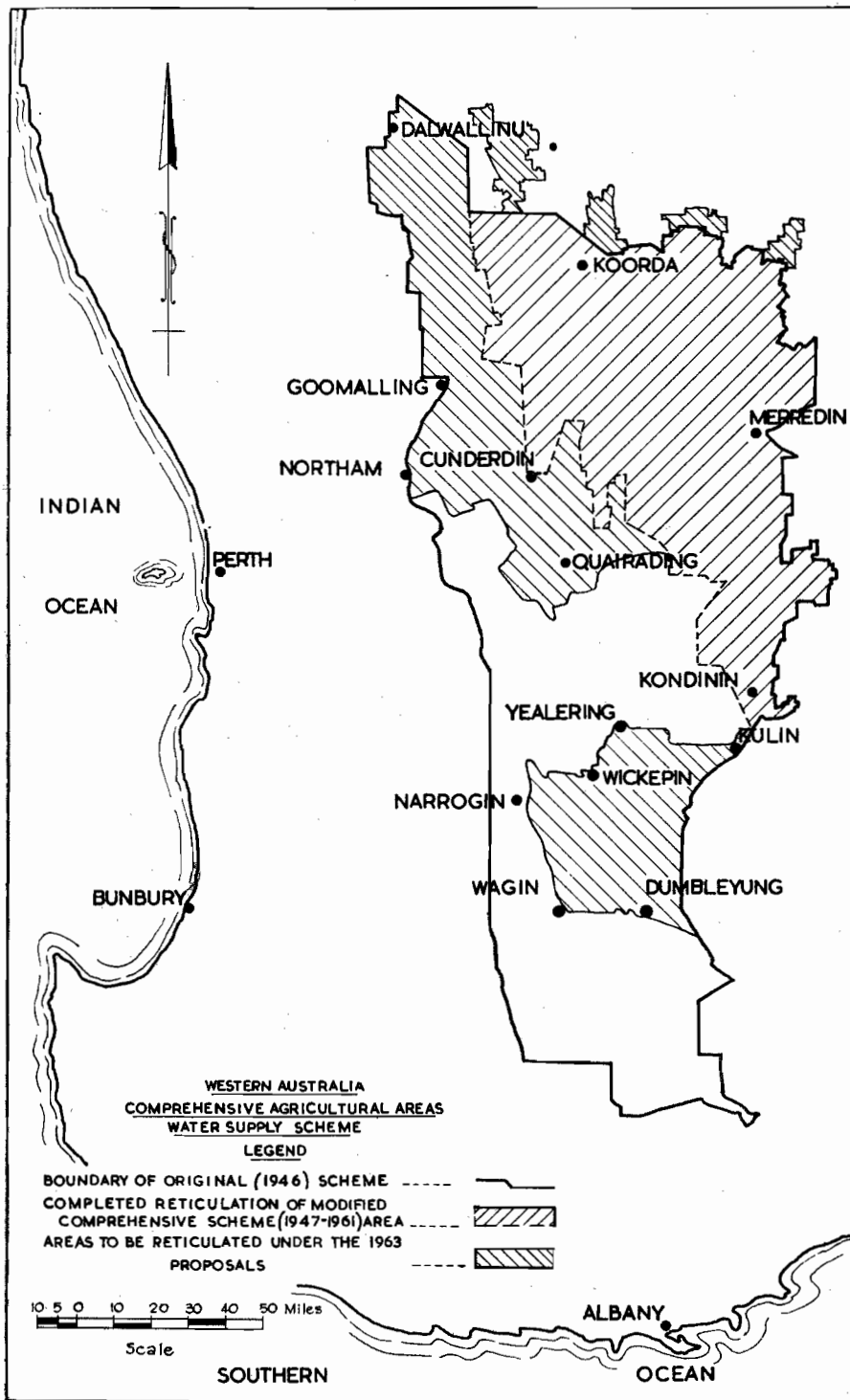
(a) Including supplies to railways and shipping.

(b) Includes water drawn from Serpentine Pipehead Reservoir.

COUNTRY WATER SUPPLIES

Controlled by the Department of Public Works and Water Supply

Since 1947 enlargement and extension of the Goldfields and Agricultural Water Supply and the development of the Great Southern Towns Water Supply have been carried out mainly in accordance with a project known as the Modified Comprehensive Scheme. A proposal for a comprehensive water supply scheme was first submitted by the State Government to the Commonwealth Government in January, 1946 when applying for financial assistance in its construction. The initial plan was intended to supply water to towns and farms in an area of 11.6 million acres in mixed farming (cereal and sheep) districts of Western Australia, as well as to increase the supply to the Eastern Goldfields. A committee appointed by the Commonwealth Government to consider the State's submission reported that certain areas within the scheme had a higher priority than others. As a result, the project was greatly reduced in scope and a modified scheme, to embrace 4.1 million acres, was agreed to by both Governments and adopted in October, 1947. The extent of the scheme as originally proposed, and as modified, is shown



on the map on page 249. A description of the boundary of the modified scheme is contained in a schedule to the Agricultural Areas, Great Southern Towns, and Goldfields Water Supply Act, 1947 (State), which gave parliamentary approval of the undertaking. Commonwealth financial aid was provided by means of the Western Australia Grant (Water Supply) Act 1948 (Commonwealth) and later amendments, which authorized reimbursement to the State of one-half of its expenditure on the scheme, up to a maximum grant of \$10 million.

The modified scheme was completed in 1961, the total expenditure amounting to \$20.6 million. A request made by the State Government in 1960 for a grant equal to half the cost of extending the scheme virtually to the boundary as first proposed in 1946 was rejected by the Commonwealth Government. Following this rejection the State Government embarked on a necessarily limited programme financed from its own loan moneys, the policy being to restrict extensions to supply certain towns within the original area and farm lands adjacent to pipelines. A further request was made by the State Government in 1963 for a grant of \$10.5 million payable over a seven-year period and representing one-half of the estimated cost of proposed extensions which would increase by 3.7 million acres the area served by the scheme. The Commonwealth agreed to provide assistance in the form of an interest-bearing loan up to a maximum of \$10.5 million, advances to be made during a period of eight years commencing with the financial year 1965-66. Legislative authority for the loan is given by the Western Australia (South-west Region Water Supplies) Agreement Act 1965 (Commonwealth). The map on page 249 shows the additional areas to be reticulated under the 1963 proposals.

Goldfields and Agricultural Water Supply

The original purpose of this undertaking, which was formerly known as the Goldfields Water Supply was to supply water for the Coolgardie and the Kalgoorlie-Boulder areas. To provide conservation, the Helena River was dammed near Mundaring, and on completion of the reservoir in 1902 it had a capacity of 4,655 million gallons. The increasing demand for water in the area served made it necessary to augment supplies. This was achieved by raising the wall 32 feet to a height of 132 feet and when the work was completed in 1951 the enlarged capacity of the reservoir was 15,154 million gallons. The capacity has since been further increased to 16,966 million gallons by the erection of adjustable steel crest gates four feet in height. The main pipeline between Mundaring and Kalgoorlie is 346 miles long. It is, for the most part, of 30 inches diameter and is mainly of steel. The pipeline is equipped with eight pumping stations. The maximum pumping capacity from the Mundaring installation is 13.75 million gallons per day with provision for an increase to 18.5 million gallons per day. The total capacity of all receiving, regulating, standby and service tanks (including three standby reservoirs at Kalgoorlie with a combined capacity of 60 million gallons) is 154 million gallons.

At the 30th June, 1965 the Goldfields and Agricultural Water Supply was serving 89 towns and water was being reticulated to farms in an area of 4.2 million acres. The number of services, length of water mains and consumption for the years 1960-61 to 1964-65 are given in the following table.

GOLDFIELDS AND AGRICULTURAL WATER SUPPLY

Year	Number of Services (a)	Mileage of Water Mains (a)	Consumption (a) (million gallons)						Total
			Domestic	Commercial	Industrial (Including Railways)	Mining	Farms and Market Gardens	Other	
1960-61	23,728	3,528	888	123	251	504	463	300	2,528
1961-62	24,400	3,727	1,025	121	233	505	615	392	2,889
1962-63	24,963	3,782	970	120	238	511	569	270	2,678
1963-64 (b)	24,114	3,919	1,048	123	222	551	627	158	2,727
1964-65	24,208	3,940	1,012	124	204	575	619	263	2,798

(a) Figures include amounts consumed from local supplies at Waddouring-Barbalin-Knungajin, Bruce Rock, Narembene and Kondinin. (b) In 1963-64 portion of the "Hills District" previously supplied by the Goldfields and Agricultural Water Supply was transferred to the Metropolitan Water Supply.

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 Waddouring-Barbalin-Knungajin. Other extensions north and south of the main pipeline provide water for a number of towns and surrounding districts, including Toodyay, Goomalling, York, Beverley and Bullfinch. A

pipeline southward from Merredin to serve Bruce Rock, Naremben and Kondinin and surrounding districts is linked to an extension south-west from Doodlakine and taken westward to supply Corrigin. Areas north-west of Burracoppin are served by an extension northward from a point east of Merredin, and districts north of Kellerberrin by a pipeline connecting Kellerberrin to the Waddouring-Barbalin-Knungajin system already mentioned. Water is taken northward from Cunderdin through Minnivale to a point near Kokardine. Extensions westward, eastward and northward from this pipeline serve a number of towns and localities, including Dowerin, Wyalkatchem, Yelbeni, Koorda, Ballidu, Dalwallinu and Wongan Hills, and surrounding farm lands. An extension northward from the main pipeline to Koolyanobbing, where iron-ore deposits are being developed, was completed in 1964.

Great Southern Towns Water Supply

The Great Southern Towns Water Supply serves towns on the Great Southern Railway from Brookton to Katanning, as well as a number of other towns. Water is drawn from Wellington Dam which also supplies the Collie River Irrigation District. Work on the raising of the wall of the Dam was completed in 1960 and, with a capacity of 40,790 million gallons, it is now the largest in the State. Water is taken 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 Brookton and 59 miles southward to Katanning. An extension westward from Katanning serves the town of Kojonup. Extensions south-eastward from Katanning through Broomehill to Gnowangerup and north-eastward from Narrogin to Wiekepin were completed late in 1964. A pipeline to supply water to a power station constructed for the State Electricity Commission at Muja, 11 miles south-eastward from Collie, was commenced in May, 1964 and completed in April, 1965.

At the 30th June, 1965 the Great Southern Towns Water Supply was serving 22 towns. Details of the number of services, length of water mains and consumption for the years 1960-61 to 1964-65 are given in the following table.

GREAT SOUTHERN TOWNS WATER SUPPLY

Year	Number of Services	Mileage of Water Mains	Consumption (million gallons)					Total
			Domestic	Commercial	Industrial (including Railways)	Farms and Market Gardens	Other (a)	
1960-61	6,443	340	260	52	62	17	80	472
1961-62	6,641	353	296	56	76	19	82	530
1962-63	7,124	362	288	58	81	20	75	522
1963-64	7,328	365	337	67	71	22	68	565
1964-65	7,752	419	333	36	66	22	60	518

(a) Excludes Mining, for which no services were provided by the Department of Public Works and Water Supply.

Supplies to other Country Towns

Ninety-two local schemes supply water from stream flow, dams, tanks, wells and bores, mainly to country towns. Ninety-one 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, 1914-1964. The following table gives, for these local schemes, the number of services, length of water mains and consumption for the years 1960-61 to 1964-65.

DEPARTMENT OF PUBLIC WORKS AND WATER SUPPLY : LOCAL SCHEMES

Year	Number of Services	Mileage of Water Mains	Consumption (million gallons)					Total	
			Domestic	Commercial	Industrial (including Railways)	Mining and Shipping	Farms and Market Gardens		Other
1960-61	17,493	(a)	632	186	105	13	45	126	1,107
1961-62	18,726	500	763	191	110	15	50	140	1,267
1962-63	18,823	512	816	123	122	16	50	142	1,273
1963-64	19,593	(b) 621	946	121	164	17	54	197	1,501
1964-65	21,322	679	886	206	198	13	55	208	1,571

(a) Not available.

(b) Increase due principally to inclusion of mains for which records were not previously available.

The Department of Public Works and Water Supply is also responsible for the provision and maintenance of tanks and wells as a source of cartage water for a number of small communities in gold-mining and agricultural areas.

Other Country Water Supplies

As well as the schemes controlled by the Department of Public Works and Water Supply, there are five local Water Boards operating under the Water Boards Act, 1904-1964 which also draw supplies from stream flow, dams, tanks, wells and bores. In addition, some local authorities exercise powers under the Local Government Act, 1960-1966 to supply water within their boundaries. There are still, however, a large number of individual farms and pastoral stations which are not connected to public schemes and are therefore obliged to provide their own supplies. The Forests Department and sawmilling companies operate schemes to supply water to their mill towns.

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.

Underground Water

Considerable use is made of underground water by individual farmers, pastoralists, market gardeners, etc., and it is estimated that over 50,000 bores are in use in the State. The quality of the water varies from place to place and much of it is suitable only for stock. However, artesian aquifers are tapped to supply or augment the town supplies of Perth, Bunbury, Busselton, Eaton and Denham, and non-pressure water is used in the public supplies of thirty-seven other towns.

Considerable advances in the knowledge of aquifers and quality of water in the main sedimentary basins have been made as a result of extensive geological surveys by oil exploration companies in recent years.

The Department of Public Works and Water Supply and the Metropolitan Water Supply, Sewerage and Drainage Board are responsible for all developmental works, and for the geological survey for all exploratory works, as well as for investigating and assessing the State's groundwater resources, advising local government authorities, private industry and individuals on groundwater problems, and supervising departmental drilling.

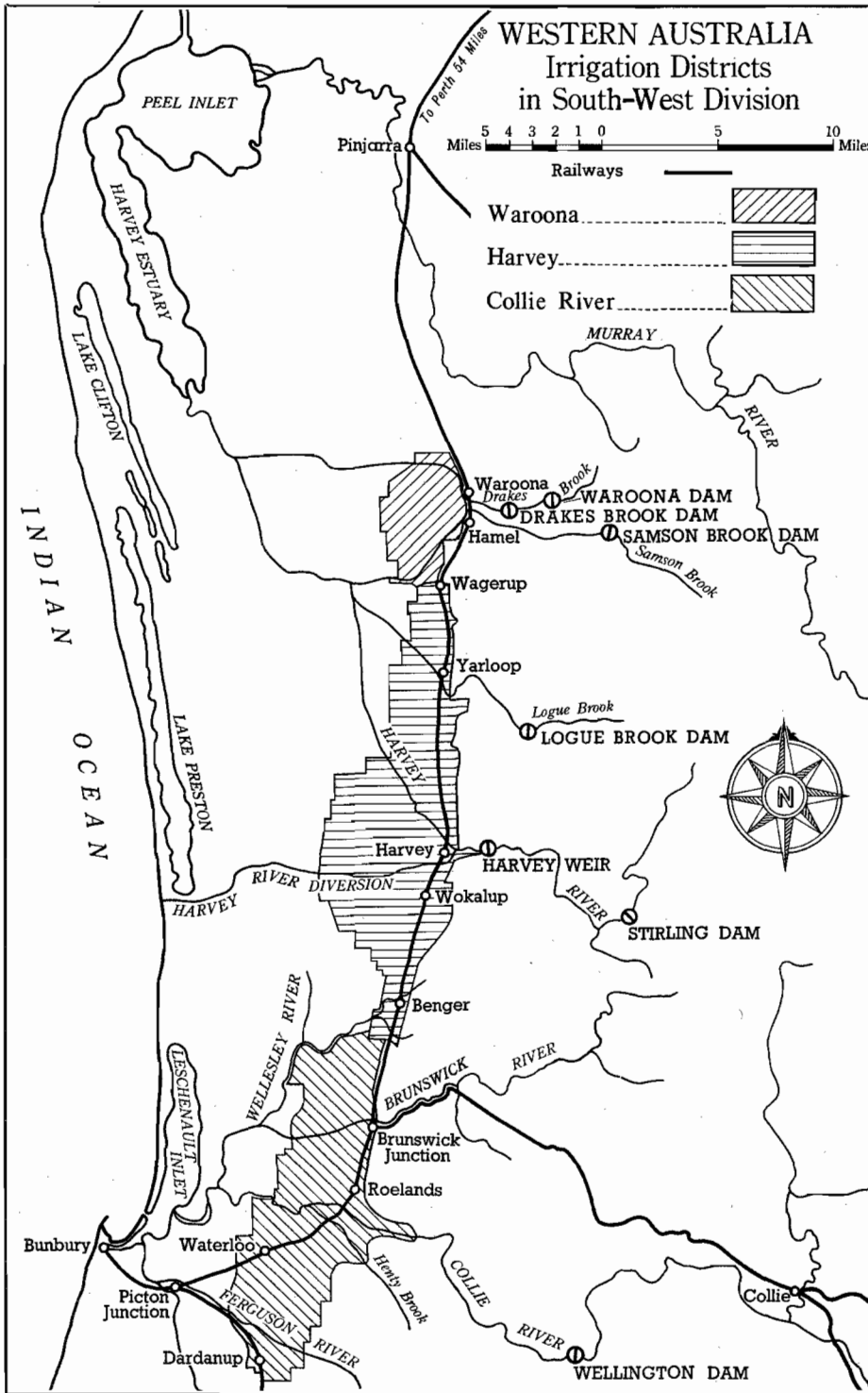
SOUTH-WEST IRRIGATION SCHEMES

Irrigation schemes have been established by the State Government on the coastal plain south of Perth in the Waroona, Harvey and Collie 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 properties are watered on a rotational plan, according to the "Zone", or section of the District, within which the farms are situated. Three free waterings are given each season on all rated land. All other waterings are charged for and special waterings, out of rotation, are available at a higher fee.

The Harvey Irrigation District, opened in 1916, was the first large-scale project. Harvey Weir, with a capacity of 520 million gallons, 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 3,060 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 has been built on Drakes Brook about three miles up-stream from the existing Drakes Brook Dam. Its capacity is 3,290 million gallons and storage, which commenced in June, 1966, was available for the 1966-67 irrigation season. In 1931 the capacity of Harvey Weir was enlarged to 2,275 million gallons and in 1948 Stirling Dam, with an original capacity of 12,060 million gallons (increased to 12,552 million gallons by alterations in 1958), was completed further up-stream on the Harvey River. These works enabled the Harvey Irrigation District to be extended northward to link with the Waroona District. Logue Brook Dam, with a capacity of 5,358 million gallons, was completed in 1963 and provides additional supplies for the Harvey Irrigation District, the rated area of which is now 13,290 acres.



Concurrently with developments in the Harvey and Waroona Irrigation Districts, action was taken to conserve water for the Collie River Irrigation District and Wellington Dam on the Collie River was completed in 1933. In view of its importance, not only to irrigation projects but also to the Great Southern Towns Water Supply, the wall of this reservoir has been raised and when work was completed in 1960 its capacity of 8,000 million gallons had been increased to 40,790 million gallons. It serves an area of 10,870 rated acres in the Collie River Irrigation District, which extends from Brunswick Junction to Dardanup.

Details of irrigation in each District in the years 1963-64 and 1964-65 are given in the following table.

IRRIGATION : SOUTH-WEST SCHEMES

Particulars	Irrigation District						Total	
	Waroona		Harvey		Collie River		1963-64	1964-65
	1963-64	1964-65	1963-64	1964-65	1963-64	1964-65		
Area Watered—								
Pasture	2,792	3,114	13,123	12,841	11,047	11,581	26,962	27,536
Fodder Crops	401	299	363	271	790	677	1,554	1,247
Potatoes	17	12	5	23	386	368	408	403
Other Vegetables	301	293	105	76	101	83	507	452
Orchards .....	.....	.....	225	178	47	44	272	222
Other (a) .....	.....	.....	.....	.....	5	.....	5	.....
Total	3,511	3,718	13,821	13,389	12,376	12,753	29,708	29,860
Acres Watered (b)	21,301	20,963	91,361	87,317	78,624	74,243	191,286	182,523
Average Number of Waterings (c)	6.1	5.6	6.6	6.5	6.4	5.8	6.4	6.1
Total Water Gauged at Entry to								
District	3,467	3,358	12,826	12,199	12,508	13,110	28,801	28,667
Dam Capacity	2,525	2,525	20,185	20,185	40,790	40,790	63,500	63,500
Length of Channels	46	46	154	154	*121	126	*321	326

(a) Includes areas watered for softening purposes. (b) Area watered multiplied by number of waterings. Figures shown represent the sum of acre waterings for individual holdings in each District. (c) Total acre waterings divided by total area watered. * Revised.

NORTHERN IRRIGATION SCHEMES

Although not yet comparable in size with the South-West undertakings, the irrigation areas at Carnarvon and on the Ord and Fitzroy Rivers in the northern portion of the State are of increasing significance.

Carnarvon—During the past thirty years a centre of tropical agriculture has been developed at Carnarvon, near the mouth of the Gascoyne River. At first a number of tropical fruits were grown but, until recent years, production consisted mainly of bananas. A considerable quantity of early beans is now grown for the metropolitan market and for export interstate, and production of tomatoes and a variety of other vegetables has also increased in importance. 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 extremely variable and averages little more than nine inches per annum. Each holding has its own irrigation plant and, wherever possible, the pumping unit is installed on a bank of the Gascoyne River. Usually the river bed is exposed, as surface flow does not occur regularly each year. Concrete-lined wells have been sunk into the river sands and the water obtained is pumped either to storage tanks or direct to the plantation feeder channels, from which it is distributed among the plants by furrows. Because of the limitations of supply from the river sands, the State Government has instituted controls over the quantity of water pumped by growers, has commenced to develop up-river sources and is delivering supplementary water by pipeline to twenty plantations on the south bank of the river at the eastern extremity of the Carnarvon Irrigation District. A tropical research station is maintained at Carnarvon by the Department of Agriculture. To the early activities of this research station may be credited much of the success of the Carnarvon plantations, notably in the field of plant selection and pest control, and experimental work is being continued.

Ord River—The Ord River in the Kimberley Division traverses a tropical area which receives monsoonal rains of irregular incidence and quantity, varying from an annual mean of 20 inches in the south to 30 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 sugar-cane, rice, cotton, safflower and various oil seeds. As a result of these investigations the State Government, with Commonwealth financial assistance, has embarked on a project to provide water supplies for irrigation in the area.

The Ord Irrigation Project provides for the development of 175,000 acres of land agriculturally and topographically suitable for irrigation. In the original scheme, the total area to be irrigated amounted to 150,000 acres. The project 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 950,000 million gallons), the progressive development of the remaining 145,000 acres, and the construction of a hydro-electric power station.

The diversion dam, situated at Bandicoot 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 pilot 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 650 acres, or about 600 acres after allowing for the area taken up by channels, drains, banks and tracks, are being released progressively. Up to the 30th June, 1966, a total of 31 farms have been allotted, five being allocated in 1962, seven in each of the succeeding three years, and a further five early in 1966. Cotton and rice were the principal crops sown in both the 1964-65 and 1965-66 seasons.

The diversion dam was recognized by the Commonwealth Government in August, 1959 as an approved project within the meaning of the Western Australia Grant (Northern Development) Act 1958-1959 (Commonwealth). This legislation provides for payment by the Commonwealth to the State Government of a non-repayable grant of \$10 million for development of the part of the State north of 20° S. latitude. Of this grant, \$8.2 million was spent on the diversion dam. In February, 1963 a further approach was made to the Commonwealth requesting an amount of \$3.3 million for the completion of channels and drains required to develop the whole of the 30,000 acres included in the first stage of the project. The request was approved in August, 1963 and moneys made available by way of grant in terms of the Western Australia (Northern Development) Agreement Act 1963. The total anticipated cost of the first stage, estimated on the basis of costs at the end of 1963, is \$16.8 million, of which \$5.4 million represents expenditure by the State Government and \$11.4 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 \$60 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 150,000 acres (\$40 million), the construction of an underground hydro-electric power station at the site of the main dam (\$12 million) and the provision of housing for farmers and their employees, as well as government workers associated with the project (\$8 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. In May, 1966 the request was the subject of discussions between the State and Commonwealth Governments at ministerial level. On the basis of revised costs, the amount sought from the Commonwealth to complete the second phase of the Ord Irrigation Project was \$70,620,000. Subsequently, the Commonwealth Government announced that additional financial assistance for the project could not be given until, in their view, such action was warranted by results on the existing farms.

Fitzroy River—On the Liveringa flood plain, sorghum and rice are being produced at Camballin, 65 miles south-east of Derby. Irrigation water from the Fitzroy River is diverted through Uralla Creek, an anabranch, for 25 miles to the irrigation area where there is a natural storage of about 326 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 Uralla Creek, 17 miles from the river. A weir has been constructed across the river to provide gravity flow to Uralla Creek during periods when the river is running.

During 1964-65, water used in the irrigation of crops amounted to 8,674 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.

Details of irrigation in the Ord and Camballin Irrigation Districts for the years 1963-64 and 1964-65 are given in the following table.

IRRIGATION : ORD AND CAMBALLIN DISTRICTS

Particulars	Irrigation District				Total	
	Ord		Camballin		1963-64	1964-65
	1963-64	1964-65	1963-64	1964-65		
Area Watered acres	(a) 2,099	(a) 6,957	2,603	3,667	(a) 4,702	(a) 10,624
Acre Waterings (b)	24,514	49,859	(c)	(c)	(d)	(d)
Average Number of Waterings (e)	11.7	7.2	(c)	(c)	(d)	(d)
Total Water Gauged at Entry to District million gal.	2,843	9,696	2,293	2,357	5,136	12,053
Dam Capacity	21,467	21,467	(f) 1,576	(f) 1,576	(f) 23,043	(f) 23,043
Length of Channels "miles"	30	41	4	4	34	45

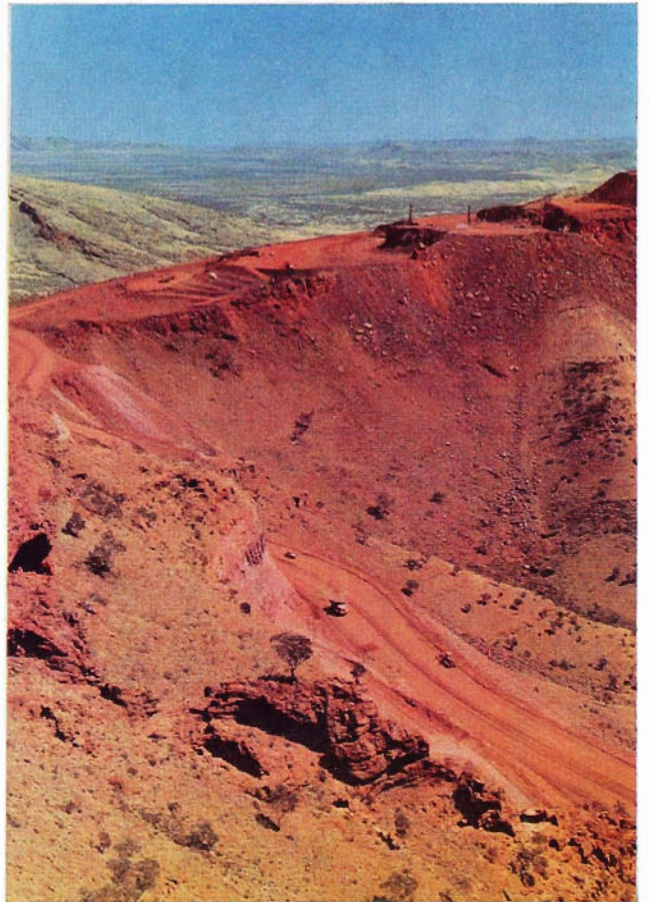
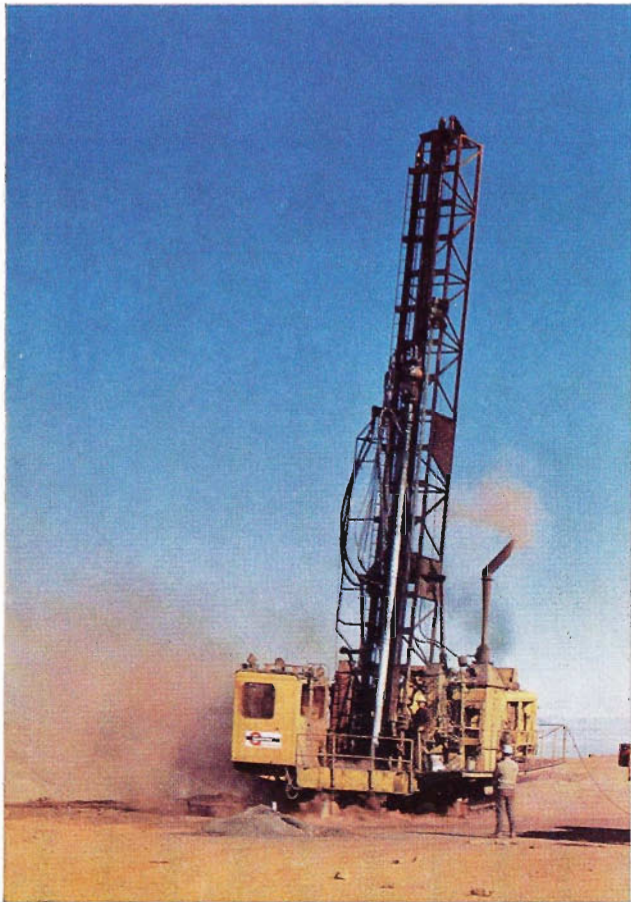
(a) Includes 50 acres of cotton regrowth in 1963-64 and 588 acres in 1964-65. (b) Area watered multiplied by number of waterings. Figures shown represent the sum of acre waterings for individual holdings in each district. (c) Not applicable as irrigation is continuous. (d) See note (c). (e) Total acre waterings divided by total area watered. (f) Includes 326 million gallons of natural storage.



IRON ORE MINING IN THE PILBARA

Near the summit of Mount Tom Price in the Hamersley Range: excavating iron ore for sample testing in preliminary operations

Photograph by courtesy of Hamersley Iron Pty. Limited

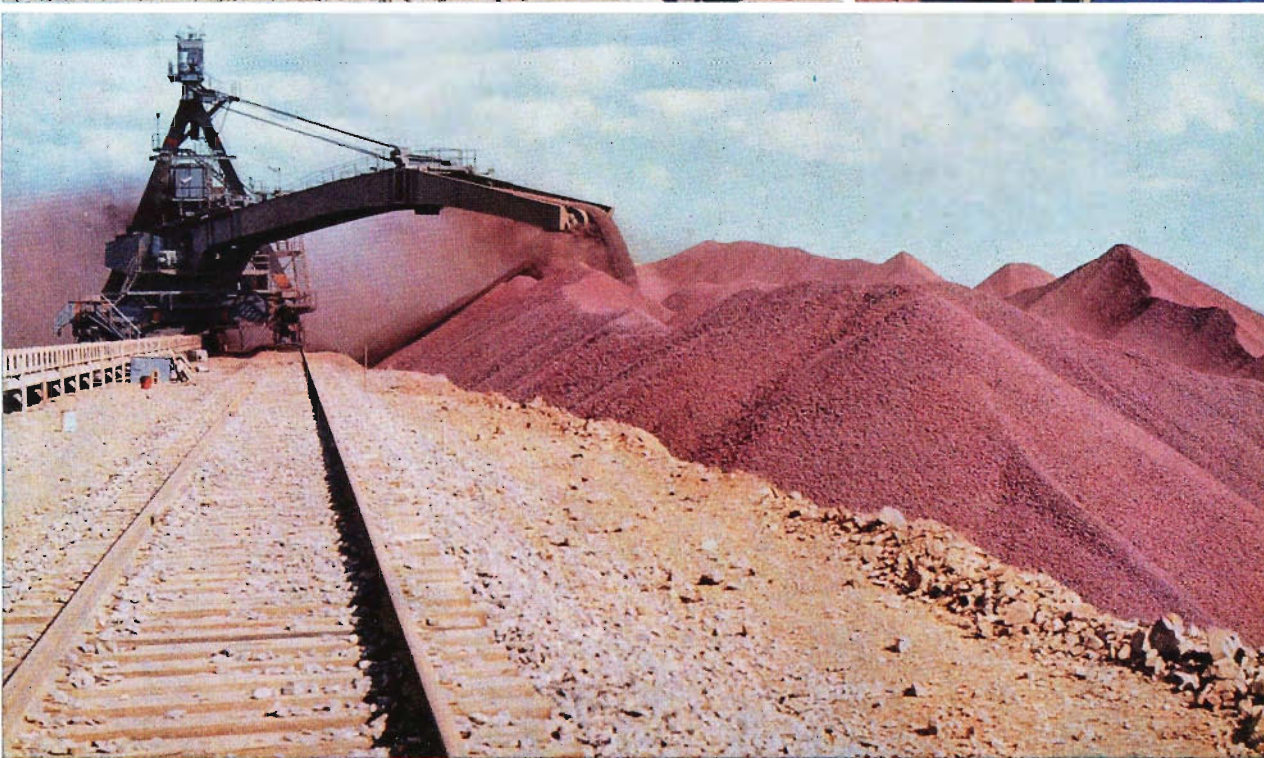


Block by courtesy of Hamersley Iron Pty. Limited

Top—Aerial view of Mount Tom Price at an early stage of development: to the left, the crushing, screening and loading plant is nearing completion

Bottom left—Drilling a blast hole

Bottom right—The open-cut mine showing the benches in the hillside and vehicles on the access road



Block by courtesy of Hamersley Iron Pty. Limited

Top left—At the port of Dampier the rotary dumper empties two rail cars simultaneously

Top right—On the 22nd August, 1966 the iron-ore carrier m.v. *Houn Maru* loaded 52,000 tons of ore, the first commercial shipment made from Dampier

Bottom—Iron ore stockpiled at Dampier awaiting shipment

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 in particular 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 1850 to 1868, but the Colony was still dependent on the importation of many items of foodstuffs when the position was aggravated by a great influx of people attracted by the discovery of gold in the Kimberley in 1885 and by the spectacular finds in the 1890's at Coolgardie and Kalgoorlie and at other places on the eastern goldfields. Between 1890 and 1905 the population increased from 48,502 to 250,138 and, despite an increase in the area under crop from 69,700 acres to 364,700 acres during these years, agricultural production remained insufficient to meet local demands.

A decline in gold mining which began after 1903 caused a growing interest in farming as an alternative pursuit and by 1911 the area under crop had increased to more than 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 more than seven and a quarter million acres of which more than five million acres are sown to wheat for grain.

Circumstances similar to those applying to agriculture stimulated the growth of the pastoral industry and large cattle and sheep stations were established on land leased from the Crown, mainly in the northern and north-western areas and in parts of the eastern goldfields. The number of cattle in the State increased from 131,000 to 825,000 and of sheep from 2,525,000 to 5,159,000 between 1890 and 1910, when nearly three-fifths of the sheep were in the pastoral areas and little more than two-fifths in the agricultural areas as defined on page 283. With the development of mixed wheat and sheep farming the total number of sheep has risen and in 1965 was 22.4 million, but less than one-fifth are now in the pastoral areas and more than four-fifths in the agricultural areas. Of the total of 1,258,427 cattle in the State in 1965 nearly half were in the Kimberley Division where cattle are raised almost exclusively for meat production.

The contribution of gold mining to the Western Australian economy has diminished greatly since the peak production of 1903. It is nevertheless of considerable importance and, in 1964, was still the major mining activity, followed in order by the mining of coal, ilmenite, iron, asbestos, manganese and tin.

Dairying, with an average annual milk production over the last five years of about 58 million gallons, has become a significant factor in primary industry and in 1964-65 the output of butter was 17,386,724 lb. and of cheese 4,051,243 lb.

The demand for jarrah and karri hardwoods has long been a feature of the State's economy. Indiscriminate cutting in earlier years and disregard of the need for preservation and regeneration threatened the survival of the timber industry. However, governmental controls over forestry operations and a policy of reforestation introduced in 1918 have proved to be effective and the industry is now established on a firm basis, timber forming an important component of primary production.

The overseas demand for crayfish, which developed in post-war years, gave great impetus to the fishing industry and the total value of the take of fish has increased from \$739,000 in 1947 to \$13,225,000 in 1964-65. Interest in whaling was evident in the first years of colonization, 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 1949 when a station at Point Cloates on the north-west coast was reopened after a lapse of more than twenty years. Since the 1963 season, activity has declined considerably following the imposition by the International Whaling Commission of a total ban on the taking of humpback whales. The only station now operating is at Albany where sperm whales are caught.

Although secondary industry is still substantially dependent on local demand, factories which rely mainly on interstate and overseas exports have been brought into production in recent years. The establishment at Kwinana of a major oil refinery, a steel-rolling mill and an alumina refinery, together with the dredging of a deep-water channel and the construction of harbour facilities to serve them, 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 1960-61 to 1964-65. An effective comparison of their relative importance is provided by the five-yearly averages quoted, as they tend to lessen the effect of unusual seasonal or other conditions occurring in individual years.

NET VALUE OF RECORDED PRODUCTION

Industry	1960-61	1961-62	1962-63	1963-64	1964-65	Average of five years
VALUE (\$'000)						
Agriculture	93,415	102,651	108,506	79,619	92,800	95,398
Pastoral	79,955	82,657	82,579	123,545	101,069	93,961
Dairying	8,796	8,738	9,014	10,520	12,601	9,934
Poultry Farming	1,053	1,209	1,787	1,345	1,589	1,397
Bee Keeping	303	495	532	849	519	540
Trapping	479	373	293	434	678	451
Forestry	10,335	10,382	10,163	10,735	11,334	10,540
Fishing and Whaling	7,244	10,256	10,703	8,926	13,973	10,220
Mining and Quarrying	30,888	31,106	32,244	30,697	32,163	31,419
Total, Primary	232,468	247,867	255,821	266,670	266,726	253,910
Manufacturing	193,262	196,083	216,422	230,511	260,637	219,383
Total, Primary and Manufacturing	425,730	443,950	472,243	497,181	527,363	473,293
PROPORTION OF TOTAL (PER CENT.)						
Agriculture	21.94	23.12	22.98	16.01	17.60	20.16
Pastoral	18.78	18.62	17.49	24.85	19.16	19.85
Dairying	2.07	1.97	1.91	2.12	2.39	2.10
Poultry Farming	0.25	0.27	0.38	0.27	0.30	0.30
Bee Keeping	0.07	0.11	0.11	0.17	0.10	0.11
Trapping	0.11	0.08	0.06	0.09	0.13	0.09
Forestry	2.43	2.34	2.15	2.18	2.15	2.24
Fishing and Whaling	1.70	2.31	2.26	1.80	2.65	2.16
Mining and Quarrying	7.25	7.01	6.83	6.17	6.10	6.64
Total, Primary	54.60	55.83	54.17	53.64	50.58	53.65
Manufacturing	45.40	44.17	45.83	46.36	49.42	46.35
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 income.

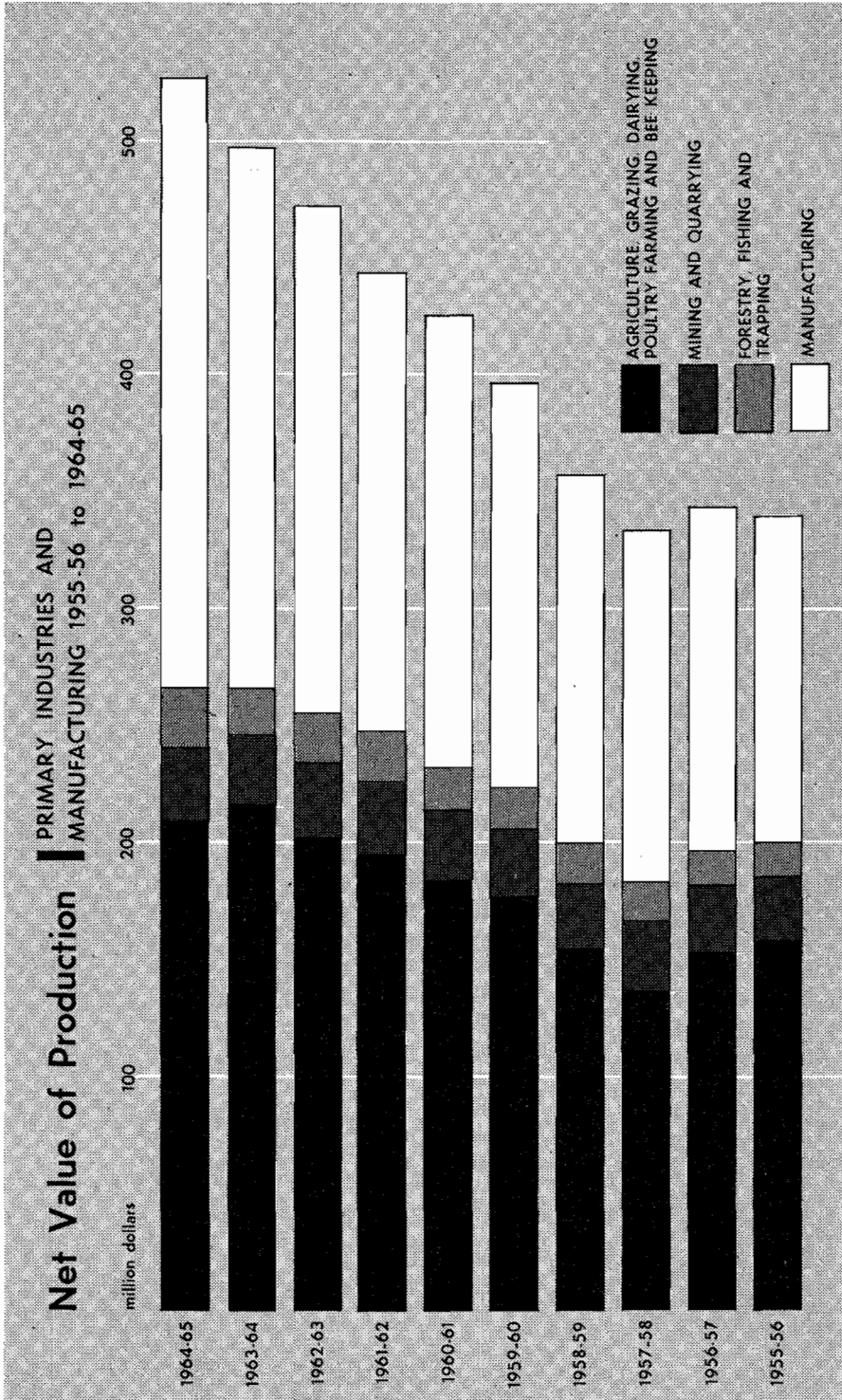
GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

The following brief survey of production in the Statistical Divisions of the State should be read in conjunction with the map appearing at the back of the Year Book. Reference should also be made to the *Note on Statistical Divisions* preceding the Index.

The Metropolitan Division (192 square miles), with an estimated population of 471,900 (30th June, 1965) or almost three-fifths of the State total, is the principal centre of manufacturing activity and its industrial establishments, which employ 42,600 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 Swan Division (1,881 square miles) is becoming increasingly important in the manufacturing field and 4,800 workers are employed in its factories, which include an oil refinery and lubricating oil plant, a cement works, a steel-rolling mill, meat works and a large bacon factory. There is also a refinery producing alumina from bauxite which is mined in the Division. Most of the State's viticultural production occurs in the area. It comprises table grapes for the local market and for export, dried currants, sultanas and raisins, and wine-making grapes for processing at local wineries and distilleries. Citrus, pome and stone fruits, eggs, poultry, vegetables and whole milk are important products of the Division.

The South-West Division (11,025 square miles) is the main dairying area of the State and produces a large proportion of the total output of whole milk and of butter, cheese and condensery products. Pig raising is carried on both separately and as an ancillary activity to dairying. The rearing of cattle for meat production is now of major importance. Apples, pears, stone fruits, potatoes and other vegetables are grown extensively. Timber is one of the main products, being milled over a wide area,



and coal and ilmenite are the principal minerals produced. Commercial fishing is centred on Mandurah, Bunbury and Busselton. The factories of the Division, which employ 4,600 workers, include sawmills, butter, cheese and milk-processing plants, a superphosphate works, a large chemical factory producing titanium oxide pigments and two major electricity generating stations.

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, 16.6 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 212,330 or 17 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. Lead has been mined near Northampton for many years and the mining of iron ore, which is being shipped to Japan from Geraldton, commenced at Koolanooka in 1966. Factories, 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 4,600 workers.

The North-West Division (75,732 square miles) has 1.25 million sheep, representing nearly six per cent. of the State total, and 21.5 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 44 per cent. of the State total, and meat works at Wyndham, Derby and Broome, 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 254-6 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 source of blue asbestos is located at Wittenoom and iron ore, which is used for the production of pig-iron at Wundowie in the Darling Range, east of Perth, has been mined since 1950 at Koolyanobbing, east of Bullfinch in the Yilgarn district. Large-scale mining of iron ore, which is being exported to Japan, commenced in the Pilbara in 1966. Further reference to these developments will be found on pages 314-5. Other minerals and ores produced elsewhere in these Divisions include beryl, felspar, gypsum, pyrites and ores of copper, manganese, silver, tin and tanto-columbite. Although mining is the main industry, these Divisions contribute also to pastoral output, the area containing more than 14 per cent. of the sheep and nearly seven per cent. of the cattle in the State. Cereals are grown in the south-western portion of the Eastern Goldfields Division, which produced over 4.5 million bushels of wheat, oats and barley in 1964-65.

PART 1—PRIMARY PRODUCTION

LAND UTILIZATION ON RURAL HOLDINGS

In 1964-65 there were 22,856 rural holdings in the State, comprising 268,553,428 acres of land or almost 43 per cent. of the total area of Western Australia.

The total area of rural holdings consisted of 29,545,477 acres of cleared land and 239,007,951 acres uncleared. Of the cleared land, 7,289,406 acres were used for crop, 10,426,891 acres were under established pastures, 1,120,042 acres were newly cleared during the season and 1,756,989 acres were in fallow. The balance of the cleared area, 8,952,149 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 more than doubled, from 14,621,424 acres in 1946-47 to 29,545,477 acres in 1964-65. In the same period land used for crops has increased from 3,532,445 acres to 7,289,406 acres and the area under established pastures from 2,092,279 to 10,426,891 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 2,070,076 to 1,756,989 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	Area
	acres	acres	acres	acres	acres	acres		acres
1955-56 ...	5,233,501	5,384,321	743,565	1,711,361	8,391,593	21,464,341	21,323	229,734,380
1956-57 ...	5,139,098	6,055,737	653,317	1,682,291	8,579,474	22,109,917	21,385	232,689,218
1957-58 ...	5,510,867	6,425,664	616,412	1,459,894	8,806,806	22,819,643	21,593	236,666,717
1958-59 ...	6,015,387	6,960,243	710,207	1,988,440	8,038,696	23,712,973	21,563	238,263,581
1959-60 ...	6,382,121	7,358,662	726,382	1,921,417	8,232,097	24,620,679	21,832	244,618,696
1960-61 ...	6,756,637	7,687,468	775,905	1,867,803	8,280,221	25,368,034	21,922	247,736,774
1961-62 ...	6,975,879	8,181,566	883,906	1,745,884	8,468,969	26,261,204	22,082	252,783,283
1962-63 ...	7,326,848	8,679,375	999,438	1,999,302	8,267,951	27,272,914	22,554	262,659,722
1963-64 ...	6,705,632	9,509,620	1,133,475	1,712,050	9,201,732	28,262,509	22,770	266,555,916
1964-65 ...	7,289,406	10,426,891	1,120,042	1,756,989	8,952,149	29,545,477	22,856	268,553,428

(a) Excluding meadow hay.

LAND UTILIZATION IN EACH STATISTICAL DIVISION: 1964-65

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	Area
	acres	acres	acres	acres	acres	acres		acres
Metropolitan ...	1,609	3,669	55	446	1,633	7,412	586	10,410
Swan ...	26,107	162,127	10,906	6,034	49,053	254,227	3,521	434,475
Southern West ...	69,770	1,234,491	41,382	9,158	138,929	1,493,730	4,428	2,492,617
Southern Agricultural ...	1,099,526	3,316,214	336,610	349,119	1,283,415	6,384,884	4,515	9,382,843
Central Agricultural ...	3,554,136	3,203,108	310,508	602,614	3,813,602	11,483,968	5,065	14,912,120
Northern Agricultural ...	2,155,295	2,061,512	315,649	577,347	3,070,336	8,180,139	3,256	15,169,476
Eastern Goldfields ...	370,495	444,596	101,935	209,667	538,278	1,664,971	910	43,712,936
Central ...	1,858	5	1,448	902	2,964	7,177	159	62,685,018
North-West ...	1,354	7	44	194	5,232	6,831	238	42,432,534
Pilbara ...	2	500	...	...	10	512	59	23,427,496
Kimberley ...	9,254	662	1,505	1,508	48,697	61,626	119	53,893,503
Total ...	7,289,406	10,426,891	1,120,042	1,756,989	8,952,149	29,545,477	22,856	268,553,428

(a) Excluding meadow hay.

CLASSIFICATION OF RURAL HOLDINGS

Some of the information from the 1959-60 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, 1959-60*. Although similar information on size classification was published in a series of bulletins for the year 1955-56, 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.

HOLDINGS CLASSIFIED ACCORDING TO TYPE OF ACTIVITY—NUMBER AND AREA USED FOR VARIOUS PURPOSES : SEASON 1959-60

Type of Activity	Number of Holdings	Total Area of Holdings	Area Used for—					Balance of Holding
			Fruit	Crops (excluding Fruit)	Fallow	Established Pasture	acres	
Sheep—Cereal Grain	7,588	25,045,762	126	6,523,244	1,626,853	3,947,296	13,948,238	
Sheep—Cereal Grain	2,703	150,699,290	1,698	270,377	94,177	1,946,968	148,826,770	
Sheep—Cereal Grain	690	1,910,795	...	376,445	146,085	57,115	1,331,150	
Beef Cattle	604	56,109,418	270	12,753	3,795	254,113	55,898,485	
Dairying	2,265	955,899	1,234	23,624	3,194	472,935	454,912	
Vineyards	318	27,294	6,579	430	359	4,472	15,454	
Fruit (Other than Vine)	943	197,344	14,341	3,645	1,562	72,140	105,716	
Vegetables—Potatoes	329	75,470	419	6,465	1,187	27,173	40,226	
Vegetables—Other and Mixed	953	40,005	981	6,995	1,331	4,383	26,315	
Poultry	532	26,390	350	904	446	19,549	4,841	
Pigs	124	232,685	22	3,002	1,338	4,623	243,700	
Tobacco	131	15,468	79	1,824	264	4,319	9,452	
Other	104	18,810	154	1,740	143	7,115	10,658	
Multi-purpose	533	778,068	2,423	86,610	20,088	227,527	441,470	
Total, Classified Holdings	17,837	236,152,696	28,576	6,316,858	1,890,717	7,034,420	220,912,125	
Unclassified Holdings—Sub-commercial	3,434	1,975,150	3,901	18,905	18,222	108,449	1,825,873	
Unused, Special, etc.	561	6,490,750	231	21,437	42,478	219,793	6,210,811	
Total, All Rural Holdings	21,832	244,613,596	32,708	6,357,200	1,921,417	7,358,662	228,948,609	

HOLDINGS WITH PIG HERDS, CLASSIFIED ACCORDING TO SIZE OF HERD AND TYPE OF ACTIVITY—SEASON 1959-60

Size of Pig Herd (numbers)	Type of Activity										Total		Unclassified Holdings		All Holdings			
	Sheep—Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairying	Vineyards	Fruit (Other than Vine)	Potatoes	Other and Mixed Vegetables	Poultry	Pigs	Tobacco	Other	Multi-purpose		Total	Sub-commercial	Special, etc.
1-4	277	78	17	7	161	1	28	25	16	2	...	...	1	30	643	81	2	726
5-9	232	40	20	5	152	1	11	15	1	2	...	...	...	28	501	35	4	540
10-14	221	40	12	5	115	...	2	8	1	4	...	...	...	10	418	28	3	449
15-19	197	25	19	6	92	...	3	4	1	4	...	...	...	19	367	17	4	388
20-29	320	49	22	3	135	...	6	4	3	8	...	...	...	28	581	19	10	610
30-39	238	22	16	2	70	...	2	1	1	10	...	...	...	21	384	8	6	393
40-49	174	22	14	...	41	...	1	...	...	16	...	...	...	16	287	...	...	287
50-69	175	11	11	...	54	...	...	1	...	18	...	...	...	18	287	...	...	295
70-99	99	10	7	...	22	...	...	...	...	1	...	...	...	31	190	...	...	159
100-199	57	5	5	...	11	...	...	...	...	1	...	...	...	34	149	...	...	149
200 and over	5	1	2	...	5	...	...	...	...	24	...	...	...	10	47	...	...	48
Total	1,995	303	145	27	858	2	53	55	24	28	124	...	1	239	3,854	183	52	4,089

HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO AREA AND TYPE OF ACTIVITY—SEASON 1959-60

Area of Wheat for Grain (acres)	Type of Activity											Unclassified Holdings		All Holdings			
	Type of Activity											Total Classified Holdings	Sub-commercial		Unused, Special, etc.		
	Sheep—Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairy-ing	Vine-yards	Fruit (Other than Vine)	Po-tatoes	Other and Mixed Vegetables	Poultry	Pigs					To-bacco	Other	Multi-purpose
1-9	31	95	1	3	2	1	1	2	2	1	1	1	2	12	152	15	167
10-19	43	83	2	1	1	1	3	1	1	4	4	4	1	10	150	18	169
20-29	59	58	2	1	1	1	1	1	1	1	1	1	1	13	133	8	142
30-39	119	71	10	1	1	1	1	1	1	1	1	1	1	18	223	20	247
50-59	145	58	13	1	1	1	1	1	1	1	1	1	1	15	235	20	255
70-99	185	41	18	1	1	1	1	1	1	1	1	1	1	15	261	2	265
100-149	495	51	67	1	1	1	1	1	1	1	1	1	1	25	642	1	643
150-199	438	13	48	1	1	1	1	1	1	1	1	1	1	9	508	3	511
200-299	1,015	11	106	1	1	1	1	1	1	1	1	1	1	23	1,157	2	1,159
300-399	1,118	2	89	1	1	1	1	1	1	1	1	1	1	18	1,228	1	1,229
400-499	975	1	82	1	1	1	1	1	1	1	1	1	1	16	1,074	1	1,074
500-699	1,356	1	113	1	1	1	1	1	1	1	1	1	1	3	1,472	1	1,472
700-999	804	1	61	1	1	1	1	1	1	1	1	1	1	4	869	1	869
1,000-1,999	478	1	41	1	1	1	1	1	1	1	1	1	1	1	520	1	521
2,000 and over	49	1	5	1	1	1	1	1	1	1	1	1	1	1	55	2	57
Total	7,310	484	658	6	3	1	4	3	3	6	19	2	183	84	8,679	17	8,780

HOLDINGS WITH SHEEP FLOCKS, CLASSIFIED ACCORDING TO SIZE OF FLOCK AND TYPE OF ACTIVITY—SEASON 1959-60

Size of Sheep Flock (numbers)	Type of Activity											Unclassified Holdings		All Holdings			
	Type of Activity											Total Classified Holdings	Sub-commercial		Unused, Special, etc.		
	Sheep—Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairy-ing	Vine-yards	Fruit (Other than Vine)	Po-tatoes	Other and Mixed Vegetables	Poultry	Pigs					To-bacco	Other	Multi-purpose
1-49	1	5	20	52	281	10	58	21	8	21	20	5	3	21	596	345	878
50-99	4	21	26	31	77	7	31	4	4	3	7	1	2	24	221	147	372
100-199	61	111	53	61	77	10	48	10	5	3	8	1	2	64	422	173	602
200-299	104	209	50	21	38	4	29	7	2	2	2	1	1	61	433	59	473
300-399	209	148	38	18	20	1	23	5	2	1	1	1	1	48	514	1	516
400-499	354	162	32	13	27	1	19	1	1	1	1	1	1	45	636	3	639
500-699	968	352	40	19	9	1	17	1	1	1	1	1	1	57	1,466	3	1,469
700-999	1,709	434	23	15	2	1	12	1	1	1	1	1	1	56	2,266	8	2,274
1,000-1,999	1,819	425	8	11	2	1	2	1	1	1	1	1	1	37	2,309	5	2,314
2,000-2,999	1,339	308	3	7	1	1	1	1	1	1	1	1	1	36	1,696	3	1,699
3,000-4,999	655	239	1	1	1	1	1	1	1	1	1	1	1	12	909	3	912
5,000-9,999	249	191	1	1	1	1	1	1	1	1	1	1	1	8	432	2	434
10,000-19,999	59	171	1	1	1	1	1	1	1	1	1	1	1	1	231	1	233
20,000-49,999	8	93	1	1	1	1	1	1	1	1	1	1	1	1	96	20	98
50,000 and over	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Total	7,595	2,680	294	252	513	32	248	50	22	31	42	6	12	471	12,188	704	12,950

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 Special, etc.				
	Sheep— Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairy- ing	Vine- yards	Fruit (Other than Vine)	Po- tatoes	Other and Mixed Vege- tables	Poultry	Pigs	To- bacco	Other		Multi- purpose	Total Class- sified Holdings	Sub- com- mercial	Unused, Special, etc.
1-4	2,337	715	79	72	6	35	180	85	47	88	29	36	9	113	3,781	566	4	4,351
5-9	905	192	24	20	11	4	38	10	15	16	7	11	3	51	1,304	195	6	1,505
10-14	186	75	4	9	28	2	16	13	5	12	1	3	1	32	375	83	3	471
15-19	55	43	...	6	42	...	8	8	3	3	...	2	...	17	187	79	4	270
20-29	28	38	...	7	189	...	34	27	4	3	...	2	...	32	367	52	7	426
30-39	10	10	...	5	272	...	23	19	4	3	...	2	...	22	370	14	8	387
40-49	1	6	...	4	353	...	7	11	2	...	...	...	...	18	402	8	2	412
50-59	4	4	...	8	286	...	9	13	1	...	...	...	...	15	340	1	3	342
60-69	...	3	...	4	251	...	5	2	7	...	...	...	...	13	284	...	3	297
70-79	...	2	...	3	190	...	7	3	...	...	...	...	...	6	210	...	3	213
80-89	...	...	...	1	132	...	1	1	...	...	...	...	...	7	144	...	1	145
90-99	...	...	...	3	89	...	3	3	...	...	...	...	...	4	101	...	1	102
100-149	1	1	...	6	258	...	1	6	...	...	...	...	...	8	280	...	1	281
150-199	...	...	...	1	77	...	...	...	...	...	...	...	...	4	82	...	...	83
200 and over	...	...	...	...	76	...	...	...	...	...	...	...	...	5	81	...	2	83
Total	3,527	1,090	110	149	2,260	42	323	163	81	115	37	54	10	347	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 Special, etc.				
	Sheep— Cereal Grain	Sheep	Cereal Grain	Beef Cattle	Dairy- ing	Vine- yards	Fruit (Other than Vine)	Po- tatoes	Other and Mixed Vege- tables	Poultry	Pigs	To- bacco	Other		Multi- purpose	Total Class- sified Holdings	Sub- com- mercial	Unused, Special, etc.
1-9	977	321	18	...	315	7	79	24	13	18	9	19	3	65	1,868	316	10	2,194
10-19	466	247	11	...	139	3	50	28	6	1	6	19	3	53	1,032	117	6	1,155
20-29	242	199	5	10	90	4	30	9	7	2	1	6	2	46	653	69	4	726
30-49	234	270	5	99	94	2	32	23	4	1	1	6	2	66	839	39	5	883
50-69	114	132	1	77	46	...	18	13	1	...	...	2	...	36	440	3	5	448
70-99	52	99	...	111	28	...	13	6	1	...	...	1	...	36	349	4	6	359
100-149	32	76	2	70	19	2	6	3	...	...	...	2	...	34	246	2	2	249
150-199	12	20	...	44	9	...	1	1	...	...	...	...	...	7	95	3	2	100
200-299	11	11	1	22	53	...	3	3	...	...	...	...	...	8	106	1	...	107
300-499	1	18	...	53	4	...	...	...	...	...	...	...	...	8	83	...	1	84
500-999	1	9	...	22	3	...	...	...	...	...	...	...	...	8	36	...	2	38
1,000-1,999	...	...	...	9	...	...	...	...	...	...	...	...	...	...	18	...	...	21
2,000-4,999	...	...	...	17	...	...	...	...	...	...	...	...	...	...	18	...	...	18
5,000-9,999	...	...	...	21	...	...	...	...	...	...	...	...	...	...	21	...	...	21
10,000 and over	...	...	...	18	...	...	...	...	...	...	...	...	...	...	18	...	...	18
Total	2,142	1,424	44	604	747	18	232	112	32	22	17	53	14	361	5,822	554	45	6,421

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 22,191 in 1956 to 32,028 in 1965. 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 29,460 in 1956 to 30,303 in 1965. Permanent male workers in 1965 consisted of 20,569 owners, lessees, tenants and share-farmers, 1,232 farmers' relatives who were not receiving wages and 8,502 paid employees. The number of males who were temporarily employed, including contractors and their employees, was 2,797. Full information is not available regarding casual or seasonal 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, 1965 totalled 92,270 or 11.5 per cent. of the State population.

MALE EMPLOYMENT, POPULATION AND TRACTORS ON RURAL HOLDINGS

As at 31st March--	Males Working Permanently Full-time on Holdings				Temporary Employees 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	
1956	20,053	1,546	7,861	29,460	5,321	47,317	37,210	84,527	22,191
1957	20,084	1,512	8,702	30,298	4,467	47,545	37,881	85,426	22,908
1958	20,087	1,530	8,936	30,553	5,037	47,874	38,496	86,370	23,963
1959	19,974	1,530	8,852	30,356	4,424	47,228	38,364	85,592	24,985
1960	20,231	1,433	8,916	30,580	4,713	47,878	39,025	86,903	25,612
1961	20,474	1,468	8,991	30,933	3,848	48,600	39,595	88,195	27,164
1962	20,555	1,367	9,305	31,227	2,956	48,868	39,888	88,756	28,006
1963	20,537	1,285	8,758	30,580	3,387	49,256	40,375	89,631	29,218
1964	20,548	1,317	8,607	30,472	3,568	50,093	41,295	91,388	30,879
1965	20,569	1,232	8,502	30,303	2,797	50,353	41,917	92,270	32,028

VALUE OF PRODUCTION

For primary production the *gross value* is based on the wholesale price realized "at the principal market." Where primary products are consumed at the place of production or where they become raw material for secondary industry within the State, these points of consumption are taken as the "principal market." *Net Value* represents the return to the producer after the cost of all goods consumed in the process of production and the costs of marketing the product have been deducted from the gross value. It is consequently the sum available for payment of wages, interest, rent, depreciation, other overhead costs and for the producer's own income.

The following table shows the net values of production of the various primary industries in 1964-65. The "*local value*" which is quoted is the value at the source of production and is obtained by deducting marketing costs from the gross value. Marketing costs comprise freight, cost of containers, commission, and other charges incurred in marketing.

PRIMARY INDUSTRIES—VALUE OF PRODUCTION: 1964-65

Industry	GROSS VALUE (based on Principal Market Prices)	Marketing Costs	LOCAL VALUE (as at source of Production)	Cost of Goods Consumed in Process of Production	NET VALUE
Agriculture	\$ 139,426,416	\$ 18,126,528	\$ 121,299,888	\$ 28,499,680	\$ 92,800,208
Pastoral	125,836,866	8,959,850	116,877,016	15,808,042	101,068,974
Dairying	22,581,110	1,104,042	21,477,068	8,875,724	12,601,344
Poultry Farming	7,741,142	1,100,286	6,640,856	5,051,812	1,589,044
Bee Keeping	561,760	43,032	518,728	(a)	518,728
Trapping	774,980	96,668	678,312	(a)	678,312
Forestry	12,092,862	758,630	11,334,232	(a)	11,334,232
Fishing and Whaling	15,217,968	51,130	15,166,838	1,194,000	13,972,838
Mining and Quarrying	49,305,670	3,940,122	45,365,548	13,203,114	32,162,434
Total, Primary	373,538,774	34,180,288	339,358,486	72,632,372	266,726,114

(a) Not available.

Gross values of the principal items are shown in the next table for each of the years 1960-61 to 1964-65.

PRIMARY PRODUCTION—GROSS VALUES OF PRINCIPAL ITEMS
(\$'000)

Industry and Commodity	1960-61	1961-62	1962-63	1963-64	1964-65
Agriculture—					
Wheat	92,290	100,023	107,023	74,389	88,557
Oats	13,750	15,050	13,951	13,093	9,888
Barley	6,929	6,830	6,075	4,375	3,940
Hay	7,214	7,513	9,294	8,707	9,287
Pasture Seed (a)	549	952	* 1,458	* 3,108	2,653
Tobacco	334	51	7	.....	.....
Vegetables	8,525	9,095	8,461	8,986	11,059
Fruit, Orchard (b)	8,115	6,985	9,583	7,984	10,323
Vine Fruits	1,232	1,230	938	1,343	1,395
Nursery Products (c)	771	758	791	777	805
Pastoral—					
Wool (Shorn and Dead) (d)	72,803	78,508	78,866	115,422	92,668
Livestock Slaughtered (e)	28,247	26,801	28,414	33,279	32,978
Dairying—					
Whole Milk (f)	14,243	14,143	13,967	14,333	15,819
Livestock Slaughtered (g)	5,704	5,746	6,069	5,959	6,782
Poultry Farming—					
Eggs (h)	3,129	3,402	3,522	3,719	3,884
Poultry	1,404	1,420	2,164	2,661	3,139
Bee Keeping (i)	331	537	564	895	562
Trapping	579	511	376	632	775
Forestry	11,082	11,104	10,877	11,462	12,093
Fishing—					
Crayfish	6,006	8,186	7,906	6,889	11,192
Other Fish (j)	1,313	1,409	1,449	1,902	2,033
Pearls and Pearl-shell (k)	554	320	320	226	183
Mining and Quarrying—					
Gold (l)	28,584	28,547	28,136	26,458	23,466
Asbestos	2,841	3,070	3,386	2,406	2,212
Coal	4,878	3,361	3,962	3,970	4,679
Copper (m)	* 404	* 651	* 415	* 616	558
Ilmenite Concentrates	917	1,471	1,587	1,854	2,812
Iron Ore	1,945	2,768	2,869	2,691	2,771
Manganese Ore	1,480	2,141	1,790	864	1,416
Pyritic Ore and Concentrates	733	855	848	974	1,109
Quarry Products	3,627	3,848	4,582	5,183	6,535
Tin Concentrate	338	471	669	816	1,241

(a) Comprises clover, lupins, wimmera ryegrass and other pasture seeds. (b) Includes plantation and berry fruits.
(c) Value of seedlings, cut flowers, bulbs, trees, etc. produced. (d) The value of fellmongered wool and wool exported on skins is included in the value of livestock slaughtered which has been computed from prices of livestock "on hoof" and therefore includes a value for wool on skins. (e) Comprises cattle, sheep and lambs. (f) Includes Commonwealth Government subsidy. (g) Comprises calves and pigs. (h) Excludes value of non-commercial production. (i) Excludes value of production of bee keepers with less than five hives. (j) Includes crabs, prawns, oysters, etc. (k) Excludes culture pearls. (l) Includes net subsidy payments by the Commonwealth Government and amounts distributed by the Gold Producers' Association Ltd. from premiums on sales of Western Australian gold. (m) Copper content of ores and concentrates. Excludes cupreous ore for fertilizer. * 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 item 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 (or trees and vines planted) and exceptional seasonal conditions.

SEASONAL CALENDAR

Item	Period	
	Sowing or Planting	Harvesting
Pastures—		
Clovers	April to June	December to April
Medics	April to June	December to April
Grain—		
Wheat	May to June	November to January
Oats	April to June	November to December
Barley	April to June	November to December
Rice:		
Wet Season Crop	November to December	May to June
Dry Season Crop	May	October
Rye	April to June	November to December
Hay—		
Wheaten	May to June	October to November
Oaten	May to August	October to November
Cotton	November to February	May to September
Flax—		
For Fibre	May to June	November to December
For Linseed	May to June	December to January
Vegetables—		
Beans, Runner:		
Carnarvon Area	March to September	May to November
Metropolitan Area	August to March	November to June
Green Peas:		
For Processing	May to September	October to December
Fresh	May to October	August to December
Potatoes:		
Winter Planting:		
Metropolitan, Swan and South-West	June to September	October to January
Summer Planting:		
Southern Agricultural	October to December	February to April
South-West	December to February	April to May
Onions	June to August	December to March
Tomatoes:		
Geraldton Area	February to April	May to November
Other Areas	June to December	October to May
Fruit—		
Apples	June to August	February to May
Apricots	July	December to January
Bananas	September	September to May
Lemons	July to August	July to June
Mandarins	July to August	May to September
Nectarines	July	January to February
Olives	July to August	March to April
Oranges, Navel	July to August	May to September
Oranges, Valencia	July to August	August to February
Peaches	July	December to February
Pears	June to July	January to March
Plums	June to July	December to March
Grapes—		
For Table Use	June to September	January to April
For Wine Making	June to September	February to April
For Drying	June to September	February to March
Shearing and Lambing—		
Shearing:		
Pastoral Areas	March to August	
Agricultural Areas	February to November	
Lambing:		
Pastoral Areas	April to July	
Agricultural Areas	April to September	

BUSHEL WEIGHTS

The production of cereals, fruit and certain other commodities is generally recorded in bushels. While the weight of a bushel varies according to the nature of the product, it is also subject to considerable variation on account of such factors as method of packing and size and variety within each kind of product. The average bushel equivalent weights set out below may be used to convert production to pounds weight avoirdupois.

Product	Weight per bushel	Product	Weight per bushel	Product	Weight per bushel
	lb.		lb.		lb.
Apples	42	Lemons	48	Peaches	45
Apricots	48	Loquats	45	Pears	45
Bananas	56	Maize	56	Peas, Field	60
Barley	50	Mandarins	48	Plums	58
Cherries	48	Nectarines	50	Quinces	42
Clover Seed	60	Oats	40	Rice	42
Figs	44	Olives	56	Rye	60
Flax Seed (pure seed)	56	Oranges	48	Tomatoes	44
Grapefruit	42	Passion Fruit	34	Wheat	60

SUMMARY OF AUSTRALIAN STATISTICS

The following table contains a selection of the principal statistics of primary production in each of the Australian States for 1964-65.

PRINCIPAL STATISTICS OF PRIMARY PRODUCTION—AUSTRALIA: 1964-65

Particulars	Unit	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Australia (a)
Rural Holdings—								
Number .....	.....	77,098	69,737	43,565	28,754	22,856	10,979	253,503
Area	'000 acres	172,148	37,844	377,010	156,955	268,553	6,420	1,190,770
Principal Crops—								
Wheat for grain—								
Area	'000 acres	5,760	3,236	1,026	2,727	5,151	17	17,919
Production	'000 bush.	151,483	78,166	22,830	52,817	63,071	364	368,789
Oats for grain—								
Area	'000 acres	850	966	55	444	1,152	28	3,497
Production	'000 bush.	22,885	22,446	1,171	8,977	14,011	521	70,043
Barley for grain—								
Area	'000 acres	239	187	225	1,095	303	15	2,064
Production	'000 bush.	6,707	4,355	7,111	26,932	3,701	529	49,315
Hay—All types—								
Area	'000 acres	600	1,306	82	314	305	180	2,793
Production	'000 tons	1,040	2,506	167	487	390	364	4,963
Pasture Seed	'000 acres	52	56	13	52	76	9	258
Cotton (b)—								
Area	'000 acres	19	(c)	14	.....	5	.....	(d) 38
Production	'000 lb.	45,951	(c)	6,268	.....	10,790	.....	(d) 63,009
Onions—								
Area	acre	803	3,825	3,422	1,146	428	83	(e) 9,707
Production	ton	6,378	22,963	22,853	11,061	5,981	465	(e) 69,701
Potatoes—								
Area	acre	20,530	32,931	14,005	5,247	5,797	9,393	(e) 87,919
Production	ton	75,659	183,665	82,389	48,400	60,739	57,062	(e) 508,019
Other Vegetables—								
Area	acre	41,094	45,861	42,180	9,204	7,872	21,482	167,952
Apples—								
Area	acre	19,031	22,678	13,255	6,038	15,742	18,075	94,870
Production	'000 bush.	2,988	4,394	1,324	1,625	2,355	6,207	18,897
Oranges—								
Area	acre	28,501	6,702	3,815	16,689	4,734	.....	60,497
Production	'000 bush.	5,213	1,244	709	3,188	480	.....	10,836
Other Fruit—								
Area	acre	49,689	40,129	28,848	20,285	5,949	4,300	155,279
Vineyards—								
Area	acre	20,464	47,996	3,299	58,857	8,310	.....	138,926
Grapes for Table	ton	8,251	9,495	3,825	1,167	2,256	.....	24,994
Wine Made	'000 gal.	6,403	3,458	24	28,112	613	.....	38,610
Currants	ton	632	4,477	.....	5,044	2,364	.....	12,517
Sultanas and Raisins	ton	12,841	66,153	.....	16,325	75	.....	95,394
Livestock Numbers, 31st March, 1965—								
Sheep and Lambs	'000	72,396	30,437	24,016	17,289	22,392	3,793	170,622
Cattle	'000	4,619	3,316	7,393	697	1,258	451	18,816
Pigs	'000	449	378	406	196	137	92	(e) 1,660
Livestock Slaughtered for Human Consumption—								
Sheep	'000	6,086.2	7,110.6	2,496.8	1,580.6	1,268.9	424.8	19,030.5
Lambs	'000	5,652.4	5,432.0	436.7	1,519.4	786.7	562.1	14,441.1
Cattle	'000	1,525.7	1,233.8	1,506.3	185.1	298.5	123.5	4,827.4
Calves	'000	631.7	645.4	453.3	90.3	28.1	50.6	1,901.0
Pigs	'000	674.0	599.2	623.1	240.8	182.1	134.5	2,460.9
Wool Production	'000 lb.	706,061	361,530	251,426	215,736	207,035	39,671	1,784,023
Whole Milk Production—								
All Purposes	'000 gal.	291,931	745,896	230,289	102,330	61,883	87,343	1,520,864
Fisheries Production—								
Fish—landed weight	'000 lb.	33,659	13,530	8,156	18,415	8,232	2,892	85,174
Crustaceans	'000 lb.	5,081	1,299	6,405	4,928	18,235	3,336	39,293
Gold: Mine Production (f)	fine oz.	9,825	18,110	75,220	3	656,357	32,787	876,978
Gross Value of Production—								
Agriculture	\$'000	395,283	295,013	270,639	178,132	139,426	40,875	1,319,984
Pastoral	\$'000	535,114	373,501	270,939	135,916	125,837	33,233	1,483,049
Dairying	\$'000	153,155	104,988	71,194	37,533	22,581	25,234	505,256
Poultry Farming	\$'000	55,384	46,348	14,529	8,328	7,741	4,210	137,425
Bee Keeping	\$'000	1,985	1,428	404	598	562	131	5,119
Trapping	\$'000	4,965	5,830	1,509	1,001	775	439	14,601
Forestry	\$'000	32,539	33,629	17,777	8,846	12,093	15,326	120,800
Fishing and Whaling	\$'000	9,830	3,731	5,737	5,120	15,218	2,686	42,393
Mining and Quarrying (g)	\$'000	232,708	44,892	97,286	38,936	45,366	25,048	492,208

(a) Includes Northern Territory and Australian Capital Territory except where indicated; see note (e). (b) Sown 1963-64. (c) Not available for publication. (d) Incomplete; see note (c). (e) Incomplete. Excludes Northern Territory and/or Australian Capital Territory. (f) Year, 1965. (g) Local Value. For definition, see letterpress preceding table on page 265.

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 33,820 acres, about one-third was located in the Toodyay-Northam area of the Avon Valley, about one-quarter in the Geraldton-Greenough district and a similar area in the York-Beverley 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 to the Great Southern and Eastern Railways and the completion of the line from Midland Junction to Walkaway, and by 1910 wheat farming was being carried out in wide-spread 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 13 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 agricultural land. This contributed to a spectacular growth in wheat farming and 1,734,117 acres were sown to wheat for grain in 1915 compared with 195,071 acres ten years earlier. The first World War caused a serious reduction in acreage but recovery was fairly rapid from 1920, 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 soldiers' 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 3,955,763 acres was sown for grain and produced a previously unsurpassed total harvest of 53,504,149 bushels, which was not exceeded until 1958. 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 36,843,600 bushels. The sowing of wheat for grain was reduced during the second World War to one-half of the pre-war level, only 1,515,800 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 2,764,486 acres in 1956. Significant increases occurred in each of the following three years and in 1959 the area sown was 3,718,596 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 18.4 bushels was obtained from 2,889,585 acres, the total production being 53,250,000 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 1958 to 1962, increases occurred in both area sown and total production, and the average yield per acre varied from 17.5 bushels in 1958 to 15.0 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 and 1964. In 1963, only 52.3 million bushels, the lowest since 1957, were harvested from 4,640,434 acres. The average yield, 11.3 bushels per acre, was also the lowest since 1957. In 1964, 63.1 million bushels were harvested from 5,151,267 acres, the average yield increasing slightly to 12.2 bushels per acre.

Most of Western Australia's wheat production is exported as grain and flour and in the following table the fluctuations which have occurred in exports since 1910 are shown, together with figures giving the estimated total wheat equivalent. The United Kingdom has been the most consistent purchaser of the State's wheat, but since 1961-62 China (Mainland) and Japan have been the most important customers and in 1964-65 they took 14.2 million and 13.8 million bushels respectively, their purchases together accounting for almost 70 per cent. of the State's total wheat exports. In that year other principal buyers, in order of importance, were India, the Union of Soviet Socialist Republics, the United Kingdom, Malaysia and Hong Kong. In the same year principal customers for flour were the Arabian States, Ceylon, the Union of Soviet Socialist Republics, and Malaysia. Further details of exports appear in Chapter IX, Part 1.

The rapid increase in the production and export of wheat between 1910 and 1920 caused problems of transport and storage, and proposals for the bulk handling of the grain led to the formation of a company for this purpose in 1920. This original undertaking was wound up before commencing operations because the technical difficulties then appeared too great and the saving in handling costs problematical. In 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
1910	bushels 2,014,552	tons (b) 3,082	bushels 2,159,406
1919-20	9,151,125	129,491	15,237,202
1929-30	24,953,238	69,274	28,209,116
1939-40	15,330,423	91,843	19,647,044
1949-50	21,510,390	116,199	26,971,743
1955-56	22,773,235	130,519	28,907,628
1956-57	46,796,467	127,712	52,798,931
1957-58	26,643,941	111,946	31,905,403
1958-59	23,503,275	104,754	28,426,713
1959-60	36,713,316	87,789	40,839,399
1960-61	52,480,005	135,375	58,842,630
1961-62	73,882,791	97,951	78,486,488
1962-63	50,720,419	74,397	54,217,078
1963-64	55,021,794	69,036	58,266,486
1964-65	40,507,154	92,362	44,848,168

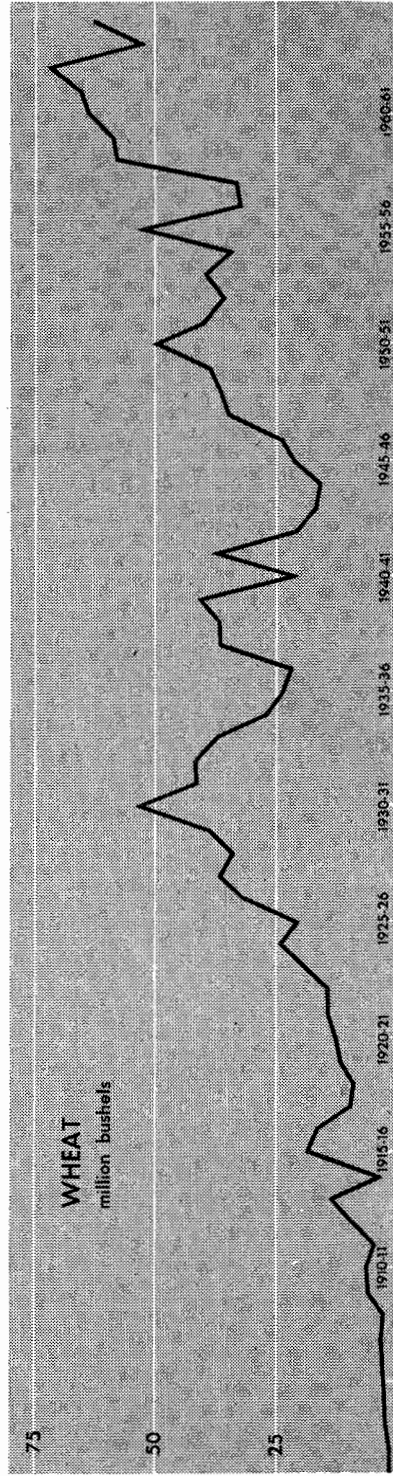
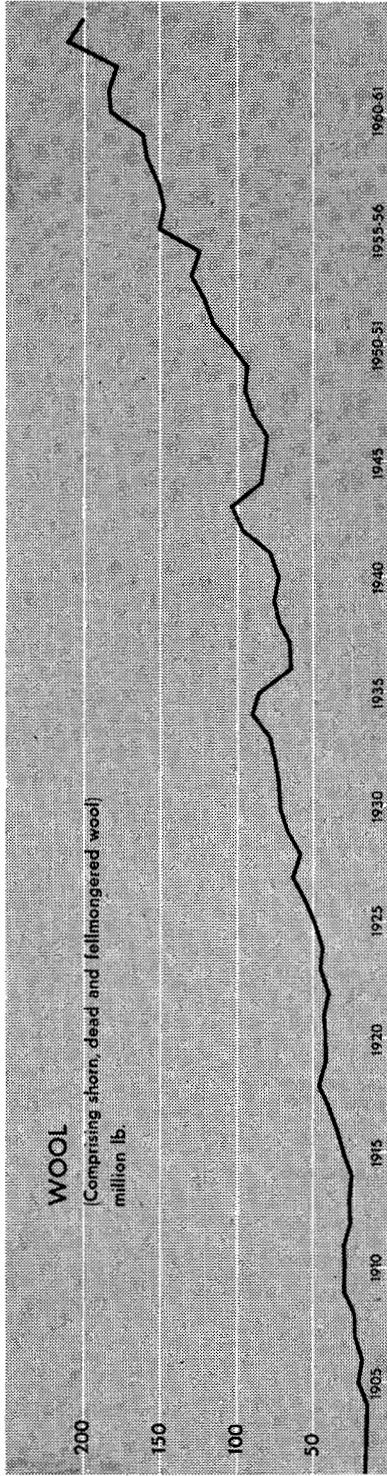
(a) Ships' stores are excluded from figures for 1959-60 and subsequent years.

(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 Stabilization Plan 1963-64 to 1967-68, established under joint Commonwealth and State legislation to replace 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 which a price in excess of the cost of production is received. Should the price obtained 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 stabilizing 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.

Under the provisions of the Wheat Tax Act 1957-1966 (Commonwealth), a levy of $\frac{3}{10}$ d. ($\frac{3}{4}$ c) per bushel is made on wheat delivered to the Australian Wheat Board. This money, contributed by the growers, is spent by the Wheat Industry Research Council and State Wheat Research Committees set up under the provisions of the Wheat Research Act 1957. The Commonwealth Government has undertaken to supply additional funds, with a maximum of \$1 for every \$1 of growers' contributions and, in addition, the amount available for research work has been increased by \$568,000 made available, under the provisions of the Wheat Acquisition (Undistributed Moneys) Act 1958, from funds held by the Australian Wheat Board.

Wool and Wheat - Annual Production, 1901 to 1964-65



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
1900-01	acres 74,308	bushels 774,653	bushels 10·4	\$ 309,862
1905-06	195,071	2,308,305	11·8	851,188
1910-11	581,862	5,897,540	10·1	2,162,432
1915-16	1,734,117	18,236,355	10·5	6,534,694
1920-21	1,275,675	12,248,080	9·6	11,023,272
1925-26	2,112,032	20,471,177	9·7	12,837,134
1930-31	3,955,763	53,504,149	13·5	12,201,176
1935-36	2,540,696	23,315,417	9·2	9,747,282
1940-41	2,625,401	21,060,000	8·0	8,647,906
1945-46	1,835,780	20,929,000	11·4	15,870,742
1950-51	3,185,389	49,900,000	15·7	65,328,246
1955-56	2,889,585	53,250,000	18·4	68,839,722
1956-57	2,764,486	32,100,000	11·6	44,054,624
1957-58	2,957,206	33,100,000	11·2	45,912,434
1958-59	3,291,858	57,650,000	17·5	77,639,226
1959-60	3,718,596	58,670,000	15·8	82,361,386
1960-61	4,021,225	63,900,000	15·9	92,290,238
1961-62	4,379,751	65,700,000	15·0	100,023,062
1962-63	4,803,797	72,500,000	15·1	107,023,498
1963-64	4,640,434	52,340,000	11·3	74,388,786
1964-65	5,151,267	63,071,000	12·2	88,556,922

The principal varieties of wheat sown in each of the seasons 1960-61 to 1964-65 are shown in the following table.

AREAS SOWN TO INDIVIDUAL VARIETIES OF WHEAT

Variety	1960-61		1961-62		1962-63		1963-64		1964-65	
	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
Bencubbin	270,376	6·6	251,834	5·7	249,835	5·2	249,557	5·3	200,305	3·8
Bencubbin 48	90,033	2·2	73,694	1·7	71,106	1·5	61,922	1·3	49,199	0·9
Bungulla	470,299	11·5	467,108	10·5	465,493	9·6	387,339	8·3	403,361	7·8
Eureka II	93,886	2·3	95,410	2·1	117,914	2·4	70,974	1·5	38,834	0·7
Gabo	1,538,743	37·7	1,654,838	37·3	1,889,257	38·9	1,804,027	38·5	1,557,750	30·0
Gamenya	.....	.....	60	.....	1,826	.....	35,472	0·8	433,601	8·3
Glucub	35,301	0·9	33,274	0·7	34,850	0·7	29,865	0·6	27,620	0·5
Heron	92	.....	2,465	0·1	9,712	0·2	21,097	0·4	54,739	1·0
Insignia	622,610	15·3	717,770	16·2	779,297	16·0	752,883	16·1	892,403	17·2
Insignia 49	328,550	8·1	497,206	11·2	545,008	11·2	579,766	12·4	653,356	12·6
Koda	385	.....	2,322	0·1	12,686	0·3	22,830	0·5	35,948	0·7
Kondut	165,438	4·1	144,835	3·3	129,524	2·7	105,567	2·3	75,579	1·5
Mengavi	.....	.....	479	.....	12,009	0·2	82,844	1·8	372,584	7·2
Olympic	16,991	0·4	25,563	0·6	31,798	0·7	36,172	0·8	40,882	0·8
Wongoody	273,907	6·7	305,981	6·9	345,212	7·1	286,570	6·1	219,536	4·2
Other Varieties	170,693	4·2	160,705	3·6	163,605	3·3	152,313	3·3	144,370	2·8
Total	4,077,304	100·0	4,433,544	100·0	4,859,132	100·0	4,679,198	100·0	5,200,067	100·0

In the following tables, holdings growing wheat for grain in 1959-60, in size groups of the acreage sown, 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 200 and 1,000 acres represented 66 per cent. Of the holdings growing wheat for grain all but 502 carried sheep and 70 per cent. had flocks of between 500 and 2,000 sheep.



HARVESTING A WHEAT CROP

During the 1965-66 season in Western Australia more than 102 million bushels of wheat, almost two-fifths of the entire Australian production, was harvested from 6.15 million acres for an average yield of 16.6 bushels per acre

HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO ACREAGE SOWN AND SIZE OF HOLDING—SEASON 1959-60

Size of Holding (acres)	Area of Wheat for Grain (acres)											Total All Rural Holdings					
	Under 10	10-19	20-29	30-49	50-69	70-99	100-149	150-199	200-299	300-399	400-499		500-699	700-999	1,000-1,999	2,000 and over	Total
	1-49	12	4	2	1	1	1	1	1	1	1		1	1	1	1	1	19
50-99	2	5	1	2	3	3	4	1	2	3	3	3	3	3	3	9	
100-149	1	6	4	1	2	3	4	1	2	3	3	3	3	3	3	16	
150-199	3	7	5	5	5	5	5	5	5	5	5	5	5	5	5	33	
200-299	1	7	5	4	4	4	4	4	4	4	4	4	4	4	4	35	
300-399	6	2	4	4	4	4	4	4	4	4	4	4	4	4	4	42	
400-499	3	5	5	8	8	8	8	8	8	8	8	8	8	8	8	55	
500-599	5	1	4	6	6	6	6	6	6	6	6	6	6	6	6	41	
600-699	4	7	5	7	9	9	9	9	9	9	9	9	9	9	9	56	
700-799	5	4	4	5	7	7	7	7	7	7	7	7	7	7	7	41	
800-899	6	8	4	8	11	11	11	11	11	11	11	11	11	11	11	83	
900-999	9	4	4	8	13	13	13	13	13	13	13	13	13	13	13	367	
1,000-1,399	28	31	29	48	45	45	45	45	45	45	45	45	45	45	45	218	
1,400-1,999	33	37	29	48	53	53	53	53	53	53	53	53	53	53	53	215	
2,000-2,999	28	31	26	52	46	46	46	46	46	46	46	46	46	46	46	218	
3,000-3,999	10	8	11	11	17	19	19	19	19	19	19	19	19	19	19	127	
4,000-4,999	3	4	5	8	11	11	11	11	11	11	11	11	11	11	11	94	
5,000-9,999	3	3	4	4	14	14	14	14	14	14	14	14	14	14	14	127	
10,000 and over	1	1	2	8	8	8	8	8	8	8	8	8	8	8	8	225	
Total	167	169	142	247	255	265	643	511	1,159	1,229	1,074	1,472	869	521	57	8,780	

HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO ACREAGE SOWN AND SIZE OF SHEEP FLOCK—SEASON 1959-60

Size of Sheep Flock (number)	Area of Wheat for Grain (acres)											Total All Rural Holdings					
	Under 10	10-19	20-29	30-49	50-69	70-99	100-149	150-199	200-299	300-399	400-499		500-699	700-999	1,000-1,999	2,000 and over	Total
	Nil	16	18	8	30	32	22	67	45	83	61		42	55	14	8	1	502
1-49	9	4	1	6	3	2	5	1	5	3	1	2	1	1	1	43	
50-99	1	7	3	1	2	2	3	3	4	5	3	1	1	1	1	39	
100-199	4	7	7	8	12	7	19	10	19	11	10	8	3	3	3	124	
200-299	10	3	7	7	9	10	22	14	32	22	20	12	3	3	3	171	
300-399	5	6	4	9	7	8	28	23	57	43	27	21	8	8	8	246	
400-499	2	7	8	10	16	8	34	33	93	87	47	44	11	2	2	403	
500-699	16	17	18	28	18	33	81	73	192	223	150	150	35	9	9	1,043	
700-999	32	27	20	38	43	53	105	106	258	290	299	381	153	32	32	1,469	
1,000-1,399	31	28	25	31	41	42	109	106	192	261	263	422	270	74	74	1,795	
1,400-1,999	17	30	22	46	36	42	89	65	128	142	153	254	244	152	152	2,314	
2,000-2,999	18	9	12	23	25	29	51	39	61	61	39	54	105	9	9	1,699	
3,000-4,999	3	5	5	8	11	11	27	13	26	19	17	35	34	18	18	912	
5,000-9,999	3	5	2	8	11	11	3	4	9	1	3	6	10	13	13	296	
10,000-19,999	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	454	
20,000-49,999	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	
50,000 and over	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	96	
Total	167	169	142	247	255	265	643	511	1,159	1,229	1,074	1,472	869	621	57	8,780	

WHEAT FOR GRAIN—AREA AND PRODUCTION: AUSTRALIAN STATES

Season	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australian Capital Territory	Australia
AREA SOWN TO WHEAT FOR GRAIN ('000 ACRES)								
1960-61	4,076	2,672	693	1,969	4,021	7	1	13,439
1961-62	4,498	2,849	750	2,229	4,380	16	1	14,723
1962-63	5,008	3,125	919	2,595	4,804	15	3	16,469
1963-64	4,964	3,109	938	2,802	4,640	18	3	16,474
1964-65	5,760	3,236	1,026	2,727	5,151	17	2	17,919
PRODUCTION OF WHEAT ('000 BUSHEL)								
1960-61	84,657	67,587	10,999	46,395	63,900	148	30	273,716
1961-62	78,350	56,879	12,018	33,854	65,700	345	32	247,178
1962-63	109,002	67,899	18,683	38,339	72,500	419	70	306,912
1963-64	122,472	76,302	22,275	53,971	52,340	483	69	327,912
1964-65	151,483	78,166	22,830	52,817	63,071	364	58	368,789
YIELD PER ACRE (BUSHEL)								
1960-61	20.8	25.3	15.9	23.6	15.9	21.4	28.5	20.4
1961-62	17.4	20.0	16.0	15.2	15.0	22.2	22.7	16.8
1962-63	21.8	21.7	20.3	14.8	15.1	27.3	29.3	18.6
1963-64	24.7	24.5	23.8	19.3	11.3	27.5	24.6	19.9
1964-65	26.3	24.2	22.3	19.4	12.2	21.7	27.6	20.6

Oats

Although oats have been grown in Western Australia since the early development of wheat farming, cultivation was somewhat limited until stimulated by the introduction of large-scale sheep raising in the agricultural areas, when their high nutritional worth as stock feed made them a very valuable crop. The area sown to oats for grain increased from 193,486 acres in 1920 to 274,874 in 1930, to 429,177 in 1940, to 585,701 in 1950 and 1,329,804 in 1960. It then declined steadily until 1963 when the area sown was 1,124,890 acres, but a slight increase occurred in 1964 when the area sown was 1,151,969 acres.

In addition to their importance as local stock feed, oats are exported in substantial quantities. In 1964-65 the total sold overseas was 7,111,720 bushels, the principal buyers being the Federal Republic of Germany, China (Mainland), Italy, 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 Grain 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	\$
1960-61	1,329,804	21,809,848	16.4	13,749,744
1961-62	1,230,651	20,186,436	16.4	15,049,808
1962-63	1,177,491	18,571,578	15.8	13,951,416
1963-64	1,124,890	17,849,740	15.9	13,092,980
1964-65	1,151,969	14,011,068	12.2	9,888,344

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 seeding conditions in many cereal-growing districts, the area declined further. Although the area sown increased

slightly to 302,633 acres in 1964-65, production continued to decline owing to adverse seasonal conditions. 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 1964-65 the quantity exported overseas was 1,728,071 bushels, of which Italy took 1,716,915 bushels. Most "six-row" barley marketed is shipped overseas, while sales of "two-row" barley are mainly to local maltsters.

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	\$
1960-61	71,923	1,175,417	16.3	1,421,292	468,723	7,320,492	15.6	5,507,980
1961-62	59,167	982,043	16.6	1,306,248	431,405	6,299,490	14.6	5,523,906
1962-63	60,135	1,120,120	18.6	1,475,196	330,147	4,936,306	15.0	4,600,268
1963-64	65,730	935,191	14.2	1,223,992	233,125	3,141,618	13.5	3,151,340
1964-65	57,982	613,580	10.6	813,422	244,651	3,087,435	12.6	3,126,212

Rice

Rice has been produced commercially for several years at Camballin on the Liveringa flood plain, using irrigation water from the Fitzroy River. It is also being grown on a commercial scale at Kununurra on the Ord River where experimental work on rice growing is being carried out at the Kimberley Research Station. Rice mills have been established at Camballin, Kununurra 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	bushels	\$	acres	bushels	bushels	\$
1960-61	10,158	70,434	6.9	69,432	4,371	34,662	7.9	92,720
1961-62	9,572	60,471	6.3	60,380	4,186	34,692	8.3	81,816
1962-63	8,765	57,099	6.5	54,872	4,890	29,895	6.1	63,028
1963-64	9,040	70,338	7.8	67,913	3,889	38,706	10.0	76,122
1964-65	9,754	64,533	6.6	68,740	2,781	23,776	8.5	56,246

Hay

The principal cereal hay crop is oats and 137,764 tons of oaten hay were cut in 1964-65 from 120,993 acres. Wheat is the only other cereal crop which is used extensively for this purpose and in 1964-65 the production was 39,700 tons from 38,869 acres. Large quantities of meadow hay are cut from clover and grass pastures, production in 1964-65 being 202,688 tons from 136,249 acres. Lucerne, barley, vetches, field peas, rye and sorghum are also used for hay making but they are of minor importance only.

HAY—AREA AND PRODUCTION

Season	Oaten		Wheaten		Meadow		Other (a)		Total	
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	acres	tons	acres	tons	acres	tons	acres	tons	acres	tons
1960-61	147,893	187,828	40,956	51,696	89,305	133,165	5,884	8,321	284,038	381,010
1961-62	144,399	185,298	40,302	49,208	103,532	154,313	5,316	7,133	293,549	395,952
1962-63	170,892	208,100	43,915	51,795	117,285	184,535	7,741	8,521	339,833	452,951
1963-64	121,316	159,006	31,951	39,634	127,941	182,040	7,449	8,733	288,657	389,413
1964-65	120,993	137,764	38,869	39,700	136,249	202,688	8,499	10,153	304,610	390,305

(a) Mainly lucerne, barley, vetch and field pea hay.

Green Feed

Large areas of oats are grown for use as green feed for stock. Among other crops which are cultivated for this purpose, but to a far lesser extent, are barley, wheat, rye, field peas, lucerne and sudan grass. Although the total area of crops used for green fodder in 1964-65 was slightly higher at 446,039 acres than in 1963-64, it was considerably less than the average for the preceding decade.

GREEN FEED—AREA GRAZED AND CUT (Acres)

Season	Oats	Barley	Wheat	Peas and Beans	Rye	Maize	All Other Kinds (a)	Total
1960-61	514,832	49,015	15,123	6,770	9,035	988	10,395	606,158
1961-62	528,235	52,739	13,491	7,557	9,002	667	10,401	622,092
1962-63	576,182	49,069	11,420	7,405	10,744	853	12,265	667,918
1963-64	356,343	28,296	6,813	5,425	5,410	955	14,319	417,541
1964-65	378,466	24,796	9,931	7,306	9,991	765	14,784	446,039

(a) Mainly sudan grass, lucerne, sorghum, millet, rape and vetches.

Pastures

The first established pastures in the State were cultivated to provide grazing for dairy cattle but, with the rapid increase in the number of sheep carried on wheat farms, by far the greater area is now located in the wheat-growing districts.

Subterranean clover was one of the first pasture species sown 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 1.9 million acres in 1945-46 to 10.4 million acres in 1964-65. 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.

Production of all kinds of pasture seed in 1964-65 totalled 15.6 million lb. compared with the record harvest of 17.4 million lb. in 1963-64. Although production of subterranean clover seed rose to 13.2 million lb. in 1964-65 compared with 12.3 million lb. in 1963-64, production of other kinds of pasture seeds decreased to 2.4 million lb. from 5.1 million lb. Corresponding figures for the principal kinds included in these totals were lupins, 665,000 lb. and 1,189,000 lb.; clover other than subterranean, 443,000 lb. and 130,000 lb.; cyprus barrel medic, 541,000 lb. and 2,863,000 lb.; harbinger medic, 409,000 lb. and 1,000 lb.; and Wimmera rye grass, 214,000 lb. and 843,000 lb. There is an important export trade in subterranean clover seed and in 1964-65 the total was 1,730,465 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 12,500 lb. of cured leaf. Production rose gradually until wartime shortages of oversea supplies caused a rapid increase, and in 1942-43 there were 1,347 acres planted to tobacco for a yield of 1,336,832 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.

Post-war recovery was slow, but by 1952-53 the area planted had risen to 1,525 acres. Subsequently it declined and in 1956-57 only 1,176 acres were planted. The area increased in each of the three following seasons and in 1959-60 had grown to 1,561 acres, which produced 1,369,810 lb. of leaf. Of this total 289,023 lb. remained unsold because it did not meet the requirements of manufacturers.

In 1960-61 an area of 1,478 acres produced 1,287,942 lb. but more than one-half of the leaf offered at the annual auction sales held at Fremantle in August, 1961 was not sold. This collapse of the market was a serious blow to the industry and only 194 acres were planted in 1961. Production was 196,026 lb., of which more than 110,000 lb. could not be sold. Since 1962, when the area was only 28 acres, no tobacco has been planted.

TOBACCO—AREA AND PRODUCTION

Season	Area	Production		
		Total (a)	Average Yield per acre	Gross Value
	acres	lb.	lb.	\$
1958-59	1,444	1,198,275	829.8	1,144,282
1959-60	1,561	1,389,810	877.5	906,356
1960-61	1,478	1,287,942	871.4	333,582
1961-62	194	196,026	1,010.4	51,416
1962-63	28	28,644	1,023.0	6,954

(a) Includes leaf which was unsold—in 1959-60, 289,023 lb.; in 1960-61, 654,706 lb. in 1961-62, 110,057 lb. and in 1962-63, 17,969 lb.

Flax for Fibre

Although flax had previously been grown for fibre on a small scale, the first commercial production in Western Australia was begun in 1940, as a wartime measure, under the control of the Commonwealth Flax Production Committee. During that year 996 acres were cropped in the Shires of Waroona and Harvey and a mill was established at Yarloop. The area was rapidly extended to 6,206 acres in 1941-42 and two additional mills were installed, one at Beelerup in the Shire of Donnybrook and the other at Boyup Brook in the Shire of Upper Blackwood. In 1942-43, 8,775 acres were sown for a yield of 6,160 tons of straw and cultivation was maintained at about the same level throughout the remaining war years.

Production declined after the war and became centralized in the vicinity of Boyup Brook, where a mill was operated by a co-operative company which acquired it from the Commonwealth Government in 1949. Flax was grown as a rotational crop on mixed farms in the district and farmers owned shares in the mill, at which all flax straw was retted and scutched before being sent to Victoria for spinning and weaving. Part of the seed produced each year as a by-product of fibre production was retained for the next season's planting and the remainder was sold for milling into linseed oil and meal.

Because of the difficulty of producing fibres at competitive prices, it became necessary to provide government financial aid to the industry. Assistance was extended by the State Government in the form of grants and advances and by the Commonwealth Government by means of bounty payments as authorized by the Flax Fibre Bounty Act 1954-1957, which expired in 1960. In order to enable the industry to survive, increased government aid would have been required and, as sufficient financial support could not be obtained from this source, the flax mill ceased operations when straw from the 1964-65 crop had been processed. No flax for fibre was planted in 1965.

FLAX FOR FIBRE—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	\$
1960-61	736	1,176	1.6	35,682
1961-62	91	183	2.0	4,986
1962-63	871	2,152	2.5	63,502
1963-64	171	318	1.9	9,004
1964-65	729	1,388	1.9	46,036

Flax for Linseed

During the war, attempts were made to cultivate those varieties of flax which yield linseed as the principal product, but they were largely unsuccessful and were abandoned. Efforts were renewed in 1947-48 but once again were short-lived, being discontinued after five years. Production recommenced in 1957-58 when 1,350 cwt. were harvested from 549 acres. Since then area and production have fluctuated widely. In 1964-65, an area of 2,135 acres was cropped for a harvest of 11,338 cwt.

FLAX FOR LINSEED—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	cwt.	cwt.	\$
1960-61	483	1,376	2·8	9,366
1961-62	1,253	3,556	2·8	24,894
1962-63	626	2,719	4·3	19,022
1963-64	1,588	8,229	5·2	57,574
1964-65	2,135	11,338	5·3	77,922

Cotton

The first commercial crop of cotton was grown at Kununurra in 1962-63 on land irrigated from the Ord River diversion dam at Bandicoot Bar. In 1964-65 a total area of 5,475 acres produced 96,341 cwt. of seed cotton, the yield per acre being 1,971 lb. A cotton ginnery to process the seed cotton was installed at Kununurra in 1963.

Under the Raw Cotton Bounty Act 1963-66, the Commonwealth Government pays a bounty, up to a maximum amount of \$4 million in any year, on raw cotton of grade higher than "strict good ordinary" which is produced and sold for use in Australia. Bounty is paid at the rate of 13·4375 cents per lb. on cotton of "middling white" grade with a staple length of one inch. Provision is made for premiums and discounts on grades and staples above and below these standards. The bounty is payable for the period from the 1st January, 1964 to the 28th February, 1969.

COTTON—AREA AND PRODUCTION

Season	Area	Production of Seed Cotton		
		Total	Average Yield per acre	Gross Value
	acres	cwt.	lb.	\$
1962-63	245	2,444	1,117	9,098
1963-64	1,526	18,871	1,385	215,358
1964-65	5,475	96,341	1,971	1,065,364

Potatoes

The cultivation of potatoes, the State's principal vegetable crop, is largely confined to the higher rainfall areas of the south-west. Winter crops are planted during June and early July on the frost-free hillsides and drained flats of the coastal areas between Harvey and Donnybrook. Mid-season plantings are made from the middle of July to November on market garden land in the Metropolitan and Swan Divisions, irrigation land in the Shires of Waroona, Harvey and Dardanup and summer-moist areas in the Shires of Donnybrook, Busselton, 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 1964-65 comparative yields were 10·5 tons and 5·8 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 with smaller consignments being sent overseas, principally to Malaysia.

Potato production in Western Australia is controlled, under the provisions of the Marketing of Potatoes Act, 1946-1966, by the Western Australian Potato Marketing Board, which is the sole marketing authority for potatoes produced for local consumption. The object of this provision is to ensure adequate supplies for local consumption and effective marketing of crops. The downward trend in area sown to 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.

POTATOES—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	\$
1960-61	6,656	45,500	6·8	3,418,262
1961-62	6,824	55,700	8·2	3,872,868
1962-63	6,499	56,900	8·8	3,590,810
1963-64	5,835	55,402	9·5	3,680,892
1964-65	5,797	60,739	10·5	5,371,932

Onions

The production of onions is largely confined to the metropolitan and adjacent areas, Osborne Park and Spearwood being the main centres. In these districts onions are usually grown on light sandy soils and yields of up to 20 tons per acre are obtained. An increase in area occurred during each season from 1958-59 to 1962-63 when 509 acres were planted. Since then the area planted has decreased and in 1964-65 it was 428 acres for a production of 5,981 tons or 14.0 tons per acre.

Onions are imported annually into Western Australia during the winter but a surplus is produced locally during the summer months, much of it being exported to other Australian States although a substantial quantity is sent overseas, principally to Malaysia. Sales are controlled by the Western Australian Onion Marketing Board under the provisions of the Marketing of Onions Act, 1938-1965, which was passed by the State Parliament in order to stabilize prices.

ONIONS—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	\$
1960-61	465	5,826	12.5	383,308
1961-62	479	6,290	13.1	473,296
1962-63	509	6,622	13.0	338,548
1963-64	446	6,814	15.3	443,572
1964-65	428	5,981	14.0	376,490

Tomatoes

The main centres of production of tomatoes are at Geraldton and in the districts around Perth. At Geraldton, because of the warm winter climate, growers are able to produce early crops and take advantage of the high prices ruling on the Melbourne market during the winter and spring. They also supply substantial quantities to the Perth market and there is a consistent export trade with Malaysia. Production of early tomatoes is also important at Carnarvon.

Supplies to the Perth market from December to June are grown in and near the metropolitan area, principally in the Wanneroo and Osborne Park districts. Tomatoes are also grown in a number of districts in the South-West and a small area is planted annually at Kalgoorlie.

The total area under tomatoes reached a peak of 1,555 acres in 1944-45 but the yield per acre in that year was low and total production was only 7,424 tons. Since then, although the area has declined, yields per acre have improved and production in 1964-65 was 7,286 tons from 722 acres, an average of 10.1 tons per acre.

TOMATOES—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	\$
1960-61	839	8,190	9.8	1,341,798
1961-62	968	9,510	9.8	1,335,678
1962-63	942	8,426	8.9	1,143,888
1963-64	866	8,086	9.3	1,174,028
1964-65	722	7,286	10.1	1,177,004

Other Vegetables

In addition to the cultivation of potatoes, onions and tomatoes, previously mentioned, many other vegetables are produced, the bulk of them in or near the metropolitan area where growers benefit not only from proximity to the principal market but also from an abundant supply of water at relatively shallow depths. Small quantities are also produced in many country districts. An important early crop of beans is grown at Carnarvon and transported by road to Perth. If the price available is sufficient to compensate for the added cost, portion of this crop is railed or airfreighted to Adelaide and Melbourne. Exports of cauliflowers to Malaysia have become significant in recent years.

TURNIPS, CARROTS, PARSNIPS, BEETROOT—AREA AND PRODUCTION

Season	Turnips (Swede and White)			Carrots			Parsnips			Beetroot		
	Area	Production		Area	Production		Area	Production		Area	Production	
		Quantity	Gross Value		Quantity	Gross Value		Quantity	Gross Value		Quantity	Gross Value
	acres	cwt.	\$	acres	cwt.	\$	acres	cwt.	\$	acres	cwt.	\$
1960-61	198	18,603	50,304	318	62,054	145,826	138	17,010	72,718	135	19,530	130,362
1961-62	158	18,656	55,304	324	64,016	323,616	116	15,813	141,526	125	19,526	64,598
1962-63	159	19,254	55,512	348	72,735	254,572	136	18,998	90,874	132	20,093	57,768
1963-64	166	19,996	95,232	381	82,379	229,514	127	19,288	105,132	117	17,834	93,726
1964-65	129	15,718	51,756	380	90,053	388,530	120	18,228	122,128	112	21,190	53,682

PUMPKINS, BEANS, GREEN PEAS—AREA AND PRODUCTION

Season	Pumpkins			Beans						Green Peas		
	Area	Production		Runner			French			Area	Production	
		Quantity	Gross Value	Area	Quantity	Gross Value	Area	Quantity	Gross Value		Quantity	Gross Value
	acres	cwt.	\$	acres	cwt.	\$	acres	cwt.	\$	acres	cwt.	\$
1960-61	806	65,430	219,736	935	77,354	1,010,758	57	2,855	39,970	1,586	32,559	299,580
1961-62	1,071	86,656	270,800	1,037	82,648	348,520	45	2,659	24,818	2,016	34,487	261,966
1962-63	1,060	85,902	214,040	969	93,573	960,682	52	2,813	23,630	1,406	39,738	282,542
1963-64	884	78,798	210,030	1,037	85,426	825,502	44	2,813	30,416	1,666	52,297	234,924
1964-65	937	88,655	344,276	981	86,443	878,596	57	3,406	60,400	2,120	81,956	311,484

CABBAGES, CAULIFLOWERS, LETTUCE—AREA AND PRODUCTION

Season	Cabbages			Cauliflowers			Lettuce		
	Area	Production		Area	Production		Area	Production	
		Quantity	Gross Value		Quantity	Gross Value		Quantity	Gross Value
	acres	cwt.	\$	acres	cwt.	\$	acres	cwt.	\$
1960-61	330	76,876	170,768	635	114,800	408,974	369	61,289	364,670
1961-62	349	75,979	147,500	669	120,443	368,104	397	64,070	381,218
1962-63	349	82,520	155,578	663	113,218	394,848	432	74,231	329,094
1963-64	350	102,056	235,254	618	106,329	602,116	416	69,283	420,290
1964-65	344	99,915	238,730	607	119,057	579,688	404	67,235	479,078

Orchards

Fruit production is largely confined to the temperate regions between Gingin to the north of Perth and Albany on the south coast. The cool, wet winters and warm, dry summers of this area permit the successful cultivation of a wide variety of fruits. In the southern and south-western sections, apples, pears and stone fruits are grown extensively while in the districts around Perth the principal crops are 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 1960-61 to 1964-65.

FRUIT (†)—AREA AND GROSS VALUE OF PRODUCTION

Season	Pome (a)		Citrus (b)		Stone (c)		Other (d)		Total Fruit (†)	
	Area (e)	Gross Value of Production	Area (e)	Gross Value of Production	Area (e)	Gross Value of Production	Area (e)	Gross Value of Production	Area (e)	Gross Value of Production
		\$		\$		\$		\$		\$
1960-61	15,436	6,103,318	5,302	1,216,780	2,435	670,814	740	123,924	23,913	8,114,836
1961-62	15,598	4,510,492	5,598	1,299,234	2,479	862,454	812	313,176	24,487	6,985,356
1962-63	15,943	6,922,872	5,865	*1,291,548	2,556	844,046	840	525,024	25,204	9,583,490
1963-64	16,222	4,915,282	5,987	1,423,352	2,430	878,414	1,031	767,340	25,670	7,984,388
1964-65	16,903	6,929,350	6,005	1,360,232	2,443	999,070	1,074	1,033,350	26,425	10,322,502

(†) Excluding grapes. (a) Apples, pears and quinces. (b) Principally oranges, mandarins, lemons and grapefruit. (c) Apricots, peaches, nectarines, plums and cherries. (d) Bananas, loquats, figs, passion fruit, almonds and other minor fruits. (e) Includes area under young non-bearing trees. * Revised.

Apples

Apples, which are the principal fruit crop, account for more than half the total orchard area. Manjimup, Bridgetown, Donnybrook and Mount Barker (based on number of bearing and non-bearing trees) are the most important centres but other districts in the south-west and in the Darling Range near Perth produce large quantities. In 1964-65 the total area of bearing trees was 11,511 acres which produced 2,355,160 bushels, the principal varieties being Granny Smith, Cleopatra, Jonathan, Yates and Delicious.

There is a valuable export trade and oversea shipments average about one million bushels annually. The United Kingdom is the most important market, with the Federal Republic of Germany, Malaysia and Sweden also buying significant quantities.

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	\$
1960-61	10,766	3,666	2,052,800	190.7	5,618,702
1961-62	10,657	3,896	1,137,400	106.7	4,049,290
1962-63	10,833	4,016	1,977,300	182.5	6,453,350
1963-64	10,889	4,237	1,287,310	118.2	4,375,928
1964-65	11,511	4,231	2,355,160	204.6	6,476,414

(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 1964-65 being 799 acres and the production 190,915 bushels. The bulk of the crop is consumed locally but significant quantities are exported, principally to the United Kingdom and Malaysia.

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	\$
1960-61	789	195	168,800	213.9	481,318
1961-62	790	237	153,400	194.2	458,318
1962-63	799	275	171,740	214.9	466,450
1963-64	783	297	155,817	199.0	537,002
1964-65	799	349	190,915	238.9	451,488

Citrus Fruit

While the Shire of Chittering is the chief citrus fruit producer, there are other important areas in the Darling Range near Perth and in the Shires of Swan-Guildford, Capel, Donnybrook, Harvey and Murray (in order according to number of trees bearing and non-bearing). Although oranges are by far the most important crop and account for almost four-fifths of the total area, substantial quantities of lemons, grapefruit and mandarins are also produced.

Production is largely for local consumption but there is some export trade, mainly with Malaysia and Kuwait.

The following tables give details of production of each type for the years 1960-61 to 1964-65.

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	\$
1960-61	3,467	771	462,053	968,682	188	110	15,511	75,484
1961-62	3,574	873	356,398	1,044,092	205	152	20,099	96,330
1962-63	3,655	976	413,912	1,054,936	224	175	25,229	115,870
1963-64	3,636	1,083	391,047	1,110,412	231	231	27,252	126,462
1964-65	3,710	1,024	480,422	1,096,744	251	248	26,611	112,060

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	\$
1960-61	499	126	141,774	138,878	133	8	22,983	33,736
1961-62	511	157	84,537	131,900	119	7	17,267	26,912
1962-63	522	182	107,160	94,666	119	12	18,789	26,072
1963-64	511	164	123,697	151,968	114	17	21,053	34,510
1964-65	505	126	97,669	121,422	113	28	18,614	30,006

(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 1964-65 was 2,443 acres, comprising 1,051 acres of plums, 924 of peaches, 309 of apricots, 121 of nectarines and 38 of cherries. The bulk of the stone fruit crop is consumed locally but shipments of plums are sent overseas, mainly to Malaysia.

The following tables give details of production of the principal stone fruits for the five years 1960-61 to 1964-65.

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	\$
1960-61	778	256	95,986	279,708	647	222	88,401	211,180
1961-62	785	261	72,974	331,936	660	245	88,937	302,386
1962-63	822	262	89,943	377,636	700	240	78,975	253,774
1963-64	814	231	95,152	428,012	706	198	84,228	223,374
1964-65	821	230	101,828	526,556	727	197	87,371	272,230

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	\$
1960-61	299	39	49,213	116,470	132	22	17,105	54,926
1961-62	288	50	38,650	164,046	127	23	16,187	57,914
1962-63	288	56	35,314	151,064	126	24	13,559	49,366
1963-64	270	46	35,586	153,064	112	16	12,307	51,770
1964-65	256	53	23,996	147,168	104	17	10,525	44,672

Bananas

Production of bananas is confined almost entirely to a narrow strip of land along the Gascoyne River at Carnarvon. The plantations are dependent on water pumped from bores which tap a subterranean flow in the sands of the usually dry river bed. As a surface flow in the river channel results

only from heavy rains, which do not occur every year, a problem is presented in the falling-off of water supplies and in the increase in the salt content of the underground water during long dry periods. These conditions and also periodic damage from cyclones cause fluctuations in the area of the plantations and in production.

The crop is transported by road to Perth and sold locally in competition with bananas imported from other Australian States.

BANANAS—AREA AND PRODUCTION

Season	Area		Production		
	Plants of Bearing Age	Young Plants not Bearing	Total	Average Yield per acre (a)	Gross Value
	acres	acres	bushels	bushels	\$
1960-61	131	122	7,569	57.8	35,320
1961-62	191	68	48,115	251.9	224,536
1962-63	222	83	76,573	344.9	437,384
1963-64	311	86	140,643	452.2	672,454
1964-65	369	100	145,095	393.2	949,984

(a) Calculated on the area of bearing plants only.

Vineyards

Almost three-quarters of the State's 8,310 acres of grape vines are in the Shire of Swan-Guildford, other important centres being Chittering, Wanneroo, Toodyay, Northam and Gosnells.

The area of vines for the production of dried currants, sultanas and table raisins has declined from a post-war peak of 5,830 acres in 1947-48 to 3,345 acres in 1964-65 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 overseas, the United Kingdom and Canada being the principal buyers in 1964-65. 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 Malaysia. More than half a million gallons of beverage wine have also been produced annually for the past five years, mostly for local consumption although small amounts are exported to the other Australian States and overseas.

GRAPES—AREA AND PRODUCTION

Season	Fresh 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	Quantity	Gross Value	Vines of Bearing Age	Young Vines not Bearing	Quantity (Packed Weight)	Gross Value	
	acres	acres	tons	\$	acres	acres	tons	\$	gallons
1960-61	4,227	915	7,027	746,912	3,623	99	2,034	485,482	556,191
1961-62	4,378	1,015	7,628	730,232	3,502	122	2,007	499,392	669,293
1962-63	4,454	818	7,207	649,386	3,277	136	1,276	289,014	636,026
1963-64	4,440	799	8,246	749,104	3,276	105	2,287	594,040	666,443
1964-65	4,339	626	7,591	724,962	3,238	107	2,439	669,912	612,756

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 Coolgardie, Kalgoorlie, Laverton, Leonora and Menzies, which form part of the Eastern Goldfields Division. The balance of the State, referred to as the "agricultural areas," comprises the Metropolitan, Swan, South-West, Southern Agricultural, Central Agricultural and Northern Agricultural Divisions together with the Shires of Dundas, Esperance, Ravensthorpe and Yilgarn in the Eastern Goldfields Division.

In the early days of settlement, pastoral activities in Western Australia were 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 1857 and 1858, F. T. Gregory noted the existence of good pastoral country in the Murchison and the Gascoyne districts and in the course of a journey further to the north in 1861 he discovered the Ashburton, Fortescue, De Grey and Oakover Rivers. His reports of good grazing lands in the area led to the establishment of sheep stations by pastoralists from the south, the first of such ventures, in 1863, being in the De Grey district of what is now the Pilbara Statistical Division. Graziers were also turning their attention to the south-east and in the 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 Fitzroy and the Ord Rivers were stocked not only with livestock shipped from the south and from the other Australian Colonies but also with cattle brought overland to the area, principally from Queensland and New South Wales, by remarkable feats of droving.

Pastoral production, comprising the production of meat as well as wool, now contributes about two-fifths of the total net value of Western Australian primary production.

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 some recovery has taken place in recent years. In the agricultural, or farming, areas however the sheep population has steadily risen. Factors contributing to this rise, particularly since the war, have been the increasing use of subterranean clover in the wheat belt, the provision in many areas of more assured water supplies, a taxation policy which, by the provision of special concessions to primary producers, has encouraged farmers to clear and develop new land, the War Service Land Settlement Scheme which 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, 1965, the State total was 22·4 million, compared with 9·8 million at the same date in 1946. Numbers in the agricultural areas increased from 7 million, or 72 per cent. of the State total, to 18·7 million or more than 83 per cent. They also increased in the pastoral areas from 2·7 million to 3·7 million, but as a percentage of the State total this represents a decline from 28 per cent. to less than 17 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	7,029,761	72·0	2,736,222	28·0	9,765,983
1947	6,990,756	71·4	2,796,246	28·6	9,787,002
1948	7,417,053	71·0	3,026,745	29·0	10,443,798
1949	7,509,710	69·1	3,362,830	30·9	10,872,540
1950	7,518,456	68·8	3,404,711	31·2	10,923,167
1951	8,269,814	72·8	3,092,094	27·2	11,361,908
1952	9,174,640	75·3	3,013,112	24·7	12,187,752
1953	9,304,681	74·6	3,169,991	25·4	12,474,672
1954	9,921,867	75·8	3,165,241	24·2	13,087,108
1955	10,273,780	76·6	3,137,502	23·4	13,411,282
1956	10,976,121	77·7	3,152,047	22·3	14,128,168
1957	11,845,409	79·6	3,041,140	20·4	14,886,549
1958	12,704,210	80·8	3,019,753	19·2	15,723,963
1959	13,070,754	80·6	3,144,490	19·4	16,215,244
1960	13,395,527	81·6	3,016,062	18·4	16,411,589
1961	13,940,614	81·3	3,210,770	18·7	17,151,384
1962	14,951,185	81·6	3,362,694	18·4	18,313,879
1963	15,403,902	82·3	3,323,222	17·7	18,727,124
1964	16,608,300	82·4	3,556,568	17·6	20,164,868
1965	18,670,759	83·4	3,721,075	16·6	22,391,834

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 Flocks	Total All Rural Holdings		
	Size of Sheep Flock (numbers)																
	1-49	50-99	100-199	200-299	300-399	400-499	500-699	700-999	1,000-1,399	1,400-1,999	2,000-2,999	3,000-4,999	5,000-9,999			10,000-19,999	20,000-49,999	50,000 and over
1-99	290	74	40	11	4	1	1	2	1	1	1	1	1	1	1	421	5,001
100-199	125	63	76	34	16	15	14	8	8	2	2	2	2	2	2	323	1,389
200-299	100	37	59	27	27	18	14	8	8	1	1	1	1	1	1	318	1,112
300-399	90	44	59	44	38	20	18	17	17	1	1	1	1	1	1	334	838
400-499	81	17	50	39	33	25	23	36	28	1	1	1	1	1	1	312	623
500-599	47	28	35	32	34	36	32	36	32	1	1	1	1	1	1	261	509
600-799	35	24	51	55	66	57	64	99	58	1	1	1	1	1	1	484	745
800-999	28	21	33	52	64	73	137	117	68	2	2	2	2	2	2	612	772
1,000-1,399	24	16	44	55	75	138	343	326	92	15	15	15	15	15	15	1,370	1,564
1,400-1,999	18	16	45	41	51	104	333	584	400	67	67	67	67	67	67	1,888	2,051
2,000-2,999	17	14	34	31	55	98	639	825	451	205	205	205	205	205	205	2,560	2,783
3,000-4,999	7	9	30	40	33	60	187	368	619	280	280	280	280	280	280	2,326	2,552
5,000-9,999	4	3	9	3	20	18	81	9	172	284	63	34	34	34	34	1,079	1,127
10,000-19,999	...	1	...	1	...	2	...	...	35	51	18	14	14	14	14	217	226
20,000-49,999	...	2	...	1	...	5	...	...	2	6	6	6	6	6	6	59	63
50,000 and over	...	1	...	1	...	2	...	...	8	1	1	1	1	1	1	386	477
Total.....	878	372	605	478	516	639	1,469	2,264	2,314	1,699	912	454	233	96	20	12,950	21,832

SHEEP FLOCKS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF FLOCK AND AREA OF ESTABLISHED PASTURE

Area of Established Pasture (acres)	Size of Sheep Flock (numbers)													Total Flocks	Total All Rural Holdings		
	Size of Sheep Flock (numbers)																
	1-49	50-99	100-199	200-299	300-399	400-499	500-699	700-999	1,000-1,399	1,400-1,999	2,000-2,999	3,000-4,999	5,000-9,999			10,000-19,999	20,000-49,999	50,000 and over
1-99	191	73	128	135	172	272	626	912	834	505	238	140	155	91	1	4,491	9,147
100-199	61	16	4	1	1	1	1	6	2	1	1	1	1	1	1	78	493
200-299	49	10	4	1	1	1	1	6	1	1	1	1	1	1	1	81	368
300-399	37	29	11	7	4	4	5	9	3	4	3	1	1	1	1	80	296
400-499	57	39	31	29	28	28	28	12	11	7	2	1	1	1	1	169	513
500-599	30	49	49	49	49	49	49	10	17	6	3	1	1	1	1	106	479
600-799	58	38	60	21	9	9	9	39	34	16	5	1	1	1	1	238	675
800-999	58	38	60	21	9	9	9	39	34	16	5	1	1	1	1	498	1,225
1,000-1,399	88	42	67	66	43	23	38	25	22	13	5	1	1	1	1	386	832
1,400-1,999	80	45	68	80	103	73	135	111	77	42	12	6	1	1	1	842	1,343
2,000-2,999	90	49	38	49	56	53	147	148	85	34	12	6	1	1	1	730	940
3,000-399	58	24	38	49	29	53	147	175	96	47	11	6	1	1	1	636	749
4,000-499	28	14	24	18	31	29	150	344	314	131	32	4	1	1	1	1,123	1,245
5,000-999	10	9	7	8	9	29	72	296	426	231	75	10	6	6	10	1,207	1,245
10,000-19,999	1	2	7	1	7	17	75	161	392	580	353	85	20	2	2	1,607	1,710
20,000 and over	2	...	...	1	...	2	4	4	19	84	167	200	71	3	3	1,607	1,710
Total.....	878	372	605	478	516	639	1,469	2,264	2,314	1,699	912	454	233	96	20	12,950	21,832

In the preceding tables 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 carried on 12,950. Holdings of between 1,000 and 5,000 acres accounted for 63 per cent. of the flocks and holdings which carried between 500 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, 1965 showed that Merinos accounted for 92 per cent. of the total. Corriedales, Polwarths and British breeds, the most important of which are Romney Marsh, Dorset Horn, South Down, Border Leicester and Suffolk, comprised 3 per cent. and the remaining 5 per cent. was made up of Crossbreds, including Merino Comebacks. With low wool prices operating during the ten years prior to the war, some farmers turned to the production of fat lamb carcasses for export, mainly to the United Kingdom. The industry which developed as a result was based on the use of Corriedale and British breeds of rams, which in 1965 comprised about 16 per cent. of the rams in the State. As a result of the high wool prices offering after the war the "fat lamb" industry declined sharply in 1950-51 and 1951-52 but recovered in 1952-53. Since then exports of lamb have fluctuated between 4.08 million lb. in 1953-54 and 11.5 million lb. in 1960-61, the total in 1964-65 being 4.14 million lb.

The following table shows the numbers of each breed of sheep in the State at the 31st March, 1965.

BREEDS OF SHEEP AT 31st MARCH, 1965

Breed	Rams (One Year and Over)	Other Sheep	Total
Merino	237,107	20,295,998	20,533,105
Other Recognized Breeds—			
Corriedale	11,779	514,767	526,546
Polwarth	2,552	62,755	65,307
Romney Marsh	3,893	41,792	45,685
Dorset Horn	9,482	34,333	43,815
South Down	11,177	31,625	42,802
Border Leicester	4,959	37,605	42,564
Suffolk	2,208	5,575	7,783
English Leicester	472	3,882	4,354
Cheviot	390	1,616	2,006
Other British Breeds	2,078	4,951	7,029
Total, Other Recognized Breeds	48,990	738,901	787,891
Merino Comeback (a)	482	286,086	286,568
Crossbreds (b) and Other Mixed Breeds	955	783,315	784,270
Total, All Sheep	287,534	22,104,300	22,391,834

(a) More than half Merino.

(b) British bred to the extent of one-half or more.

Wool

Total wool production in 1964-65 amounted to 207.0 million lb. compared with 129.7 million lb. ten years earlier. Production in 1963-64 was 216.6 million lb., the highest ever recorded. Shorn wool in 1964-65 accounted for 198.2 million lb. It was shorn from 23.2 million sheep and lambs, the average weight per fleece being 8.6 lb., compared with 9.8 lb. in the previous season. The balance of the 1964-65 production comprised 0.83 million lb. of dead wool, 1.97 million lb. of fellmongered wool and 6.04 million lb. of wool exported on skins.

During the war years wool was compulsorily acquired by the Commonwealth Government in accordance with an agreement with the United Kingdom. The scheme was administered by the Central Wool Committee and the price paid was determined by a system of 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 oversea buyers who bid for individual lots. Some wool is auctioned at sales conducted independently of the National Council and a significant portion of the clip is purchased on farms by wool dealers who buy direct from producers. In September, 1957, auctions were held at Albany for the first time. Sales in Perth were discontinued in 1960 and the selling centre was transferred to Fremantle.

SHEEP SHORN AND WOOL PRODUCTION

Year	Sheep Shorn (a)			Average Weight per Fleece (a)	Wool Production (in the grease)				
	Sheep	Lambs	Total		Shorn (a)	Dead Wool (a)	Fell-mongered (b)	Exported on Skins (b)	Total (c)
	'000	'000	'000	lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
1956	12,232	2,661	14,893	9.8	146,196	93	3,475	6,690	156,454
1957	12,768	3,168	15,926	9.2	145,797	115	2,402	8,028	156,402
1958	13,317	3,182	16,499	9.0	149,125	108	1,793	7,255	158,281
1959	13,916	3,349	17,265	9.0	154,661	80	2,617	9,164	166,522
1960	14,423	3,541	17,964	8.8	157,929	116	2,847	9,550	170,442
1961	14,801	3,623	18,424	9.7	178,600	106	3,511	9,136	191,353
1962	15,461	4,055	19,516	9.2	180,000	82	3,252	8,827	192,161
1963	16,287	3,790	20,077	8.7	174,000	110	3,066	6,947	184,123
1964	17,021	4,191	21,212	9.8	207,235	138	2,182	7,019	216,574
1965	18,437	4,742	23,179	8.6	198,200	830	1,965	6,040	207,035

(a) Year ended 31st March.

(b) Year ended 30th June.

(c) See notes (a) and (b).

GROSS VALUES OF WOOL PRODUCTION

Year	Shorn and Dead Wool (a)	Fellmongered Wool (b)	Wool Exported on Skins (b)	Total (c)
	\$	\$	\$	\$
1956	68,767,932	873,962	2,119,590	71,761,484
1957	89,432,624	850,622	3,646,714	93,929,960
1958	74,765,426	462,744	3,190,284	78,418,454
1959	58,675,088	731,670	2,421,974	61,829,332
1960	74,386,508	915,074	3,365,718	78,667,300
1961	72,803,378	1,059,444	2,761,472	76,624,294
1962	78,508,294	774,290	3,237,842	82,520,426
1963	78,866,212	1,205,194	2,916,286	82,987,692
1964	115,421,938	909,032	3,531,734	119,862,704
1965	92,668,384	606,530	2,528,336	95,803,250

(a) Year ended 31st March.

(b) Year ended 30th June.

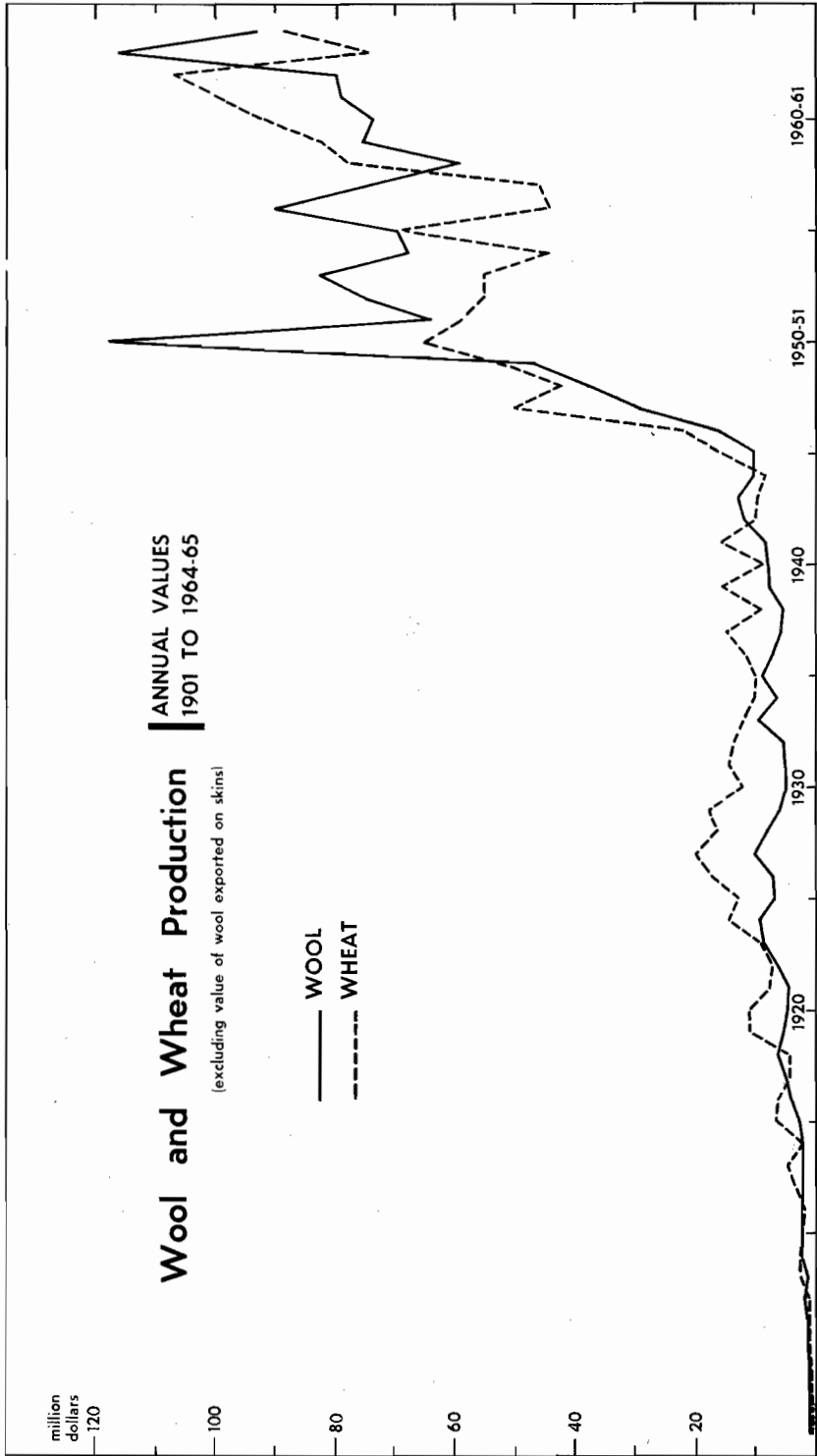
(c) See notes (a) and (b).

Although the greater proportion of the woolclip is exported in the grease, scouring is done in the State and scoured wool is an appreciable item in the external wool trade. During 1964-65 exports of greasy and scoured wool were 151.8 million lb. and 22.6 million lb. respectively. The most important buyers of greasy wool were Japan, the United Kingdom, Australian States, France, the Federal Republic of Germany, Italy, the United States of America, the Union of Soviet Socialist Republics, Belgium-Luxembourg and Czechoslovakia. Principal purchasers of scoured wool were the United States of America, the Federal Republic of Germany, the United Kingdom, Canada, France, India and Italy.

Cattle

Following an investigation into the adequacy of the wording and arrangement of the cattle sections of the forms used in collecting agricultural and pastoral statistics, certain changes have been made in the classification of cattle as at the 31st March in 1964 and later years.

Prior to 1964, informants were asked to classify their stock as either "beef cattle" or "dairy cattle." These two terms tended to cause confusion between breed and purpose. For example, in cases where vealer production was carried on in association with dairying the informant was in doubt as to how to classify part or all of the herd. From 1964, informants have been asked to classify cattle according to



the two main purposes of "meat production" and "milk production," irrespective of breed, and to report separately the numbers of cows and heifers kept for their own domestic milk supply. Consequently, detailed statistics of cattle for 1964 and later are not comparable with those for earlier years.

The table below shows the numbers of cattle for meat production kept on rural holdings at the 31st March, 1964 and 1965. The table on page 293 shows, for the same dates, the numbers kept for milk production. Cattle numbers in each State and Territory at the 31st March, 1965 are given in the third table on page 295.

In 1965 the Kimberley Statistical Division carried 548,825 head of cattle for meat production, or 53 per cent. of the State total. Other pastoral areas carried 78,437 head and agricultural areas 411,142.

The cattle which were originally shipped or driven overland from the other Australian Colonies to start the industry in the northern pastoral areas were preponderantly shorthorn breeds, and these still form the great bulk of all cattle kept for meat production in those areas. Carcass weights, however, have been increased by importing better-type bulls and by improving watering facilities, both on the cattle stations and on the stock routes.

Killing and freezing works operate at the ports of Wyndham, Broome and Derby. To minimize loss of weight in droving to ports some cattle were formerly slaughtered inland at Glenroy Station and the carcasses transported to freezing works at Derby. Slaughtering at Glenroy ceased in August, 1965 and since then live cattle from the station have been trucked to Derby where abattoir operations commenced in May, 1966.

Frozen and chilled beef consigned from Wyndham, Broome and Derby goes mainly to oversea destinations. Some of it is sent south for consumption in the metropolitan area and live cattle are also shipped from northern ports to be slaughtered for the metropolitan market. However, by far the greater proportion of beef consumed in the southern part of the State is supplied from the agricultural areas, much of it being from stock culled from dairy herds.

The following table shows the numbers and proportions of cattle for meat production in agricultural areas and in pastoral areas at the 31st March, 1964 and 1965. The agricultural areas have become an increasingly important source of meat production in recent years, and now contain about two-fifths of the cattle kept for this purpose, compared with less than one-quarter ten years earlier.

CATTLE FOR MEAT PRODUCTION(†)—NUMBERS AND DISTRIBUTION

Particulars	At 31st March—	
	1964	1965
Number of Head—		
In Agricultural Areas	415,861	411,142
In Pastoral Areas	656,287	627,262
Total	1,071,648	1,038,404
Proportion of Total—	per cent.	per cent.
In Agricultural Areas	38.8	39.6
In Pastoral Areas	61.2	60.4

(†) The figures shown for 1964 include bull calves of dairy breeds intended for service. Details of these calves are not available separately for that year.

In the tables on page 290 beef 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, beef cattle were carried on 6,421. Holdings of between 1,000 and 5,000 acres accounted for 47 per cent. of the herds, and holdings which carried less than 50 beef cattle for 77 per cent. of the herds. Of the holdings carrying beef cattle 5,296, or 82 per cent., had some established pasture and 3,870, or 60 per cent., had 200 acres and over.

Slaughtering

Beef from cattle slaughtered at Wyndham, Broome and Derby in the Kimberley Division is principally for export. The local market for meat is supplied mainly from abattoirs at Midland, Fremantle, Waroona, Harvey, Bunbury, Albany and Kalgoorlie but these establishments, with the exception of Kalgoorlie, also slaughter for the export trade. Small establishments operating in country towns also contribute substantially to total production, and most stations and many farms slaughter sufficient for all or part of their own requirements.

The following table gives details of slaughtering in abattoirs, butcheries and on stations and farms. A table showing particulars of pigs slaughtered and pigmeat produced appears on page 295.

LIVESTOCK SLAUGHTERED AND MEAT PRODUCED

Year ended 30th June—	Livestock Slaughtered (a)								Meat Produced (b)	
	Sheep		Lambs		Cattle		Calves		Mutton and Lamb	Beef and Veal
	Number	Gross Value (c)	Number	Gross Value (c)	Number	Gross Value (c)	Number	Gross Value (c)		
'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000	tons	tons	
1956	1,158	5,830	642	4,212	175	10,754	17	231	32,759	38,170
1957	1,237	7,368	677	4,801	176	11,172	18	261	33,303	38,267
1958	1,167	4,907	697	4,739	188	10,533	31	690	31,942	39,517
1959	1,612	5,129	817	4,431	222	13,711	31	727	40,875	45,390
1960	1,816	6,345	850	4,310	218	15,445	26	737	44,385	45,962
1961	1,713	7,313	954	5,717	194	15,173	17	537	46,560	41,972
1962	1,482	6,204	1,017	5,528	222	14,858	20	571	42,697	47,406
1963	1,618	6,486	863	5,174	233	17,070	27	653	41,236	55,934
1964	1,288	7,819	859	6,196	341	19,863	34	831	38,690	66,025
1965	1,280	7,010	787	6,332	300	21,376	28	837	35,839	56,983

(a) Mainly slaughtering for human consumption but also includes small numbers of livestock slaughtered for boiling down. Details of pigs slaughtered and production of pigmeat are shown on page 295. (b) Dressed carcass weight; excludes offal. (c) Value "on hoof" at principal market.

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-timbered country in the South-West and the need for special methods of pasture establishment, but these problems have been progressively overcome and dairying is now a significant feature of primary production, although only limited development has taken place in recent years.

Until the establishment of the first butter factory at Busselton in 1898, dairy farming in Western Australia was essentially for the production of whole milk, although small quantities of farm butter were marketed. As more factories commenced processing, the industry steadily developed and its growth was further stimulated by the establishment of irrigation areas, the first at Harvey in 1916, and by the introduction of the Group Settlement Scheme in 1921. Another important factor in increasing production was the successful establishment of subterranean clover which resulted in a marked improvement in pastures.

The industry has been assisted by the extensive experimental work carried out by the Department of Agriculture and the advisory service which it provides on all aspects of dairy farming. The Department also established in May, 1956 an artificial insemination centre at its Wokalup Research Station and dairy herds, which consist mainly of Australian Illawarra 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 1926 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 Produce 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 equalizes 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 third five-year stabilization plan, which came into operation on the 1st July, 1962, provides a fixed bounty of \$27,000,000 annually for the Australian industry. The average subsidy rates per cwt. in 1964-65 were 60s. 10d. (\$6.09) on butter and 22s. 3d. (\$2.22) on cheese.

DAIRY CATTLE HERDS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Size of Holding (acres)	Size of Dairy Cattle Herd (numbers)												Total Herds	Total All Rural Holdings				
	Size of Dairy Cattle Herd (numbers)																	
	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99			100-149	150-199	200 and over	
1-19	352	35	9	2	3	3	1	1	1	1	1	1	1	1	1	1	398	9,132
20-29	94	24	9	2	3	3	1	1	1	1	1	1	1	1	1	1	134	618
30-49	104	41	12	10	17	10	1	1	1	1	1	1	1	1	1	1	179	569
50-69	58	16	15	10	19	13	1	1	1	1	1	1	1	1	1	1	131	824
70-99	56	31	20	14	27	13	1	1	1	1	1	1	1	1	1	1	188	858
100-149	110	44	25	27	63	58	1	1	1	1	1	1	1	1	1	1	428	721
150-199	79	40	30	26	53	53	1	1	1	1	1	1	1	1	1	1	434	868
200-299	88	45	28	36	74	88	1	1	1	1	1	1	1	1	1	1	776	1,112
300-399	68	30	16	13	50	65	1	1	1	1	1	1	1	1	1	1	444	588
400-499	74	20	14	13	26	35	1	1	1	1	1	1	1	1	1	1	420	430
500-599	111	32	16	18	28	23	1	1	1	1	1	1	1	1	1	1	531	531
600-699	234	71	28	12	18	13	1	1	1	1	1	1	1	1	1	1	539	539
1,000-1,999	412	125	33	16	16	5	1	1	1	1	1	1	1	1	1	1	684	1,564
2,000-4,999	574	208	31	14	16	7	2	2	2	2	2	2	2	2	2	2	892	2,051
5,000 and over	1,568	561	118	31	29	10	3	3	3	3	3	3	3	3	3	3	2,354	5,335
	372	182	67	26	12	4	4	4	4	4	4	4	4	4	4	4	632	1,893
Total	4,351	1,505	471	270	426	387	412	342	287	213	145	102	281	83	83	83	9,358	21,832

DAIRY 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 Dairy Cattle Herd (numbers)												Total Herds	Total All Rural Holdings			
	Size of Dairy Cattle Herd (numbers)																
	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99			100-149	150-199	200 and over
NH	1,447	510	109	34	32	15	9	8	5	6	4	2	3	1	1	2,155	9,147
1-9	167	22	7	2	4	2	4	4	1	1	1	1	1	1	1	203	493
10-19	112	33	12	5	7	4	4	4	4	4	4	4	4	4	4	177	368
20-29	72	44	15	4	10	14	7	7	7	7	7	7	7	7	7	153	295
30-49	74	55	42	29	34	28	10	10	10	10	10	10	10	10	10	268	513
50-69	82	43	23	39	53	28	14	14	14	14	14	14	14	14	14	291	479
70-99	78	40	30	32	86	78	54	54	54	54	54	54	54	54	54	823	675
100-149	112	61	24	20	78	140	11	11	11	11	11	11	11	11	11	450	479
150-199	80	32	19	16	31	43	17	17	17	17	17	17	17	17	17	589	1,225
200-299	214	64	22	15	30	37	12	12	12	12	12	12	12	12	12	837	1,832
300-399	186	61	24	16	16	16	6	6	6	6	6	6	6	6	6	536	1,343
400-499	191	48	31	17	13	6	4	4	4	4	4	4	4	4	4	413	940
500-699	339	115	31	16	6	4	4	4	4	4	4	4	4	4	4	621	749
700-999	408	118	24	9	12	1	1	1	1	1	1	1	1	1	1	623	1,245
1,000-1,999	600	188	48	12	10	8	4	3	3	3	3	3	3	3	3	898	1,710
2,000 and over	189	71	27	12	4	1	2	1	1	1	1	1	1	1	1	311	1,573
Total	4,351	1,505	471	270	426	387	412	342	287	213	145	102	281	83	83	9,358	21,832

From 1942 until the 30th June, 1948, and again from the 1st July, 1949 to the 30th June, 1952, a subsidy was paid by the Commonwealth Government on milk supplied for the manufacture of processed milk products. By means of the Processed Milk Products Bounty Act 1962, the Commonwealth provided for payment of a maximum amount of \$700,000 as a bounty on exports of processed milk products during the year ended 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 \$1,000,000 in respect of exports during 1963-64 and of \$800,000 on those for 1964-65. An amending Act operative from the 1st July, 1965 fixes the maximum annual payment at \$800,000.

CATTLE FOR MILK PRODUCTION AND MILK PRODUCED (a)

Particulars	Cattle at 31st March—		Milk Produced (b)		
	1964	1965	Year (c)	Quantity	Gross Value (d)
	No.	No.		gallons	\$
Bulls of dairy breeds used or intended for service—			1952-53	49,769,166	11,182,640
Aged one year and over	5,269	4,848	1953-54	49,173,673	11,591,988
Calves (aged under one year)	(e)	1,671	1954-55	52,918,308	12,069,762
Total	(e)	6,519	1955-56	55,373,097	12,384,800
Cattle used or intended for production of—			1956-57	56,934,772	12,801,150
Milk or cream for sale—					
Cows : In milk	46,661	43,917	1957-58	54,729,735	12,681,938
dry	71,718	69,098	1958-59	50,966,678	12,202,318
Heifers : Springing (within 3 months of calving)	26,034	25,662	1959-60	55,669,001	13,447,336
Other (aged one year and over)	30,751	30,211	1960-61	58,544,118	14,242,930
Calves (aged under one year)	36,543	33,479	1961-62	58,239,666	14,142,824
Milk or cream for use on rural holdings—					
House cows and heifers	10,250	11,137	1962-63	56,028,616	13,966,620
Total	221,957	213,504	1963-64	57,162,219	14,332,514
Total Cattle for Milk Production	(f)227,226	220,023	1964-65	61,883,453	15,819,162

(a) Details of butter and cheese production appear in Part 2 of this chapter. (b) Includes milk used for processing into butter, cheese and condensary products. (c) For 1959-60 and earlier, year ended 31st March ; for 1960-61 and later, year ended 30th June. (d) Includes subsidy paid by Commonwealth Government. (e) Not available. (f) Excludes bull calves intended for service ; see note (e).

In the tables on page 292, 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 9,358. 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.

Pig Raising

For many years the rearing of pigs has been carried on in conjunction with the production of butter-fat as cream, thus providing a practical means of utilizing the skim milk obtained. They are also raised on grain-growing holdings and in 1965 more than two-thirds of the pigs in the State were in 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 reared for bacon and ham as well as pork and, although the greater proportion of production is consumed locally, there is some export trade, mainly to other Australian States. In 1964-65 a total of 984,193 lb. of pork was shipped interstate and 274,537 lb. overseas, mainly to Christmas Island (Indian Ocean) and Malaysia.

In the tables on page 294 pig herds at the 31st March, 1960, in size groups, are classified according to the size of the holding and the size of the dairy cattle herd on the holding. Of the 21,832 rural holdings of all types, pigs were carried on 4,089. Holdings with between 1,000 and 5,000 acres of land accounted for 51 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 2,825, or 69 per cent., had 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 Herds	Total All Rural Holdings	
	Size of Pig Herd (numbers)												
	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-69	70-99	100-199			200 and over
1-19	24	10	10	11	12	4	6	2	9	13	6	107	3,132
20-29	10	6	3	1	7	1	3	2	5	2	4	44	618
30-49	12	9	5	4	9	5	2	2	1	9	5	4	569
50-69	9	4	1	1	7	3	5	5	4	4	1	40	324
70-99	16	5	2	4	1	2	4	4	2	2	3	43	358
100-149	34	23	15	11	12	7	4	4	2	5	2	124	721
150-199	42	29	18	13	23	9	3	3	4	6	3	150	668
200-299	67	57	42	27	34	24	11	20	5	6	2	295	1,112
300-399	43	36	34	19	32	12	7	10	6	2	2	201	838
400-499	34	21	18	15	23	18	8	4	4	4	1	143	623
500-599	37	18	27	21	31	15	7	10	5	1	1	185	919
600-699	46	31	23	22	27	25	19	14	5	5	1	218	1,107
1,000-1,999	66	31	23	22	27	34	23	21	10	12	1	317	1,564
2,000-2,999	62	59	54	49	76	65	40	44	23	11	1	484	2,051
3,000-3,999	173	149	140	133	200	136	112	102	77	56	7	1,285	5,335
4,000-4,999	51	37	30	30	55	43	35	40	32	28	10	391	1,893
5,000 and over	51	37	30	30	55	43	35	40	32	28	10	391	1,893
Total	726	540	449	388	610	393	287	295	194	159	48	4,089	21,832

PIG HERDS AS AT 31st MARCH, 1960, CLASSIFIED ACCORDING TO SIZE OF DAIRY CATTLE HERD AND SIZE OF PIG HERD

Size of Dairy Cattle Herd (numbers)	Size of Pig Herd (numbers)										Total Herds	Total All Rural Holdings	
	Size of Pig Herd (numbers)												
	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-69	70-99	100-199			200 and over
NZ	176	186	130	123	184	134	99	102	79	70	29	1,264	12,474
1-4	194	129	123	98	154	114	83	82	45	39	9	1,070	4,351
5-9	95	67	47	38	84	52	41	44	33	20	3	525	1,505
10-14	81	20	12	12	30	15	18	7	7	9	3	161	471
15-19	26	18	6	7	9	9	3	4	4	2	2	270	391
20-29	31	20	14	23	20	7	6	6	7	2	2	138	426
30-39	33	23	31	10	17	10	7	7	6	1	1	387	387
40-49	30	44	25	15	32	14	4	6	3	3	1	144	412
50-59	37	26	19	20	28	9	6	6	2	1	1	173	412
60-69	24	22	16	11	17	6	3	5	3	4	3	117	287
70-79	9	12	9	11	11	6	3	6	2	4	1	72	218
80-89	9	4	2	2	5	6	1	4	2	1	1	32	145
90-99	9	2	3	3	7	6	3	2	2	1	1	31	102
100-149	14	10	11	9	9	6	5	12	1	4	1	81	281
150-199	4	1	1	5	3	1	3	12	1	1	1	16	83
200 and over	4	6	....	....	....	1	3	....	1	2	....	21	83
Total	726	540	449	388	610	393	287	295	194	159	48	4,089	21,832

PIG NUMBERS

As at 31st March—	Boars	Breeding Sows	Baconers and Porkers	Suckers, Weaners, Slips	Other Pigs	Total
1956	2,462	13,957	29,707	41,649	11,322	99,097
1957	3,311	20,059	41,130	60,340	15,142	139,982
1958	3,322	18,600	50,818	59,118	18,925	150,788
1959	2,673	14,634	38,917	45,478	13,744	115,446
1960	2,984	18,814	42,307	53,054	13,774	130,933
1961	3,882	25,193	55,319	72,369	18,912	175,675
1962	3,893	23,938	(a)	(a)	(b) 146,351	174,182
1963	3,041	17,849	(a)	(a)	(b) 109,901	130,791
1964	2,951	17,947	(a)	(a)	(b) 107,242	128,140
1965	3,098	19,250	(a)	(a)	(b) 114,844	137,192

(a) Not recorded separately; included with "Other Pigs." (b) Includes baconers, porkers, suckers, weaners and slips.

PIGS SLAUGHTERED(†) AND MEAT PRODUCED

Year ended 30th June—	Pigs Slaughtered		Pigmeat Produced (b)	Bacon and Ham Produced (c)
	Number	Gross Value (a)		
1956	160,815	\$ 4,219,104	'000 lb. 18,796	'000 lb. 7,237
1957	157,534	4,673,350	19,094	6,840
1958	219,712	4,680,482	25,547	6,612
1959	197,095	4,435,526	22,379	6,619
1960	168,563	5,012,270	20,227	7,117
1961	194,625	5,170,314	23,630	7,085
1962	264,444	5,169,058	29,523	7,839
1963	237,422	5,410,636	26,276	8,594
1964	185,222	5,118,290	22,066	8,468
1965	182,822	5,915,118	22,088	8,921

(†) Comprises slaughtering in abattoirs, butcheries and on stations and farms. (a) Value "on hoof" at principal market or at factory door. (b) Dressed carcass weight; excludes offal but includes quantities used to produce bacon and ham. (c) Factory production.

LIVESTOCK IN AUSTRALIA

The following table gives details of livestock numbers in each State and Territory of Australia at the 31st March, 1965.

LIVESTOCK NUMBERS AT 31st MARCH, 1965—AUSTRALIA

(Thousands)

State or Territory	Sheep	Cattle				Pigs	Horses
		Bulls (1 year and over) Used or Intended for Service	For Production of Milk or Cream	Mainly for Meat Production	Total		
New South Wales	72,396	87	1,160	3,372	4,619	449	158
Victoria	30,437	73	1,847	1,397	3,316	378	56
Queensland	24,016	127	1,035	6,230	7,393	406	201
South Australia	17,289	16	253	428	697	196	(a) 24
Western Australia	22,392	25	214	1,020	1,258	137	37
Tasmania	3,793	8	235	208	451	92	7
Northern Territory	(b) 9	(b) 33	(c) 1	(b) 1,034	(d) 1,067	(b) 2	(b) 36
Australian Capital Territory	290	(e)	2	12	14	(f)	1
Australia	170,622	369	4,747	13,699	(d) 18,816	1,660	(g) 520

(a) Estimated. (b) At 30th June, 1965. (c) At 30th September, 1964. (d) See footnotes (b) and (c). (e) Less than 500. (f) Not available for publication. (g) See footnotes (a) and (b).

POULTRY FARMING

Poultry farming in Western Australia is now mainly a specialist industry and a large proportion of the egg production is on holdings which carry sufficient birds to make the activity the sole or predominant source of income. Most of the commercial poultry farms are situated in the 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 mainly from White Leghorn cocks and 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, 1945-1965, 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, 1965, 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, 1965.

The Poultry Industry Levy Act 1965-1966 provides for the imposition throughout Australia of a levy on hens not less than six months old kept for commercial purposes. Special exemptions are made in respect of "broiler breeder hens," being hens used to produce chickens for table purposes. The levy, which does not apply to flocks of fewer than 21 hens, nor to the first 20 hens in any flock, is payable fortnightly and may not exceed 10s. (\$1) annually per bird. It commenced on the 1st July, 1965 at a rate of 3¼d. (2.71c) per fortnight for each hen. Under the Poultry Industry Levy Collection Act 1965-1966 the authority responsible for the collection of the levy in this State is the Western Australian Egg Marketing Board. The Poultry Industry Assistance Act 1965-1966 establishes a Poultry Industry Trust Fund for the receipt of the amount of the levy and other moneys. The Act provides for payment from the Fund to a State, by way of financial assistance, of such amounts as the Minister may determine upon the recommendation of The Council of Egg Marketing Authorities of Australia.

Although the Commonwealth levy replaces the egg equalization levies formerly imposed by the several State authorities for the purpose of equalizing 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 1964-65 Kuwait, Qatar, Saudi Arabia and the Bahrain Islands were the most important oversea markets for eggs in the shell. Exports of egg pulp were not significant in 1964-65.

The two following tables give details of poultry numbers, production of eggs and poultry slaughtered for the ten years ended 31st March, 1965.

POULTRY NUMBERS

As at 31st March—						Fowls	Ducks	Turkeys	Geese
1956	....	....	....	....	....	864,956	11,873	9,598	712
1957	....	....	....	....	....	955,089	11,845	11,671	1,557
1958	....	....	....	....	....	901,659	12,129	7,453	1,079
1959	....	....	....	....	....	872,258	11,560	5,391	1,416
1960	....	....	....	....	....	951,284	12,785	8,740	1,079
1961	....	....	....	....	....	1,059,116	15,527	7,335	1,081
1962	....	....	....	....	....	1,225,061	17,853	9,145	1,203
1963	....	....	....	....	....	1,443,516	12,328	8,327	896
1964	....	....	....	....	....	1,613,079	10,094	7,495	749
1965	....	....	....	....	....	2,006,988	7,851	10,005	643

EGG PRODUCTION AND POULTRY SLAUGHTERED FOR TABLE PURPOSES

Year ended 31st March—	Egg Production (a)		Poultry Slaughtered for Table Purposes
	Quantity	Gross Value	Gross Value
	doz.	\$	\$
1956	7,093,451	2,945,120	(b) 1,074,994
1957	7,443,878	3,247,334	509,742
1958	7,810,668	3,194,648	701,814
1959	7,563,740	3,228,154	718,938
1960	7,165,979	3,069,358	977,250
1961	7,055,794	3,129,460	1,403,904
1962	7,480,180	3,401,884	1,420,098
1963	7,644,484	3,522,394	2,164,142
1964	8,091,811	3,718,814	2,661,430
1965	8,626,618	3,884,458	3,138,992

(a) Excludes non-commercial production.

(b) Not comparable with figures for 1956-57 and later years owing to alteration in method of valuation.

BEE KEEPING

Commercial producers of honey in Western Australia may be divided into three categories. There are a comparatively small number of specialist apiarists, engaged solely or mainly in honey production, who operate on a large scale and transport their hives from district to district. There are also some substantial producers who are engaged in agricultural activities and use their farms as a central site from which they may transport their hives to other areas as necessary. Finally there are the many farmers and orchardists who keep a few hives and produce honey as a minor supplementary activity. This pattern of production is illustrated by the following table.

BEE KEEPERS, BEEHIVES AND HONEY PRODUCTION(†)—1964-65

Classification of Hives(†)	Bee Keepers (a)		Productive Beehives (b)		Honey Production	
	Number	Proportion of Total (per cent.)	Number	Proportion of Total (per cent.)	Quantity	Proportion of Total (per cent.)
5-19	202	44.6	845	2.1	lb. 29,489	0.4
20-49	98	21.6	1,559	4.0	98,595	1.2
50-99	43	9.5	1,844	4.7	146,142	1.8
100-199	33	7.3	3,469	8.8	245,228	3.0
200-299	21	4.6	4,660	11.8	675,748	8.4
300-499	32	7.1	11,352	28.9	2,814,959	34.9
500-799	19	4.2	9,812	25.0	2,692,128	33.4
800 and over	5	1.1	5,782	14.7	1,364,021	16.9
Total	453	100.0	39,323	100.0	8,066,310	100.0

(†) Excludes details of bee keepers with less than five hives. (a) At 30th June, 1965. (b) Represents the number of hives at 30th June, 1965 from 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 1964-65 exports of honey totalled 5,979,306 lb., the export value being \$612,398. The principal buyers were the United Kingdom, which purchased 2,336,594 lb., the Federal Republic of Germany 2,144,905 lb., and Japan 635,349 lb.

BEEHIVES AND HONEY AND BEES-WAX PRODUCTION (a)

Year	Beehives (b)		Honey Production		Bees-wax Production	
	Productive (c)	Unproductive (d)	Quantity	Gross Value	Quantity	Gross Value
	No.	No.	lb.	\$	lb.	\$
1960-61	36,500	10,058	5,311,108	302,734	71,309	28,150
1961-62	37,813	7,450	7,982,377	505,550	93,802	31,892
1962-63	37,380	8,800	6,098,795	536,578	79,026	27,830
1963-64	39,924	9,480	8,510,479	860,333	102,501	34,240
1964-65	39,323	9,539	8,066,310	520,150	106,125	41,610

(a) Excludes particulars of bee keepers with less than five hives.

(b) Number at 30th June.

(c) Hives from which honey was taken. (d) 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, Apiculture, Poultry and Brands), Wheat and Sheep (including the Cereal Products and Fleece Testing Laboratories), Dairying, 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 Vermin Control and Abattoirs and separate sections covering Rural Economics and Marketing, Publications and Library. Muresk Agricultural College is 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 1898 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 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 Northam were not then available. There was little comprehension of the many problems associated with land development and not much public appreciation of the part that science might play in solving them.

From small beginnings the Department's responsibilities and activities extended as agriculture developed. In the first quarter of a century of its existence, expansion and consolidation of farming in the wheat belt overshadowed other activities. That was only natural, as the acreage of wheat for grain expanded from 200,000 in 1905 to nearly 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 Hamel in 1896. Valuable work was carried on at this centre for nearly twenty years in connexion with the growing of potatoes, fruit, cereals, hops, fodder crops and pasture, and some success was achieved with wheat breeding.

Government farms were opened at Narrogin in 1901 and at Nabawa, 25 miles north of Geraldton, in 1902. In 1907 a farm at Nangeenan, near Merredin, was taken over from the Lands Department and is now the Merredin Research Station. In the same year a farm was established in the South-West at Brunswick in order to provide object lessons in dairying, as it was felt that there were great possibilities of expanding the dairying industry. After functioning for several years this farm was closed and the land was subsequently used for closer settlement purposes.

In 1911 a change was made in the policy of the government farms in the wheat belt and their character changed from "experimental" to "experiment" farms. 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 Nabawa, Badgingarra, Wongan Hills, Merredin, Beverley, Newdegate, Salmon Gums and Esperance deal with agriculture in the cereal-growing and sheep-raising districts and stations at Denmark, Bramley and Wokalup serve the dairying districts. Vegetable research stations are situated

at Medina and Manjimup and a new pig research 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.

The Kimberley Research Station, operated in conjunction with the Commonwealth Scientific and Industrial Research Organization, is concerned with problems of irrigation in relation to agriculture in the tropics, with particular reference to the agricultural settlement now taking place on the Ord River. At Abydos, near Port Hedland, regeneration of overgrazed pastoral country and a study of sheep breeding problems are the main concerns. At the Gascoyne Research Station at Carnarvon, problems of growing tropical fruits and winter vegetables are being investigated. The Wiluna Groundwater 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 has exercised a powerful influence in publicizing and accelerating the adoption of better farming methods. It is difficult to assess the results of any educational undertaking in terms of money, but the desirability of having a well-informed farming community, receptive to new ideas, is obvious. Although the best method of taking advice to farmers is for the technical officer to visit farms for discussion with the farmer on his own property, this is unfortunately not always possible as an officer may have between 500 and 1,000 farms in his district. Individual visits often have to be restricted to cases where a specific request has been made or where some urgent action is required.

Extension officers support 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 this respect. Field experiments, both at the stations and on farmers' properties, form an excellent basis for demonstrations and talks. The various competitions in which extension officers act as judges provide another means of bringing farmers together for discussion. These competitions are generally concerned with crops and pastures but may include other types such as those conducted by Junior Farmers' Clubs for show exhibits and for debates. Extensive use is made of the radio which, in Western Australia, probably reaches more people than does any other medium. Between 200 and 300 broadcasts are given by departmental officers each year and 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 18,000, special quarterly publications for dairy farmers and bee keepers, and bulletins covering a wide range of subjects.

Advisory work is not concentrated in a single Division but is carried out by several Divisions and Branches of the Department. In recent years 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, Kununurra, Manjimup, Merredin, Moora, 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, Gosnells, Kalamunda, Kalgoorlie, Kellerberrin, Lake Grace, Margaret River, Mount Barker, Mundaring, 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 cereal-breeding activities is well known. Cereal varieties 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, zinc and molybdenum. As a result of this work, fertilizers containing trace elements have been applied in recent years to extensive areas of the State's farming land. These investigations, together with allied work on superphosphate and the establishment of subterranean clover pastures, constitute the technical factors which have made possible the rapid post-war expansion of light land development.

In the pastoral areas of the north-west the sheep-carrying capacity of large tracts of country has been seriously reduced by drought and overgrazing. Recent work by officers of the Department has shown that much of this country can be reclaimed by adopting systems of grazing management different from those employed in the past.

Nutritional disorders and diseases of farm animals cause considerable loss to farmers and pastoralists. Some of the Department's most notable successes have been achieved when dealing with problems in this field, which include enzootic ataxia, enterotoxaemia, toxic paralysis, and clover disease in sheep, copper and cobalt deficiencies in cattle, Kimberley horse disease, plant poisoning of stock and infertility in dairy cows. Problems of sheep infertility, of lupinosis and of mastitis in dairy cows are among investigations at present in progress.

A soil conservation service was established in the Department in 1947. Since then a great deal of information about the incidence and nature of erosion has been collected and many farmers have been assisted with their erosion problems. Considerable attention has also been given to the salt problem in the agricultural districts.

In somewhat more restricted fields the use of a hormone spray instead of cincturing, for currant vines, is a noteworthy change in agricultural practice resulting from investigations by the Department. The selection of the rust-resistant runner bean variety, "Westralia," has greatly reduced one of the hazards with which the bean grower has to contend.

Agriculture Protection

For the control, prevention and eradication of noxious weeds and vermin, there is an Agriculture Protection Board which operates in collaboration with the Department of Agriculture.

The Board, which was established in 1951 following recommendations by a Royal Commission, is constituted under the provisions of the Agriculture Protection Board Act, 1950-1964, 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, 1950-1965. "Vermin" means any animal, bird or insect proclaimed to be vermin as provided by the Vermin Act, 1918-1965, 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 to form herd-testing units, thus enabling them to gauge the performance of their herds, is another service of similar nature. Assistance and technical advice is given to farmers concerned with the installation of irrigation schemes and the preparation of land for irrigation. An artificial insemination centre for dairy stock has been established at the Wokalup Research Station. In 1965 the State Parliament enacted the Artificial Breeding Board Act providing for the constitution of an Artificial Breeding Board which, in

effect, assumed control of such centres, and responsibility for promotion of artificial breeding. The Act came into operation by proclamation on the 16th December, 1966.

The producers who benefit from the services mentioned in this section pay something for them, but not necessarily the full amount of the cost of providing them.

Administration of Acts

The Department of Agriculture is responsible for administering some fifty Acts concerning a wide range of subjects. Some of the more important relate to animal and plant diseases and insect pests, industry trust funds, soil conservation, vermin control, marketing of agricultural products and registration of feeding stuffs, 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 1964-65 the recorded gross value was only \$774,980 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 destruction being the damage done to pastures and fencing. As early as 1849 the export of kangaroo skins for the year was no less than 12,387. In 1964-65, 101,192 skins of marsupials (comprising kangaroo, wallaby and opossum skins) valued at \$98,984 were exported. A small quantity is also 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 1900 and the meat and skins of these animals have been a source of income to trappers ever since. In an attempt to reduce the damage done to crops and pastures, various methods of control have been adopted and since the second World War an intensive campaign, using myxomatosis virus, poisons and warren ripping, has met with considerable success. As a result, the quantity of rabbit meat produced and the number of skins exported and treated locally have declined greatly and in 1964-65 the total value was estimated at only \$85,190.

Wild goat meat valued at \$337,458 was exported during 1964-65.

The skins of animals other than marsupials and rabbits, together with exports of Western Australian fauna, account for the balance of the value of the trapping industry.

FORESTRY

The Prime Indigenous Forests

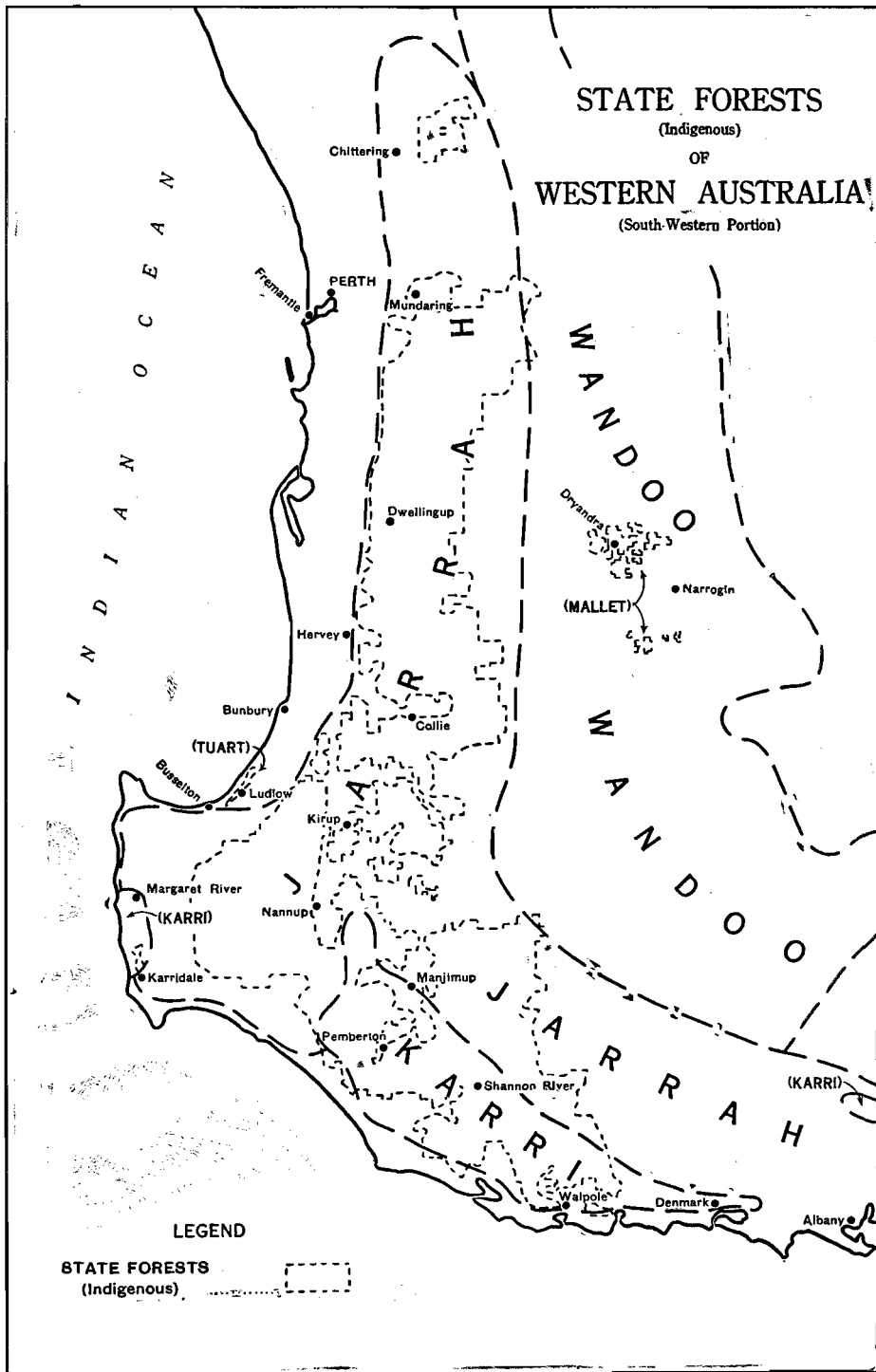
Although the prime indigenous forests of Western Australia cover only a small percentage of the area of the State, they are of considerable economic importance. This is not only on account of the durability, strength and general-purpose nature of their hardwood timbers, but also because of their occurrence on the water catchment areas in the high-rainfall and closely-populated section of the State. Being easy to regenerate after cutting, they form a natural and effective protection against soil erosion. 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.

Jarraah (*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 but only about 20 per cent. of it is in pure stands. Wandoo (*E. redunca*) accounts for a smaller portion of the dedicated area and Tuart (*E. gomphocephala*), another valuable timber, has a restricted area of about 6,000 acres. Marri (*E. calophylla*) and Blackbutt (*E. patens*), which occur through the jarraah and karri forests, are important milling timbers, but the present output is comparatively small.

Other eucalypts and many trees of different genera occur within the prime forest belt but they are not of major economic importance. The main distribution of the prime forests, which are practically confined to the south-western portion of the State, is shown on the accompanying map.

The Inland Forests

Beyond the area of prime forest is an inland forest of sclerophyllous woodland, within which are a number of eucalypts (both tree and mallee form), as well as several types of *Acacia*, such as the wattles and mulgas, tea tree (*Melaleuca spp.*) and casuarinas. Sandalwood (*Santalum spicatum*), indigenous to the wheat belt and semi-arid areas of the State, is still exported to Asian countries but is now obtained only from the semi-arid regions.



While none of the inland forest can be classed as suitable for sawmilling in the ordinary sense, it forms an important source of timber for mining and agricultural purposes. During recent years, soil conservation in the regions of low rainfall has received increasing attention and the importance of controlling clearing, grazing and firewood cutting has been recognized. The Forests Department maintains a staff to exercise these controls and to advise on tree planting.

Forestry Administration

Scientific forestry was given considerable impetus in Western Australia with the passing of the Forests Act in 1918. Extensive cutting over the previous fifty years had seriously depleted the State's timber resources and adequate provision had not been made for protection and regeneration. Under the Act, however, wide powers are conferred on the Forests Department, which is granted nine-tenths of the net annual government revenue from forestry sources. The sum received, together with various other grants, is used for regeneration, fire control and associated purposes.

The forests are now managed on a long-range working plan to ensure continuity of the industry, trees being approved for cutting and marked accordingly by trained foresters, who work under the direction of the Conservator of Forests and closely control both the indigenous forest and the mallet and pine plantations. The future productivity of the forests is also safeguarded by ensuring that cutting is carried out in such a way as to protect immature growth and to encourage natural regeneration, which is a very important feature of the Department's policy.

Brown Mallet (*Eucalyptus astringens*), the bark of which 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.

Plantation methods are being employed to grow pines, principally *Pinus pinaster* and *Pinus radiata*, as the State has no indigenous softwoods of commercial significance. Thirteen plantations, with a planted area of 42,076 acres, have been established and a planting programme of 2,500 to 3,000 acres per annum currently being carried out is planned to provide, ultimately, 200,000 acres of pine forest. Most of the land selected for the purpose is of limited value for agriculture but when used for pines it constitutes a valuable long-term investment, with the prospective development of industries for the manufacture of paper, wall-board and similar products.

Because of the hot, dry summer experienced in most of the areas covered by State Forests, there is a considerable risk of damage by fire and intensive precautions are taken by the Department to minimize this danger. Look-out towers, provided with radio or telephone communication, are manned at strategic points and controlled burning is carried out when conditions are suitable. Restrictions are placed on all burning operations by farmers and other persons when the fire hazard is high and at such times warnings are issued emphasizing the danger.

In association with the system of cutting control, various royalties, licence and permit fees are collected as part of the Consolidated Revenue of the State.

Information concerning forest tenures, the issuing of licences and permits, etc. is given under the heading "Forests Department" in the section *Methods of Leasing* in Chapter VII, Part 1.

Principal Forest Products

Sawn timber is the principal form of forest production, but there has been a rapid increase in the use of logs for plywood manufacture during recent years. Karri and, to a lesser extent, locally-grown pine logs are used for this purpose, together with imported logs.

In addition to these major products, the State's forest wealth includes wandoo (the whole tree) and mallet bark for tanning extract, sandalwood for export and as a source of sandalwood oil, firewood for general purposes, sheoak (*Casuarina spp.*) for barrel staves, manna gum (from *Acacia sp.*) and various seeds and plants for propagation both in Australia and abroad. Wandoo and jarrah are used as a source of charcoal for the high-grade charcoal pig-iron produced at Wundowie. The karri, wandoo, marri and some inland species are important nectar producers for apiarists, who move their bees to various forest sites in following the nectar flow.

The following table gives details of sawn and round timber production from 1955-56 to 1964-65. It shows that sawn timber production decreased progressively from 222.4 million super. feet in 1955-56 to 201.7 million super. feet in 1957-58. In 1958-59 production increased to 211.8 million super. feet but declined sharply during the next two years, to 198.9 million super. feet in 1959-60 and 186.9 million in 1960-61. Production recovered slightly in 1961-62, when 192.8 million super. feet were cut. The total of 185.8 million super. feet in 1962-63 was the lowest since 1951-52. Increases occurred in 1963-

64, when 195·7 million super. feet were produced, and in 1964-65, when production reached 204·9 million super. feet. During the ten-year period covered by the table, the output of round timber, which consists mainly of mining timber, piles, poles, fencing posts and rails, ranged between a maximum of 31·5 million super. feet in 1957-58 and a minimum of 20·0 million super. feet in 1962-63.

TIMBER PRODUCTION (a)
(Thousand super. feet)

Item	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65
Timber—Sawn	222,398	204,475	201,664	211,832	198,903	186,911	192,789	185,809	195,724	207,304
Timber—Round	22,740	23,952	31,509	25,947	26,558	23,405	21,159	20,026	23,187	25,950

(a) From local logs and includes railway sleepers and plywood veneers in terms of super. feet.

Sawmilling is dealt with in greater detail under *Secondary Industry* in Part 2 of this Chapter.

In 1964-65 exports of railway sleepers totalled 14·8 million super. feet, of which 5·6 million went to other Australian States and 9·2 million to oversea markets, principally the Republic of South Africa, New Zealand, Ceylon and the United Kingdom. In the same year 30·7 million super. feet of other timber was exported to other Australian States and 11·0 million was shipped overseas, the principal markets being the Republic of South Africa, New Zealand, the United Kingdom, the Netherlands and Iraq.

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 1960-61 to 1964-65.

PRODUCTION OF FISH (a)

Species—Common Name	1960-61	1961-62	1962-63	1963-64	1964-65
Crustaceans—	lb.	lb.	lb.	lb.	lb.
Crabs	43,399	59,041	35,685	29,751	27,992
Crayfish	18,019,237	19,772,000	21,380,000	17,972,537	16,375,120
Prawns	106,069	238,937	1,016,751	2,118,317	1,829,490
Total	18,173,705	20,069,978	22,432,436	20,120,605	18,235,602
Other—					
Bream, Black	18,202	21,813	27,526	32,242	37,733
Bream, Buffalo	42,289	29,586	17,309	38,898	29,361
Bream, Yellow-fin	65,894	48,229	46,201	36,795	49,829
Bream, Silver or Tarwhine	8,072	2,680	5,359	9,835	4,325
Cobbler	659,114	771,129	495,478	486,991	255,461
Cod	29,247	19,794	18,981	43,688	49,283
Flathead	21,146	15,641	17,019	22,600	17,446
Garfish	79,174	43,536	34,931	73,576	51,780
Groper	19,381	17,976	21,030	19,447	27,445
Herring, Perth	112,002	87,674	106,803	184,238	311,204
Jewfish, Westralian	340,108	236,493	292,830	321,386	283,467
Kingfish, Sea (Samson Fish)	75,202	54,524	72,488	80,164	62,821
Leatherjacket	49,474	43,604	32,455	25,556	20,050
Mackerel, Spanish	144,685	82,819	139,299	192,821	229,641
Mullet, Sea	871,989	835,394	902,137	902,142	984,206
Mullet, Yellow-eye	503,269	408,874	443,532	373,783	431,508
Mulloway (River Kingfish)	8,740	17,289	8,804	28,024	39,471
Pike	25,069	25,252	21,035	12,933	35,453
Ruff (Sea Herring)	918,992	777,823	839,012	529,006	880,922
Salmon, Australian	2,101,024	5,543,426	3,156,585	4,614,914	3,401,307
Shark	458,516	501,376	681,838	687,660	802,478
Snapper	1,985,137	1,072,141	1,385,711	1,543,052	1,083,244
Tailor	128,798	187,249	196,542	163,201	191,768
Trevally, Silver (Skipjack)	104,657	59,306	80,269	81,388	104,475
Whiting, Sand and School	444,108	505,678	559,977	542,131	413,993
Whiting, King George	76,809	63,792	59,358	45,896	37,314
Other Species (b)	834,244	355,031	642,443	1,153,333	1,844,943
Total	10,122,342	11,827,109	10,306,012	12,246,255	11,680,928
GRAND TOTAL	28,296,047	31,897,087	32,738,448	32,366,860	29,916,530

(a) Estimated live weight.

(b) Includes turtles.



KARRI FOREST IN THE SOUTH-WEST

The karri forest is confined to the hilly country of the extreme south-west of the State where the annual rainfall is in excess of 40 inches. Distributed over some 800,000 acres, the karri tree (*Eucalyptus diversicolor*) attains a height of nearly 300 feet and is the source of a valuable hardwood timber.

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 1950, 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 oversea demand, which developed rapidly in post-war years, gave great impetus to the industry and the take increased almost eightfold between 1947 and 1960-61, when total production of live crayfish was 18.0 million lb., valued at \$6.01 million to the fishermen. In 1961-62 production increased to 19.8 million lb. valued at \$8.19 million and in 1962-63, although the catch of 21.4 million lb. was the highest ever recorded, the value showed a slight decrease to \$7.91 million. Production in 1963-64 fell to 18.0 million lb. valued at \$6.89 million and, although the catch declined further to 16.4 million lb. in 1964-65, the value at \$11.2 million was the highest ever recorded. In 1964-65 the oversea export of crayfish tails totalled 5.89 million lb., the f.o.b. value being \$10.6 million.

The most important commercial species of crayfish in Western Australian waters is *Panulirus cygnus*, which occurs off the south-west coast between Geraldton and Hamelin Bay. The principal localities around which crayfish are caught are the Abrolhos Islands, Geraldton, Dongara, Beagle Island, Green Head, Jurien Bay, Cervantes, Lancelin, Ledge Point and Fremantle. The industry is protected from overfishing by such measures as the declaration of closed seasons; the proclamation of fishing zones; the prohibition of the taking of fish of less than a prescribed size or of female crayfish having berry (*i.e.* eggs) attached; requiring that every crayfish pot shall have an escape gap of specified dimensions; 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 (*Pomatomus saltator*), sea herring or ruff (*Arripis georgianus*), transparent whiting (*Sillago bassensis*), Western sand whiting (*Sillago schomburgkii*), sand whiting (*Sillago ciliata*), sea mullet (*Mugil cephalus*) and trevally or skipjack (*Usacaranx georgianus*). This is sold mainly as wet fish on the local market, but large quantities of sea herring are canned and there are some exports, principally of whiting, to the other Australian States.

The coastal waters northward from the mouth of the Murchison River to North West Cape and Exmouth Gulf are the source of several species of commercial importance. Snapper (*Chrysophrys auratus*) are caught between the Murchison River and North West Cape, during the northern schooling season from May to August, by means of hand-lines. The use of traps, which have also been employed in this fishery, has been prohibited, within Western Australian waters as defined in the Fisheries Act, for a trial period of two years commencing with the 1965 season with the object of obtaining comparative data on the effect of the traps on the soft-coral habitat of the fish. Cod and groper, 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 Westralian jewfish (*Glaucosoma hebraicum*). At Shark Bay a prawn-fishing industry has been successfully established in recent years, the catch being processed at Carnarvon. The species caught are the Western king prawn (*Penaeus latisulcatus*) and the tiger prawn (*P. esculentus*). 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 Learmonth and on freezer boats. As a conservation measure the number of fishing boats licensed to operate has been limited to 30 at Shark Bay and 18 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 (*Cnidogobius 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 garfish (*Hemirhamphus australis*), Perth herring or gizzard shad (*Fluvialosa vlaminghi*), sea mullet, tailor, sand whiting, King George whiting (*Sillaginodes punctatus*), 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 marron (*Cherax tenuimanus*), occurs in the streams of the lower south-west. Brown trout, rainbow trout and English 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

As at 31st 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.		cwt.	\$	cwt.	\$
1955	687	2,827,146	1,159	1956	94,014	2,456,892	87,268	1,161,808
1956	706	3,124,260	1,285	1957	96,099	2,710,776	85,347	1,155,024
1957	812	3,717,090	1,348	1958	118,994	3,442,882	87,459	1,265,238
1958	871	4,311,296	1,503	1959	156,400	4,598,174	90,302	1,335,838
1959	960	5,202,924	1,673	1960	174,513	6,026,510	91,562	1,219,814
1960	1,053	6,880,810	1,923	1961	160,886	6,006,402	84,681	1,199,950
1961	1,119	7,421,056	2,039	1962	176,536	8,186,000	104,075	1,332,994
1962	1,325	8,588,200	2,483	1963	190,893	7,906,000	90,482	1,203,602
1963	1,456	9,780,520	2,526	1964	160,469	6,889,472	102,623	1,374,882
1964	1,438	9,246,590	2,299	1965	146,233	11,191,714	92,509	1,299,552

(a) Comprises employees and working proprietors. (b) Excludes oysters, crabs, prawns and scallops. (c) Live weight of whole crayfish. (d) Estimated live weight.

Whaling

Whaling has been conducted along the Western Australian coast from the first years of settlement and whale oil and whale bone were among the earliest exports from the Colony. Activity since then has fluctuated widely and at times ceased altogether. The latest large-scale revival of the industry began in 1949, when a station at Point Cloates on the north-west coast was reopened after a lapse of more than twenty years. A treatment plant was established by the Australian Whaling Commission at Babbage Island, near Carnarvon, in 1951 and a plant at 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.

Before the 1962 season the whales taken were predominantly humpbacks. The only station now operating is at Albany where sperm whaling has been carried on since 1955.

The figures in the following table have been derived from information provided by the Fisheries Branch of the Commonwealth Department of Primary Industry.

WHALING

Year	Humpback		Sperm	
	Whales Taken (a)	Oil Produced (b)	Whales Taken	Oil Produced (b)
		tons		tons
1955	1,120	9,307	7	41
1956	1,120	9,427	61	439
1957	1,120	9,422	139	910
1958	972	8,007	279	1,782
1959	713	5,476	137	977
1960	547	4,238	282	1,886
1961	582	4,482	454	3,137
1962	549	4,042	591	4,026
1963	88	638	(c) 654	4,028
1964	....	....	801	5,069
1965	....	....	668	4,379

(a) Figures include one fin whale in 1956, two blue and three bryde whales in 1958, one fin and 12 blue whales in 1959, two blue whales in 1960, two bryde whales in 1961, four blue and two sei whales in 1962, and one blue whale in 1963. (b) 1 ton = 6 barrels (approximately). (c) Includes three sei whales.

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 was a decline in production in each year from 1959 until 1964, when 138 tons of shell were raised. In 1965 the quantity increased slightly to 160 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 1965 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, and a small quantity of pearls was harvested at Exmouth Gulf for the first time in 1965. Figures in the following table do not include details of culture pearl production.

PEARL AND PEARL-SHELL FISHERIES
(Excluding Pearl Culture)

Item	Year ended 31st December—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
VESSELS OPERATING										
Number	42	48	42	29	27	17	16	13	10	11
Aggregate Tonnage	907	1,100	987	739	675	449	424	338	256	252
Value (including Equipment) \$	502,000	530,080	437,000	360,578	302,400	165,000	148,000	134,000	108,000	96,600
NUMBER OF PERSONS ENGAGED										
European	24	23	17	14	12	9	10	6	10	5
Australian Aboriginal	98	80	64	55	61	27	35	19	19	25
Asian—										
Chinese	83	110	102	74	53	13	6	6	4	2
Filipino	4	2	....	....	....	....	....	....	....	....
Japanese	106	117	116	96	101	74	68	45	30	28
Koepangers	23	31	27	15	9	6	4	2	1	2
Malay	121	119	93	54	64	56	48	42	38	44
Other ....	....	....	....	4	2	2	....	....	1	1
Total	342	379	338	243	229	151	126	95	74	77
Total Persons Engaged	464	482	419	312	302	187	171	120	103	107
PEARL-SHELL AND PEARLS PRODUCED										
Pearl-shell—Quantity tons	898	990	753	508	567	358	349	242	138	160
Value \$	1,167,154	1,209,602	695,830	573,408	539,572	311,360	312,148	217,700	182,080	258,394
Value of Pearls \$	14,400	19,786	41,738	13,940	14,420	8,600	8,210	8,640	1,092	980

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 copper and lead in the Northampton district. The impetus given to prospecting by the Kimberley finds led to other gold strikes between 1887 and 1891 and the rich discoveries at Coolgardie in 1892 and at Kalgoorlie in 1893. 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 about half the total value of mine and quarry products.

The mining industry, for many years paramount 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 1—*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. Beach sands in the lower south-west of the State are being exploited for their ilmenite content, bauxite deposits in the Darling Range near Perth are being worked as a source of alumina, and iron-ore mining at Yampi Sound has been considerably expanded. Exploratory surveys in the Pilbara and elsewhere have proved the existence of vast reserves of high-grade iron ore. A number of companies are engaged in developmental work connected with the mining, export and processing of the ore, and the first commercial shipments to oversea destinations were made in 1966. Oil search drilling has resulted in the discovery of flow oil and in widely-spaced finds of natural gas in significant quantities.

The following table gives details of mine and quarry production during the calendar years 1963 to 1965.

RECORDED MINE AND QUARRY PRODUCTION

Item	1963		1964		1965	
	Quantity	Value	Quantity	Value	Quantity	Value
	fine oz.	\$	fine oz.	\$	fine oz.	\$
Gold (a)	802,860	26,457,686	(b) 715,481	(b)23,465,576	656,355	22,284,899
Silver (c)	213,878	245,560	224,573	263,282	234,280	274,473
Asbestos—	tons		tons		tons	
Crocidolite	11,095	2,404,004	10,614	2,124,200	9,280	1,974,246
Chrysotile	10	1,566	536	87,362	402	57,678
Barytes ....	....	....	172	1,366	751	6,006
Beryl	82	22,204	80	18,076	14	2,891
Clays—all kinds (d)	501,420	502,278	583,471	534,552	541,200	534,304
Coal	902,495	3,970,120	987,420	4,678,934	993,741	4,409,972
Copper Ore	6,266	615,804	4,619	558,068	2,052	258,517
Cupreous Ore (e)	3,235	272,400	2,197	251,970	1,079	99,234
Felspar	992	13,970	1,386	19,526	1,384	19,488
Glass Sand	9,926	15,110	10,047	14,058	9,259	12,169
Gypsum	50,808	164,934	44,998	107,556	46,607	89,154
Ilmenite Concentrates	195,008	1,854,244	297,322	2,811,812	430,455	4,331,784
Iron Ore	1,333,138	2,690,508	1,357,715	2,770,930	2,313,434	4,662,022
Lead, Silver-lead and Silver-lead-zinc Ore and Concentrates	185	13,070	3,354	198,868	4,878	401,978
Leucosene Concentrates	547	13,892	656	26,660	380	16,858
Limestone and Shell (including road-making stone but excluding building stone)	687,163	627,462	749,062	490,130	949,358	1,099,012
Magnesite	6,495	88,334	1,574	20,040	199	3,176
Manganese Ore	34,808	864,268	60,182	1,415,788	97,901	2,106,058
Monazite Concentrates	1,320	105,688	1,126	97,294	1,447	155,040
Ochre	213	2,556	324	3,884	187	2,240
Pyritic Ore and Concentrates	58,472	974,496	58,396	1,109,078	59,180	1,048,425
Rutile Concentrates	763	45,460	669	42,150	225	15,990
Stone, Building and Monumental—Sandstone, Limestone, Granite, etc.	210,770	427,784	148,939	349,420	185,601	443,718
Stone, Crushed and Broken (f)—Granite, Diorite, Quartzite, Basalt	1,206,388	3,598,666	1,750,351	5,117,416	2,078,927	8,346,670
Talc	4,669	142,426	5,432	150,004	7,088	205,410
Tantalite Concentrates (including Tantalite-Columbite)	30,890	46,468	32,637	26,574	24,807	23,055
Tin Ore and Concentrates	576	816,046	637	1,240,782	679	1,558,770
Tungsten Ores and Concentrates—Scheelite ....	....	....	4	2,348	....	....
Zircon Concentrates	12,542	261,292	21,511	435,402	23,410	687,310
Other (Value only) (g) ....	....	209,636	....	872,564	....	1,313,851
Total Value ....	....	47,467,932	....	49,305,670	....	56,444,398

(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 1963, \$28,758; in 1964, \$23,418; in 1965, \$114,640. They also include Commonwealth net subsidy paid to gold producers—in 1963, \$1,339,566; in 1964, \$1,083,374; in 1965, \$1,659,163. (b) Decrease due mainly to cessation of operations during 1963 at a number of mines situated in the Coolgardie, Mount Margaret and Yilgarn Goldfields. (c) By-product from treatment of auriferous ore and includes silver contained in silver-lead and copper ores and concentrates exported, for which see table on page 811. (d) Includes production of bentonite. (e) For fertilizer. (f) Excludes limestone. (g) Includes production of bauxite and salt.

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 1964 was only 7,403 compared with 16,530 in 1939. This decline in employment occurred mainly in the gold-mining industry and further comment on it appears on page 310.

MEN WORKING AT MINES AND QUARRIES (a)

Description	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Gold Mining (b)	5,845	5,628	5,385	5,352	5,273	4,992	4,945	4,963	4,901	(c)4,383
Coal Mining	1,386	1,219	1,136	1,072	1,011	984	582	757	757	765
Other Mining and Quarrying	1,161	1,187	1,349	1,321	1,638	1,698	1,866	1,819	1,837	2,255
Total	8,392	8,034	7,870	7,745	7,922	7,674	7,393	7,539	7,495	7,403

(a) Average over the whole year. (b) Includes alluvial diggers. (c) See footnote (b) to previous table.

The mining laws of the State have been designed to encourage as well as to control activity in the industry. This policy and the experience of other countries were given due consideration in framing them and they are regarded as equitable and offering all reasonable incentives to mining development. The various tenures are described in detail in Chapter VII, Part 1—*Land 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 1885. This find led to widespread prospecting activity, resulting in further gold strikes between 1887 and 1891 in the Yilgarn, Pilbara, Ashburton and Murchison districts. These were followed by spectacular discoveries in 1892 at Coolgardie and in 1893 at Kalgoorlie where the famous Golden Mile was developed. The Golden Mile is still the principal source of gold in the State and accounts for about one-half of Australia's total production. By 1900 all the present proclaimed goldfields, ranging from Kimberley in the north to Phillips River in the south, had been opened up.

The production of each of these fields, as reported to the Department of Mines, for each year from 1955 to 1964 is shown in the following table.

MINE PRODUCTION OF GOLD (†) CLASSIFIED ACCORDING TO GOLDFIELD
(Fine ounces)

Goldfield	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Kimberley	192	179	68	50	38	18	16	31	160	15
Pilbara	3,874	2,074	785	1,004	1,071	2,944	4,639	1,603	1,764	968
West Pilbara	29	1	57	15	11	5	4	9	....	....
Ashburton	19	1	1	....	....	1	....	....	....	1
Gascoyne ....	....	....	....	6	43	141	452	274	242	311
Peak Hill	112	16	260	638	436	501	330	269	87	18
East Murchison	134	272	206	817	732	381	373	353	278	848
Murchison	89,146	85,914	85,627	81,984	95,361	91,970	91,877	94,679	83,700	71,414
Yalgoo	12	....	112	9	61	1	85	153	102	....
Mount Margaret	28,671	29,851	32,519	31,010	34,192	34,106	33,977	27,186	31,982	909
North Coolgardie	35,918	27,646	23,525	21,027	22,458	20,250	15,849	17,567	18,357	17,858
Broad Arrow	2,735	1,957	2,928	2,385	1,663	1,543	2,455	935	1,285	3,027
North-East Coolgardie	369	105	115	322	385	141	161	138	231	173
East Coolgardie (a)	489,040	474,590	510,830	529,768	510,382	531,981	540,473	526,478	531,102	509,984
Coolgardie	21,590	17,839	19,267	14,867	17,393	12,342	13,834	11,888	10,139	4,008
Yilgarn	66,710	84,090	80,995	81,740	73,302	70,689	64,301	65,138	17,904	2,784
Dundas	95,718	89,069	92,071	108,331	101,643	101,555	98,890	110,252	102,951	100,864
Phillips River	3	1	359	812	1,366	1,331	2,720	2,987	(b)2,542	(b)2,210
Outside Proclaimed Goldfields (c)	54	12	16	34	432	66	222	99	34	89
Total	834,326	813,617	849,741	874,819	860,969	869,966	870,658	860,039	802,860	715,481 (d)

(†) As reported to the Department of Mines. (a) Includes Golden Mile, Kalgoorlie; see letterpress preceding table.
(b) Produced mainly from copper concentrates. (c) Includes South-West Mineral Field. (d) See footnote (b) to table on page 308.

Production reached a maximum of 2,064,800 fine ounces in 1903 but there followed a gradual and continuous decline, due mainly to exhaustion of surface deposits, until in 1929 the yield was only 377,176 fine ounces. In succeeding years various economic factors stimulated activity in the industry and there

was a well-maintained improvement until 1939 when production reached 1,214,238 fine ounces. The second World War brought about a decline which was accelerated by the 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 manpower control. The average annual production as reported by gold mines for the ten-year period 1955-1964 was 835,248 fine ounces.

The figures given in the following table 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 \$2,645,422 for the years 1952 to 1964, distributed by the Gold Producers' Association Ltd. from premiums on sales of Western Australian gold. The amounts shown as "Commonwealth Net Subsidy" represent payments made to gold producers under the Gold-Mining Industry Assistance Act passed by the Commonwealth Parliament in 1954. The values exclude amounts, totalling \$398,562 up to the end of 1964, paid by the Commonwealth under the Gold Mines Development Assistance Act 1962 in the form of a development allowance to approved producers not receiving the subsidy. This Act expired on the 30th June, 1965 and was not renewed, as the result of an amendment made in 1965 to the Gold-Mining Industry Assistance Act liberalizing the conditions applying to subsidy payments and continuing the operation of the Act until the 30th June, 1970.

It will be seen that refinery production of gold from 1886 to 1964 amounted to 64.9 million fine ounces. The total value was \$1,000.2 million but it should be noted that this figure has been derived by the aggregation of annual valuations made at prices *current at the time of production*, which ranged between \$8.49542 per fine ounce in 1886 and \$31.25 per fine ounce in 1964, and the addition of premiums paid by the Gold Producers' Association Ltd. and of government subsidies.

REFINERY PRODUCTION OF GOLD FROM 1886

Period	Quantity (a)			Value			
	Refined Outside the State (b)	Refined at Perth Mint	Total	Mint Value	Payments by Gold Producers' Association Ltd.	Commonwealth Net Subsidy	Total
	fine oz.	fine oz.	fine oz.	\$	\$	\$	\$
Prior to 1955	11,564,356	44,930,292	56,494,648	724,291,496	2,277,054	....	726,568,550
1955	4,092	837,914	842,005	26,312,658	38,460	398,258	26,749,376
1956	2,331	810,049	812,380	25,386,854	24,308	993,638	26,404,800
1957	2,042	894,639	896,681	28,021,272	55,098	1,025,416	29,101,786
1958	1,811	865,377	867,188	27,099,576	10,292	1,246,788	28,356,656
1959	2,322	864,287	866,609	27,081,524	2,334	1,304,532	28,388,390
1960	2,069	853,690	855,759	26,742,456	866	1,396,484	28,139,806
1961	2,943	868,902	871,845	27,245,154	168,626	1,170,612	28,584,392
1962	4,539	854,829	859,368	26,855,252	16,208	1,243,146	28,114,606
1963	4,665	795,546	800,212	25,006,614	28,758	1,339,566	26,374,938
1964	3,071	709,776	(c) 712,847	22,276,468	23,418	1,083,374	23,383,260
From 1886 to 31st December, 1964	11,594,240	53,285,301	64,879,541	986,319,324	2,645,422	11,201,814	1,000,166,560

(a) Figures do not in all cases add to the totals shown owing to rounding to the nearest fine ounce. (b) Comprises gold in ores and concentrates exported. (c) See footnote (b) to table on page 308.

Except for minor fluctuations, a general increase in the quantity of ore treated annually occurred between 1946 and 1960. Although there has been a consistent decline since that year, the quantity treated in 1964, 2.65 million tons, was nevertheless considerably greater than the amount of 2.19 million tons treated in 1946. The higher tonnage of ore treated annually in post-war years has been achieved with a decreasing work force by the introduction of new methods and improved tools and machinery, the number of men employed (including alluvial diggers) having declined from 6,961 in 1946 to 4,383 in 1964.

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 exploratory 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)

Year	Leases in Force at 31st December (b)		Gold-mining Machinery in use at 31st December						Total Value of Gold-mining Machinery	Ore Treated	Employment at Mines (c)		Alluvial Diggers
	Leases	Area	Batteries		Other Crushing Mills	Cyaniding		Above Ground			Under Ground		
			Number	Head of Stamps		Leaching and Agitating Vats	Vacuum Filters and Presses						
1955	1,284	23,732	54	No. 396	No. 327	No. 269	No. 86	\$ 12,857,766	2,865,048	No. 2,910	No. 2,912	No. 23	
1956	1,190	21,739	50	376	317	282	79	13,793,588	2,870,273	2,694	2,918	16	
1957	1,168	21,265	53	346	261	255	60	14,042,710	2,951,011	2,568	2,804	13	
1958	1,131	20,777	49	326	184	231	62	14,540,286	3,021,072	2,499	2,840	13	
1959	1,129	20,799	50	351	179	202	57	15,323,922	2,959,202	2,481	2,780	12	
1960	1,051	19,306	50	3 4	178	219	63	15,939,534	3,056,445	2,394	2,586	12	
1961	1,026	18,756	43	255	190	195	66	15,795,328	2,984,458	2,388	2,541	16	
1962	983	18,025	44	262	173	199	66	17,293,740	2,989,653	2,388	2,552	23	
1963	989	18,253	38	252	166	197	63	17,777,490	2,770,166	2,346	2,527	28	
1964	953	17,716	37	237	201	155	84	14,615,846	2,645,956	(d) 2,111	(d) 2,243	29	

(a) Includes Government Batteries. (b) Includes leases taken up on private property. (c) Average over whole year. Excludes workers on sick, accident, annual and long service leave. (d) See footnote (b) to table on page 308.

Silver

Western Australia had produced over 10.9 million ounces of silver up to the 31st December, 1964, by far the greater part of it as a by-product in the recovery of gold. The other silver production is from silver-lead, silver-lead-zinc 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, Silver-lead-zinc and Copper Ores and Concentrates Exported		Year	From Treatment of Auriferous Ore		Silver Content of Silver-lead, Silver-lead-zinc and Copper Ores and Concentrates Exported	
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value
1955	232,667	183,284	3,123	2,278	1960	190,386	158,480	6,370	5,188
1956	207,478	176,548	9,769	5,398	1961	201,491	168,110	8,156	6,630
1957	188,204	148,340	8,910	7,042	1962	213,987	202,662	4,379	4,158
1958	195,975	155,542	4,792	3,760	1963	213,878	245,560	6,886	7,728
1959	183,850	152,062	9,711	7,764	1964	224,573	263,282	17,159	19,916

Asbestos

Several types of asbestos occur in the State but only two have been produced in significant quantities. Blue asbestos (crocidolite) is found at Wittenoom Gorge in the West Pilbara district and, in 1964, production was 10,614 tons, valued at \$2,124,200. The production of chrysotile, which occurs at a number of places in the Pilbara and West Pilbara districts, was only 536 tons in 1964, valued at \$87,362.

PRODUCTION OF ASBESTOS

Year	Crocidolite		Chrysotile		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1955	4,487	972,064	275	31,994	4,762	1,004,058
1956	7,286	1,601,420	761	50,732	8,047	1,652,152
1957	11,105	2,391,268	1,339	84,134	12,494	2,475,402
1958	11,887	2,609,448	1,378	77,304	13,265	2,686,752
1959	14,680	3,222,586	632	34,498	15,312	3,257,084
1960	12,922	2,837,534	61	3,204	12,983	2,840,738
1961	14,087	3,065,080	156	5,258	14,243	3,070,338
1962	15,617	3,383,866	52	2,206	15,669	3,386,072
1963	11,095	2,404,004	10	1,560	11,105	2,405,570
1964	10,614	2,124,200	536	87,362	11,150	2,211,562

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 will enable shipment of 200,000 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 later recovered to some extent, reaching a post-war peak of 350 tons in 1957. Production subsequently fluctuated considerably but declined from 261 tons in 1961 to only 80 tons in 1964.

PRODUCTION OF BERYL

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	199	310	350	170	267	181	261	195	82	80
Value (\$)	68,860	114,226	128,468	63,602	96,104	66,048	80,158	64,904	22,204	18,076

Coal

The first reports of coal discoveries, in the Murray district and on the Irwin River, were made in 1846 but the only commercial production in Western Australia occurs at Collie where the Collie River Coal Mining District was proclaimed in 1896. The coal is sub-bituminous in rank and there are substantial reserves in the area.

Annual production exceeded one million tons for the first time in 1954, but in 1956 it fell to 830,007 tons. It increased in each of the next four years and in 1960 production totalled 922,393 tons. A major producer closed its mines on the termination in December, 1960 of its contract for the supply of coal to the State Government, and production declined to 765,740 tons in 1961. There was a substantial recovery in 1962, when 919,112 tons were produced. Following a slight decrease in 1963, production rose in 1964 to 987,420 tons, the highest recorded since 1954.

Open-cut mining was commenced at Collie in 1943 and the amount produced by this means increased rapidly until in 1952 almost one-half of the total production came from open cuts. In each year from 1953 to 1960 the proportion of open-cut coal was less than in 1952, and in 1960 was little more than one-eighth of all coal produced. New contracts for government requirements, which came into operation at the beginning of 1961, provided for an increase in supplies from open-cuts, and in each year from 1961 to 1964 more than one-third of all coal produced came from this source.

COAL PRODUCTION

Year	Quantity			Value
	From Deep Mines	From Open Cuts	Total	
	tons	tons	tons	\$
1955	599,662	304,130	903,792	6,178,622
1956	621,465	208,542	830,007	5,447,962
1957	689,882	148,779	838,661	5,105,314
1958	779,396	91,486	870,882	4,561,298
1959	800,856	110,579	911,435	4,713,068
1960	798,184	124,209	922,393	4,878,390
1961	506,306	259,434	765,740	3,360,518
1962	598,501	320,611	919,112	3,961,556
1963	600,934	301,561	902,495	3,970,120
1964	644,107	343,313	987,420	4,678,934

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 984. There was a sharp decrease 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 each year from 1962 to 1964, the number of men employed exceeded 750, the proportion of those working above ground remaining at about one-third.

MEN WORKING AT COAL MINES (a)

Description	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Above Ground	582	443	377	230	207	206	198	257	240	246
Under Ground	804	776	759	842	804	778	384	500	517	519
Total	1,386	1,219	1,136	1,072	1,011	984	582	757	757	765

(a) Average number employed over the whole year.

Copper Ore

Copper ore in commercial quantities was discovered in 1849 in the Northampton district. High-grade ore was found in 1855 at Bowes River in the same area and in 1872 one of the richest deposits was discovered in the West Pilbara near Roebourne. Considerable quantities of copper have been produced at the mines in the Northampton district, where it occurs in association with lead, and also in the Ravensthorpe area, in association with gold. Another important producer has been the Murrin district in the Mount Margaret area.

Due to low prices, rising costs of mining and treatment and the exhaustion of rich secondary ores near the surface, production was on a very small scale between 1925 and 1956. It then increased substantially and in 1961 reached 6,290 tons valued at \$651,392. In the three succeeding years production was variable and in 1964 amounted to 4,619 tons worth \$558,068.

PRODUCTION OF COPPER ORE (a)

(For Smelting to Copper)

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	12	212	1,804	1,802	4,409	3,584	6,290	5,277	6,266	4,619
Value (\$)	2,042	25,782	120,022	111,194	467,068	403,566	651,392	414,766	615,804	558,068

(a) For production of cupreous ore for fertilizer see following section.

Cupreous Ore (For Fertilizer)

The demand for copper to remedy trace element deficiencies in soils has created a market for low-grade ores for use in chemical fertilizers. Until this development, the production of ores having a low copper content was uneconomical because of high costs of transport and smelting. Production for use in fertilizers commenced in 1947 and increased to 7,731 tons in 1955. After reaching a peak of 11,859 tons in 1959, it declined in 1960 and 1961 but improved to 9,275 tons in 1962. Although there was a substantial decrease in each of the two succeeding years, the average copper content of the ore increased from 5 per cent. in 1962 to 18 per cent. in 1964.

The Pilbara and Peak Hill areas are the principal sources of supply.

PRODUCTION OF CUPREOUS ORE FOR FERTILIZER

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	7,731	7,713	4,639	7,644	11,859	7,727	7,384	9,275	3,235	2,197
Value (\$)	203,462	226,884	164,254	229,340	368,012	280,504	314,976	189,138	272,400	251,970

Ilmenite, Leucoxene, Monazite, Rutile and Zircon

Although beach sands being treated near Bunbury, Busselton and Capel also contain leucoxene, 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. Operations began in 1956, when the recorded production of ilmenite concentrates was 3,293 tons valued at \$30,300. Output rose rapidly and 297,322 tons valued at \$2,811,812 were produced in 1964.

PRODUCTION OF ILMENITE CONCENTRATES

Item	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	3,293	70,029	69,817	83,347	105,283	163,849	174,579	195,008	297,322
Value (\$)	30,300	824,938	716,718	691,720	916,638	1,470,848	1,586,718	1,854,244	2,811,812

Concentrates containing leucoxene, 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 \$33,518 were exported. In 1964 recorded production totalled 23,962 tons valued at \$601,506.

PRODUCTION OF LEUCOXENE, MONAZITE, RUTILE AND ZIRCON CONCENTRATES

Year	Leucoxene		Monazite		Rutile		Zircon		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$	tons	\$	tons	\$
1958 ....	.....	.....	110	14,422	297	16,846	106	2,250	513	33,518
1959	276	7,860	90	12,000	100	5,530	6,787	143,382	7,253	168,772
1960	89	3,010	242	18,638	515	25,632	4,018	82,942	4,864	130,222
1961	535	15,212	1,255	66,644	916	39,392	7,361	148,532	10,067	269,780
1962	627	17,832	600	38,072	523	24,766	3,731	80,046	5,481	160,716
1963	547	13,892	1,320	105,688	763	45,460	12,542	261,292	15,172	426,332
1964	656	26,660	1,126	97,294	669	42,150	21,511	435,402	23,962	601,506

Iron

Iron-ore deposits are widely distributed throughout Western Australia and the State's iron-ore reserves have been assessed at over 15,000 million tons of high-grade ore. Since 1951 large quantities of hematite have been produced at Cockatoo Island (Yampi Sound) in the West Kimberley district for shipment to other Australian States. The first shipment of ore from the deposits on the adjacent Koolan Island was made in January, 1965, following the completion of mining and loading facilities which had been under development since 1960.

PRODUCTION OF IRON ORE

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	528,630	336,890	416,236	572,928	727,084	928,463	1,359,548	1,403,752	1,333,138	1,357,715
Value (\$)	1,080,726	675,072	857,740	1,182,408	1,511,450	1,944,586	2,767,794	2,869,476	2,690,508	2,770,930

In recent years there have been a number of developments in connexion with iron-ore deposits which will lead to greatly expanded production.

As a result of the passage in 1960 of the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act, which ratifies an agreement between the State Government and the Company relating to the establishment of an integrated iron and steel industry in Western Australia, developmental work is in process in the Koolyanobbing Range area with the aim of greatly increasing production from these deposits. The announcement in December, 1960 of the Commonwealth Government's decision to modify its embargo on oversea exports, which had been in force since 1938, caused increased interest in Western Australian deposits. The subdivision of the deposits (other than those reserved for the domestic iron and steel industry under the Commonwealth's revised export policy) into three categories was announced by the State Government in March, 1961. The first category includes known high-grade deposits, not

covered by lease agreements, which are to be retained by the Crown to ensure supplies for the State's steel requirements or for export. The second category, being known medium and low-grade deposits, and the third category, comprising deposits as yet undiscovered, may be made the subject of temporary reservations granting the right to explore, each such reservation being limited to a maximum area of 50 square miles.

The State Parliament has ratified a number of agreements between the Government and private companies for the mining and export of iron ore and, in certain instances, for secondary processing of the ore as a later development and, ultimately, for the establishment of integrated iron and steel works. The provisions of these agreements are referred to on pages 106 and 110 of *Official Year Book of Western Australia, No. 4-1964* and in the section *Legislation during 1963 and 1964* in Chapter III of the succeeding issue. The ore will be exported overseas, mainly to Japan. A number of contracts between leading Japanese steel mills and certain of the mining companies have been concluded and large-scale mining operations commenced in 1966. Ore from Koolanooka Hills, near Morawa, is being transported by rail to the port of Geraldton, 100 miles distant. From Mount Goldsworthy, about 70 miles east of Port Hedland, the ore is being railed to a deep-water port on Finucane Island, just off Port Hedland. Ore mined at Mount Tom Price, in the Hamersley Range area south-west of Port Hedland, is being railed 179 miles to the port of Dampier in King Bay, which is west of Roebourne. The first shipments of iron ore under these contracts were made from Geraldton on the 17th March, 1966; from Port Hedland on the 2nd June, 1966; and from Dampier on the 22nd August, 1966. The volume of potential exports of iron ore and pellets to Japan was estimated in December, 1965 to be over 279 million tons with an f.o.b. value of \$2,480 million. These figures include 87.4 million tons of pellets valued at \$932 million. The projects require an estimated capital investment by the five operating companies of between \$400 million and \$500 million, including the cost of construction of about 500 miles of standard gauge railway and the development of new ports and townships.

Pig-iron production in Western Australia began in 1948. It is smelted at Wundowie in the Darling Range east of Perth using charcoal produced from local eucalypts. Originally, brown iron ore (limonite) mined near Wundowie was used in the smelting process, but has now been replaced by ore obtained from Koolyanobbing, east of Bullfinch in the Yilgarn district. The extensive deposits in the Koolyanobbing area are mainly high-grade hematite ores with some limonite. The production of pig-iron at Wundowie for each of the five years in the period ended 30th June, 1965 is shown on page 333.

Lead Ore

Lead ore was discovered near the lower Murchison River in 1848, at what became known as the Geraldine Mine. It has since been found in other localities, principally in the Pilbara, Ashburton and West Kimberley districts, and half a million tons have been raised, the great bulk of it from the mineral field around Northampton, the area of the first finds. Production fluctuated very widely and ceased almost entirely during the war, but a substantial increase occurred in the post-war years and in 1956 it rose to 7,613 tons. After 1956 it declined rapidly and in 1963 only 185 tons were produced. During 1964 there was a revival of lead mining in the West Kimberley mineral field which resulted in greatly expanded production. Total output for the year amounted to 3,354 tons valued at \$198,868.

Although the ore from the Northampton field is almost free from silver, that from other areas further north, notably the Ashburton, Pilbara and West Kimberley, has a silver content which may be as much as ten ounces per ton. Production of such ores is included in the following table.

PRODUCTION OF LEAD, SILVER-LEAD, AND SILVER-LEAD-ZINC ORES (a)

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	1,416	7,613	4,180	2,493	1,903	2,264	597	443	185	3,354
Value (\$)	192,622	1,291,608	632,930	279,798	178,860	239,684	51,766	30,502	13,070	198,868

(a) including concentrates.

Manganese Ore

Deposits of manganese ore occur in several parts of the State but up to the end of 1947 only 252 tons had been mined. After 1947 production increased rapidly and in 1961 totalled 83,660 tons valued at \$2,141,390. After a decline to 34,808 tons in 1963, it increased in 1964 to 60,182 tons valued at \$1,415,788. Production in 1963 and 1964 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	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	44,194	56,234	73,191	47,543	75,733	53,842	83,660	67,871	34,808	60,182
Value (\$)	995,176	1,475,138	2,324,804	1,388,712	2,111,346	1,480,260	2,141,390	1,789,758	864,268	1,415,788

Pyrites

The mining of iron pyrites was developed during the war to provide a substitute for oversea supplies of sulphur required for the manufacture of sulphuric acid for superphosphate. Production at Norseman, which is the principal source of supply, commenced in 1942. All ore is now concentrated at the mine before being railed 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	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	49,485	60,969	57,918	49,389	53,030	53,299	52,397	49,461	58,472	58,396
Value (\$)	794,538	840,104	765,134	703,694	743,978	733,478	855,244	848,380	974,496	1,109,078

Tin Ore

Tin ore was first discovered at Greenbushes in 1888. It has since been found at several other places, but the Greenbushes and Pilbara fields have been the only major producers. Output declined during the war but increased substantially after 1949 and reached a peak in 1956 when 358 tons of ore and concentrates valued at \$416,546 were produced. In 1958 it declined to 138 tons valued at \$154,638, the decrease being due mainly to contraction of operations in the Greenbushes field. After 1958 production again increased and in 1964 total output was 637 tons valued at \$1,240,782. An extensive dredging programme was commenced at Greenbushes in 1965 and is expected to lead to a considerable increase in the production of tin.

PRODUCTION OF TIN ORE AND CONCENTRATES

Item	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Quantity (tons)	180	358	270	138	250	281	341	465	576	637
Value (\$)	189,824	416,546	310,158	154,638	309,458	337,550	471,160	668,538	816,046	1,240,782

Other Minerals

In addition to the other minerals listed in the table on page 308 there are some which have a high potential value but are not produced in large quantities at present. Zinc is associated with many of the silver-lead ores and some of the copper ores and has been mined as the carbonate with a zinc content of 38 per cent. Arsenious oxide and antimonial concentrates were produced commercially for some years as by-products in the treatment of auriferous ores. Small amounts of bismuth concentrates assaying as high as 73 per cent. bismuth have also been produced. Production of tantalum ores and concentrates has fluctuated with demand, but a large part of world requirements has been met from the State's resources. Tungsten ores have been produced in small quantities for some years with a slight increase during the war. Since then, output has been spasmodic, but in 1952 was valued at \$99,420. Lithium, yttrium, cerium, thorium, vanadium, niobium and molybdenum-bearing minerals are known to occur in commercial quantities and small amounts of minerals containing uranium, rubidium and caesium have been found. Deposits of bentonite, barytes, graphite, mica, kyanite, sillimanite, spodumene and vermiculite are also known and small amounts have been produced. Nickel deposits have been discovered at Kambalda, 30 miles south of Kalgoorlie, and development has commenced. There have also been reports of discoveries of nickel in the Wingellina area of the Blackstone Range, about 40 miles west of the border between Western Australia and South Australia.

An extensive programme of oil exploration was commenced in 1951 but, although flow oil was found in the Exmouth Gulf area of the Carnarvon Basin in 1953, 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 Yardarino about eight miles east of Dongara on the west coast. Oil and gas were discovered in the same year on Barrow Island, 60 miles north-east of Onslow, and gas was obtained from a well drilled in the Bonaparte Gulf Basin in the extreme north of the State. In February, 1965, a show of gas was obtained in a well at Gingin, 50 miles north of Perth, and subsequent tests confirmed the find. In the same month gas flowed from a well drilled 25 miles south of Dongara. No commercial development of these discoveries has yet been undertaken except at Barrow Island which, in May, 1966, was declared a commercial oil-field, after prolonged testing. Oil production commenced in 1967 and the first shipment of oil from this field was made on the 25th April, 1967. Recoverable reserves at Barrow Island are estimated at 114 million barrels and production, which reached 9,000 barrels per day in May, 1967, is expected to be 20,000 barrels per day within two years.

Quarrying

The following table gives details of the production of certain quarry products from 1954-55 to 1964. It should be noted that gravel, sand and clays, for which reliable and complete information cannot be obtained, are not included.

SELECTED ITEMS OF QUARRY PRODUCTION

Year (a)	Building and Monumental Stone (b)	Other Stone	
		Granite, Diorite, Quartzite, Basalt, etc. (c)	Limestone and Shell (d)
	tons	tons	tons
1954-55	118,336	511,877	242,078
1956	80,076	489,505	370,254
1957	55,331	504,282	427,286
1958	76,159	483,983	436,531
1959	71,648	743,505	481,604
1960	112,110	755,172	557,022
1961	131,046	763,155	515,576
1962	127,971	930,891	762,108
1963	210,770	1,206,388	687,163
1964	148,939	1,750,351	749,062

(a) From 1956, year ended 31st December. Principally for roads, concrete aggregate, filling, etc. making.

(b) Calcareous sandstone (including limestone) and granite. (c) Principally for the manufacture of lime and cement and for road making.

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 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.

Employment

Average employment figures may be expressed as an average "over the period worked" or as an average "over the whole year." Thus a factory which operates for only six months of the year and employs 20 persons throughout that period has an average employment of 20 "over the period worked" but an average of only 10 "over the whole year." Where seasonal industries, such as meat and fish preserving, whaling or fruit packing, are involved there can consequently be a considerable difference between figures covering the same field if different bases are used in their computation. In this Part, unless otherwise stated, figures quoted are the 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., fallers and haulers employed by sawmills) and all persons engaged in selling and distribution.

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 sale less all selling and distribution costs) of all goods made or processed during the year and includes the amount received for other work done, such as repair work, assembling and making-up for customers. Any bounty 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 cost of goods consumed in the process of production. The costs deducted are those of materials used, fuel, power and light, lubricating oil and water, repairs to plant and buildings, tools replaced, and containers and materials used for packing.

Confidential Information

The Acts under which these statistics are collected require that information supplied on any individual return must be treated as confidential. For this reason it has not been possible to publish some items and 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 in respect of individual States. The tables affected carry appropriate footnotes.

HISTORICAL REVIEW

While secondary industry in Western Australia has grown considerably since 1900 the greatest advance both in the number and the size of factories operating has occurred since 1945. One of the factors contributing to this growth has been the provision of adequate power in the south-western portion of the State by the expansion of electricity supplies provided by generating stations linked in a grid system.

In 1900 there were 632 factories operating in Western Australia. By 1910 the number had risen to 822 and by 1920 to 998. Progress during the first World War was comparatively slow, mainly because the more advanced manufacturing facilities already existing in other States were better suited to rapid development. During the decade 1921-1930, however, efforts were made to foster Western Australian secondary industry and considerable success was achieved during the latter years of this period, the number of factories increasing from 1,170 in 1926 to 1,466 in 1930. Although some decline occurred in the depression years of 1930 to 1933, there were 1,658 factories in operation in 1935 and by 1940 the number had reached 2,129.

No immediate stimulus to the State's manufacturing activity followed the outbreak of the second World War, but the more direct threat to Australia which resulted from the fall of Singapore called for a total use of industrial potential, and from 1942 onwards an increasing volume of war contracts was placed in Western Australia. The greatest demand was for processed foodstuffs but other forms of war production which were especially developed included munitions manufacture, shipbuilding (principally of wooden coastal craft) and marine engineering. Although fewer factories operated because of the decline in those classes of production which were purely for civilian purposes, employment and output increased substantially.

Production which had 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 uses facilitated the expansion of the metal industries in the State and influenced the production of small to medium-sized machine tools and the establishment of a factory producing several types of tractors and farm machinery.

Such advances enlarged the scope of Western Australian secondary industry and by 1964-65 the number of factories had increased to 4,734. 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 and in Australia as a whole during 1964-65 was as follows: New South Wales, \$609.4; Victoria, \$622.0; Queensland, \$296.2; South Australia, \$475.5; Western Australia, \$323.6; Tasmania, \$456.7; and Australia, \$525.3.

The average number of persons employed in Western Australian factories from 1900 to 1965 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; 1934-35, 17,769; 1939-40, 22,967; 1944-45, 29,146; 1949-50, 40,733; 1954-55, 49,314; 1959-60, 49,651; and 1964-65, 58,097. These figures indicate the moderate increase which occurred in factory employment between 1900 and 1920, the continued expansion in the 1920'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 from 1829* 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 49,314. In 1955-56 the number of persons engaged in factories exceeded 50,000 for the first time but then declined in each of the three succeeding years and in 1958-59 had fallen to 48,417. An improvement in 1959-60, when the average for the year rose to 49,651, was maintained over the next five years and by 1964-65 employment in factories had risen to 58,097.

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 1956. 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 92 and 95 of the *Official Year Book of Western Australia, No. 3-1962*. In 1963, a factory near Bunbury commenced extraction of titanium oxide pigment from ilmenite, a refinery at Kwinana commenced production of alumina from bauxite

mined in the Darling Range, and a cotton ginnyery at Kununurra, in the Kimberley Statistical Division, commenced processing seed cotton grown in the Ord Irrigation District. In 1964, two factories in the metropolitan area commenced manufacture of rubber tyres.

A summary of selected items of factory activity from 1900 is given in the following table.

SELECTED ITEMS OF FACTORY ACTIVITY

Year	Number of Factories	Persons Employed (a)			Book Values of—		Engines and Electric Motors used to drive Machinery (b)	Net Production
		Males	Females	Total	Land and Buildings	Plant and Machinery		
1900	632	10,261	905	11,166	\$ 2,408,652	\$ 2,503,854	rated h.p. 7,270	\$ (c) 5,472,140
1905	777	11,829	1,652	13,481	3,579,224	3,739,506	11,151	(c) 6,467,370
1910	822	12,404	2,490	14,894	3,645,536	3,878,546	11,378	9,708,150
1915	983	13,453	2,429	15,882	5,271,046	5,467,164	21,997	19,222,226
1920	998	14,311	2,631	16,942	7,127,554	6,822,496	26,481	14,976,120
1925-26 (d)	1,170	17,393	3,274	20,667	9,710,322	10,961,810	37,631	12,569,846
1929-30	1,466	15,921	3,722	19,643	11,246,428	12,181,972	37,754	
1934-35	1,658	14,248	3,521	17,769	11,346,922	11,526,856	42,520	
1939-40	2,129	18,331	4,636	22,967	13,726,936	15,916,900	66,925	18,055,456
1944-45	1,931	22,404	6,742	29,146	15,308,374	16,503,462	80,667	25,920,013
1949-50	3,023	33,711	7,022	40,733	22,110,004	22,913,534	120,380	52,083,052
1954-55	3,727	42,294	7,020	49,314	60,459,826	109,916,410	204,845	121,911,658
1959-60	4,279	42,957	6,694	49,651	87,145,524	128,449,900	261,660	172,746,624
1960-61	4,334	43,836	6,830	50,666	91,220,242	123,611,724	268,995	193,261,602
1961-62	4,418	44,193	6,840	51,033	98,336,636	123,432,768	276,186	196,082,836
1962-63	4,492	46,252	7,183	53,435	102,856,394	132,635,014	292,425	216,422,104
1963-64	4,609	48,183	7,542	55,705	118,812,882	155,514,314	327,425	230,511,312
1964-65	4,734	50,065	8,032	58,097	131,739,180	163,526,092	345,586	260,637,078

(a) Includes working proprietors and, up to and including 1925-26, fallers and haulers employed by sawmills. (b) Excludes engines used in electricity generating stations and motors driven by electricity of own generation. (c) Figures not available. (d) Period of 18 months ended 30th June, 1926.

During the period reviewed, population censuses were taken in the years 1901, 1911, 1921, 1933, 1947, 1954 and 1961. In the following table factory employment in those years is compared with the "total work force" as recorded at the census and also as adjusted to give comparable components for the two sets of figures. The "adjusted total work force" shown includes employers, self-employed persons and wage and salary earners but excludes persons who were not actually employed at the time of the census, whether this was due to inability to secure work, to sickness or industrial disputes, or to any other cause. It also excludes helpers not receiving wage or salary. Although it includes a small number of employers who were not themselves actively engaged, this is insufficient to affect the validity of the comparison.

FACTORY EMPLOYMENT IN RELATION TO TOTAL WORK FORCE

Year	Census Date	Average Number of Factory Workers during the Year	Total Work Force at Census Date	Adjusted Total Work Force at Census Date	Proportion of Factory Workers to Adjusted Total Work Force
1901	1901—31st March	(a) 12,198	98,145	91,600	per cent. 13·3
1911	1911—3rd April	(a) 16,754	133,253	125,886	13·3
1921	1921—4th April	(a) 13,151	140,296	129,641	14·0
1932-33	1933—30th June	(b) 14,810	137,636	159,222	9·3
1946-47	1947—30th June	(b) 33,806	206,400	197,825	17·1
1953-54	1954—30th June	(b) 47,459	258,401	253,270	18·7
1960-61	1961—30th June	(b) 50,666	279,784	267,997	18·9

(a) Figures for calendar year. Includes fallers and haulers employed by sawmills. (b) For year ended 30th June.

GENERAL SUMMARY

Location of Secondary Industry

The greatest population, both in number and in density, occurs in the Metropolitan Statistical Division and, with some notable exceptions, the principal factories and more than half of the small to moderate-sized establishments are located there. The Swan Division ranks next in density of population and the establishment of major industries in the Kwinana area also places it next in manufacturing activity measured by such standards as factory employment, cost of materials used, value of output and net production. The South-West Division ranks next to the Metropolitan Division in total population and number of factories.

**WESTERN AUSTRALIA
ELECTRICITY SUPPLIES**

30th JUNE 1956

LEGEND

- GENERATING STATIONS (Steam Turbine)
- ▲ GENERATING STATIONS (Hydro)
- ▲ TERMINAL SUB-STATION
- ▲ TOWN SUB-STATION
- ▲ TOWN SUPPLIED BY LOCAL DESIG. GENERATING STN.
- ▲ TOWN SUPPLIED BY POWER LINE
- TRANSMISSION LINES 132KV 60HZ
- TRANSMISSION LINES 66KV 60HZ
- DISTRIBUTION LINES 22KV THREE PHASE
- DISTRIBUTION LINES 19.1KV SINGLE PHASE
- TRANSMISSION LINES 440/250V A.C.
- TRANSMISSION LINES 440/250V D.C.

ELECTRICITY SUPPLY

TOWNS are supplied 440/250volts Three Phase 50 cycle A.C. except as indicated below —

Town name underlined in Red — 220Volts D.C.

Town name underlined in Red with * — 440/250Volts D.C.

† — indicates Towns shortly to be converted to 440/250

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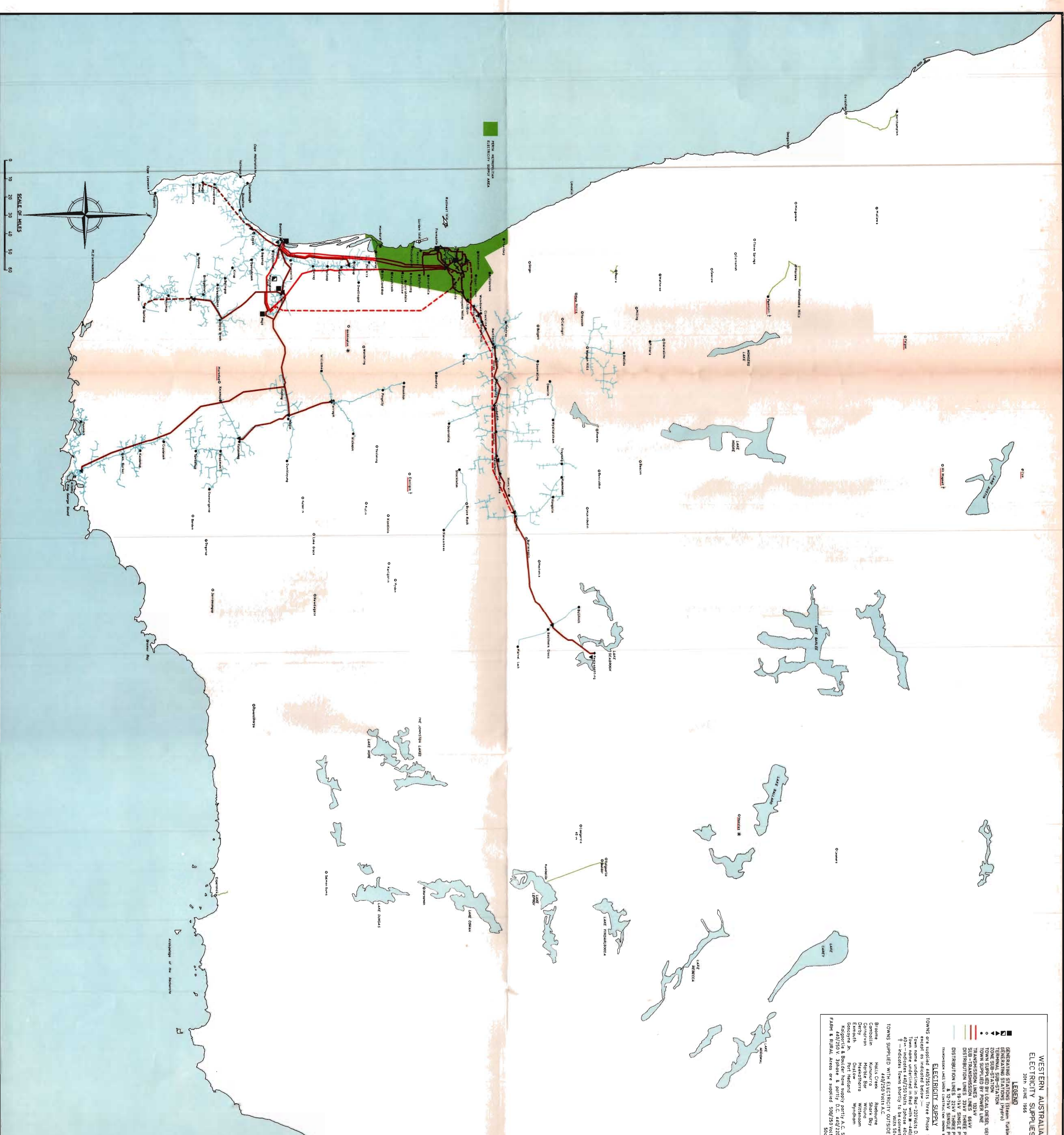
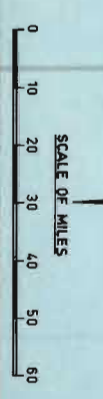
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TOWNS SUPPLIED WITH ELECTRICITY OUTSIDE MAP AREA

Broom, Halls Creek, Roebourne, Cornwall, Kununurra, Shark Bay, Onslow, Windham, Gascoyne Jn., Port Hedland, Kalbarri & Boulder have supply partly A.C. Single Phase & Rural Areas are supplied 500/250volts single phase Single A.C.

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 Collie, some 120 miles to the south of Perth. These Divisions also contain well-developed road and railway systems, the State's principal port at Fremantle and other ports at Bunbury and Busselton.

Reference to manufacturing activity in the several Statistical Divisions of the State is also made in the section *Geographical Distribution of Industry* which appears 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, 1964-65

Statistical Division	Number of Factories	Book Values of—		Persons Employed (including Working Proprietors) (a)		Salaries and Wages (excluding Amounts drawn by Working Proprietors)	
		Land and Buildings	Plant and Machinery	Males	Females	Males	Females
Metropolitan	2,852	\$ 84,463,342	\$ 54,352,882	35,827	6,728	\$ 78,653,326	\$ 8,090,240
Percentage of State Total	60.25	64.11	33.24	71.56	83.76	71.26	84.19
Other Divisions—							
Swan	239	21,337,632	61,008,292	4,505	345	11,701,450	435,916
South-West	503	11,706,008	25,407,298	4,298	300	8,750,450	356,024
Southern Agricultural	291	3,798,748	4,198,304	1,541	320	3,057,924	352,928
Central Agricultural	337	2,740,724	3,913,212	1,579	98	3,049,794	96,548
Northern Agricultural	232	2,662,924	2,332,248	928	91	1,751,176	111,282
Eastern Goldfields	172	1,912,860	6,471,672	779	72	1,536,968	71,318
Central	17	80,590	264,178	41	1	85,170	114
North-West	23	310,454	444,276	114	53	309,518	65,654
Pilbara	22	136,814	509,308	84	1	243,122	870
Kimberley	46	2,688,984	4,624,422	369	23	1,224,756	28,550
Total, Other Divisions	1,882	47,275,838	109,173,210	14,238	1,304	31,715,028	1,519,182
Percentage of State Total	39.75	35.89	66.76	28.44	16.24	28.74	15.81
STATE TOTAL	4,734	131,739,180	163,526,092	50,065	8,032	110,368,354	9,609,422

Statistical Division	Value of Output	Cost of—				Net Production (b)
		Power, Fuel and Light (including Water and Lubricants)	Repairs to Buildings, Plant and Machinery	Materials Used (including Containers)	Total	
Metropolitan	\$ 354,434,276	\$ 6,978,174	\$ 5,496,930	\$ 182,487,014	\$ 194,962,118	\$ 159,472,158
Percentage of State Total	57.50	26.79	51.11	57.21	54.80	61.19
Other Divisions—						
Swan	143,988,620	10,194,122	2,327,376	79,216,160	91,737,658	52,250,932
South-West	49,789,338	4,586,506	1,466,780	20,193,478	26,246,744	23,542,594
Southern Agricultural	18,057,152	404,960	333,784	10,430,618	11,169,362	6,887,790
Central Agricultural	16,137,344	1,382,568	300,206	8,097,008	9,779,782	6,357,562
Northern Agricultural	16,696,814	354,310	239,818	11,343,152	11,937,280	4,759,534
Eastern Goldfields	7,600,018	1,360,126	272,412	2,459,910	4,092,448	3,507,570
Central	479,264	173,970	35,730	45,956	255,656	223,608
North-West	1,932,644	75,400	71,076	970,830	1,117,306	815,338
Pilbara	1,060,672	183,632	27,648	317,150	528,430	532,242
Kimberley	6,245,542	351,044	183,568	3,423,210	3,957,822	2,287,720
Total, Other Divisions	261,987,498	19,066,638	5,253,378	136,497,472	160,822,488	101,164,920
Percentage of State Total	42.50	73.21	48.89	42.79	45.20	38.81
STATE TOTAL	616,421,684	26,044,812	10,755,308	318,984,486	355,784,606	260,637,078

(a) Average over the whole year. (b) See *Explanatory Notes and Definitions* on page 318.

FACTORIES AND EMPLOYMENT IN EACH STATISTICAL DIVISION

Statistical Division	Year				
	1960-61	1961-62	1962-63	1963-64	1964-65
NUMBER OF FACTORIES					
Metropolitan	2,561	2,621	2,665	2,748	2,852
Swan	213	210	219	227	239
South-West	516	513	519	506	508
Southern Agricultural	234	238	282	290	291
Central Agricultural	319	324	324	336	337
Northern Agricultural	193	208	222	227	232
Eastern Goldfields	161	167	173	171	172
Central	18	19	17	18	17
North-West	18	17	22	22	23
Pilbara	18	17	14	16	22
Kimberley	33	34	35	48	46
Whole State	4,334	4,418	4,492	4,609	4,734
PERSONS EMPLOYED (a)					
Metropolitan	36,750	37,073	39,165	40,906	42,555
Swan	3,735	3,836	4,049	4,495	4,850
South-West	4,596	4,472	4,374	4,414	4,598
Southern Agricultural	1,697	1,687	1,719	1,758	1,861
Central Agricultural	1,569	1,571	1,593	1,623	1,677
Northern Agricultural	884	955	1,022	999	1,019
Eastern Goldfields	855	857	872	808	851
Central	45	46	48	45	42
North-West	124	121	170	175	167
Pilbara	69	70	58	69	85
Kimberley	342	345	365	408	392
Whole State	50,666	51,033	53,435	55,705	58,097

(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 323. The largest volume of employment is provided in Class IV—Industrial Metals, Machines, Implements and Conveyances. In 1964-65 the industries which comprise this class employed an average over the whole year of 26,403 persons, including 3,201 in government workshops engaged in constructing and repairing railway rolling stock. The next largest employer of labour was the class Food, Drink and Tobacco with 7,957 persons, of whom 2,156 were engaged in meat and fish preserving and 1,284 in bakeries. In the class Sawmilling, Woodworking and Basketware, 3,431 persons were employed in saw-mills and 1,667 in joinery works. Paper, Stationery, Printing, Bookbinding, etc., accounted for 3,200 persons, of whom 1,351 were employed in general printing and 899 in the printing of newspapers and periodicals. Persons employed in the manufacture of clothing numbered 3,047. In chemical fertilizer works, within the class Chemicals, Dyes, Explosives, Paints, Oils and Grease, 958 workers were employed.

The first table on page 323 gives detailed employment data in each class for June, 1965, and as a total for June in each year from 1961 to 1965. 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 June, 1955, it had risen to 6.1 : 1. It then rose slowly to 6.4 : 1 in June, 1961, but has since declined, the ratio in June, 1965, being slightly under 6.0 : 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 1965 reached 17.1 per cent., or slightly more than in 1948. 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 and since 1962 has exceeded the 1951 level. The changes which have occurred during the five years from 1961 to 1965 in the age grouping of workers in secondary industry are illustrated in the second table on page 323 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, 1965
(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	148	1,785	101	1,886	28	.....	135	21	1,622	80
II Bricks, Pottery, Glass, etc.	48	1,383	122	1,505	9	1	124	27	1,250	94
III Chemicals, Dyes, Explosives, Paints, Oils, Grease	80	2,617	261	2,878	16	13	176	100	2,425	148
IV Industrial Metals, Machines, Implements, Conveyances	2,305	23,957	1,442	25,399	496	30	4,239	513	19,222	899
V Precious Metals, Jewellery, Plate	90	143	21	164	4	1	28	13	111	7
VI Textiles and Textile Goods (inclusive of Knitted Goods)	36	435	435	870	15	36	64	140	356	259
VII Skins and Leather (not Clothing or Footwear)	24	470	127	597	13	8	75	39	382	80
VIII Clothing (except Knitted)	359	581	2,112	2,693	20	175	122	763	439	1,174
IX Food, Drink and Tobacco	626	5,555	1,958	7,513	92	58	602	661	4,861	1,239
X Sawmilling, Woodworking and Basketware	443	5,165	172	5,337	122	2	700	61	4,343	109
XI Furniture of Wood, Bedding, etc.	178	1,116	220	1,336	72	9	270	64	774	147
XII Paper, Stationery, Printing, Bookbinding, etc.	155	2,452	702	3,154	55	41	421	320	1,976	341
XIII Rubber	61	472	69	541	2	10	78	41	392	18
XIV Musical Instruments	7	24	.....	24	1	.....	7	.....	16	.....
XV Miscellaneous Products	86	391	229	620	12	25	90	86	289	118
Total, Classes I to XV	4,646	46,546	7,971	54,517	957	409	7,131	2,849	38,458	4,713
XVI Heat, Light and Power	88	1,100	11	1,111	5	.....	54	6	1,041	5
TOTAL, ALL CLASSES— June, 1965	4,734	47,646	7,982	55,628	962	409	7,185	2,855	39,499	4,718
June, 1964	4,609	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	4,198
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	2,097	34,079	3,850

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					
1961	2.35	13.18	15.53	84.47	100.00
1962	2.45	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
1965	2.02	15.08	17.10	82.90	100.00
FEMALES					
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	35.87	40.75	59.25	100.00
1965	5.12	35.77	40.89	59.11	100.00

The average amount of salary and wages paid to both male and female employees in secondary industry has increased each year since 1946-47. In the following table details are shown for each class of industry in each of the ten years from 1955-56 to 1964-65, together with comparative totals for the whole of Australia.

AVERAGE ANNUAL AMOUNT OF SALARY AND WAGES PAID PER EMPLOYEE (a)

(\$)

Class of Industry	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
MALES										
I Treatment of Non-metalliferous Mine and Quarry Products	1,702	1,740	1,742	1,804	1,912	2,046	2,132	2,214	2,348	2,460
II Bricks, Pottery, Glass, etc.	1,760	1,744	1,852	1,826	1,910	1,988	2,074	2,152	2,290	2,458
III Chemicals, Dyes, Explosives, Paints, Oils, Grease	2,042	2,002	2,122	2,130	2,222	2,348	2,432	2,532	2,590	2,793
IV Industrial Metals, Machines, Implements, and Conveyances	1,642	1,870	1,712	1,752	1,836	1,948	1,982	2,040	2,140	2,298
V Precious Metals, Jewellery, Plate	1,658	1,790	1,780	1,738	1,882	2,004	2,124	2,066	2,042	2,143
VI Textiles and Textile Goods (inclusive of Knitted Goods)	1,742	1,862	1,908	1,986	2,100	2,052	2,020	2,130	2,206	2,286
VII Skins and Leather (not Clothing or Footwear)	1,730	1,828	1,824	1,900	2,080	2,104	2,152	2,100	2,130	2,331
VIII Clothing (except Knitted)	1,542	1,588	1,668	1,656	1,726	1,822	1,794	1,826	1,858	1,993
IX Food, Drink and Tobacco	1,726	1,778	1,874	1,904	2,000	2,104	2,176	2,242	2,296	2,395
X Sawmilling, Woodworking and Basketware	1,510	1,554	1,596	1,646	1,722	1,830	1,860	1,892	2,010	2,120
XI Furniture of Wood, Bedding, etc.	1,474	1,476	1,590	1,640	1,712	1,808	1,846	1,882	1,976	2,068
XII Paper, Stationery, Printing, Bookbinding, etc.	1,820	1,868	1,938	2,040	2,192	2,272	2,282	2,330	2,432	2,487
XIII Rubber	1,678	1,688	1,742	1,720	1,832	2,060	2,054	2,058	2,054	2,286
XIV Musical Instruments	1,452	1,638	1,472	1,574	1,550	1,896	1,638	1,652	1,722	1,935
XV Miscellaneous Products	1,458	1,530	1,600	1,628	1,698	1,814	1,832	1,912	2,040	2,146
XVI Heat, Light and Power	2,108	2,154	2,090	2,152	2,316	2,448	2,524	2,580	2,670	2,732
ALL CLASSES—										
Western Australia	1,680	1,714	1,770	1,810	1,902	2,010	2,052	2,110	2,200	2,337
Australia	1,868	1,942	2,002	2,062	2,224	2,318	2,356	2,426	2,542	2,744

FEMALES

VI Textiles and Textile Goods (inclusive of Knitted Goods)	938	964	982	1,054	1,074	1,140	1,158	1,154	1,114	1,169
VII Skins and Leather (not Clothing or Footwear)	932	992	1,014	976	988	978	1,058	1,108	1,078	1,109
VIII Clothing (except Knitted)	896	928	958	956	1,020	1,060	1,076	1,086	1,106	1,157
IX Food, Drink and Tobacco	872	914	918	964	1,034	1,110	1,126	1,184	1,236	1,292
XII Paper, Stationery, Printing, Bookbinding, etc.	854	874	956	994	1,074	1,096	1,154	1,156	1,118	1,195
XV Miscellaneous Products	808	840	768	854	934	1,052	1,054	1,002	1,054	1,069
All other Classes	942	980	998	1,012	1,038	1,144	1,170	1,162	1,202	1,281
ALL CLASSES—										
Western Australia	900	934	958	980	1,034	1,100	1,124	1,142	1,164	1,228
Australia	1,060	1,116	1,156	1,184	1,266	1,302	1,342	*1370	*1408	1,496

TOTAL EMPLOYEES

I Treatment of Non-metalliferous Mine and Quarry Products	1,678	1,716	1,716	1,776	1,878	2,004	2,090	2,172	2,292	2,406
II Bricks, Pottery, Glass, etc.	1,704	1,674	1,780	1,758	1,852	1,934	2,020	2,088	2,214	2,370
III Chemicals, Dyes, Explosives, Paints, Oils, Grease	1,954	1,918	2,028	2,036	2,118	2,258	2,334	2,428	2,482	2,663
IV Industrial Metals, Machines, Implements and Conveyances	1,610	1,636	1,678	1,716	1,794	1,906	1,938	1,992	2,090	2,242
V Precious Metals, Jewellery, Plate	1,598	1,734	1,716	1,692	1,846	1,952	2,016	1,960	1,926	2,042
VI Textiles and Textile Goods (inclusive of Knitted Goods)	1,366	1,460	1,498	1,582	1,646	1,626	1,622	1,674	1,692	1,711
VII Skins and Leather (not Clothing or Footwear)	1,582	1,674	1,684	1,734	1,866	1,892	1,958	1,932	1,942	2,083
VIII Clothing (except Knitted)	1,064	1,108	1,152	1,148	1,212	1,260	1,266	1,258	1,276	1,341
IX Food, Drink and Tobacco	1,538	1,586	1,660	1,700	1,792	1,880	1,940	1,994	2,036	2,111
X Sawmilling, Woodworking and Basketware	1,502	1,548	1,588	1,638	1,712	1,820	1,848	1,876	1,992	2,096
XI Furniture of Wood, Bedding, etc.	1,408	1,408	1,512	1,550	1,604	1,714	1,738	1,768	1,840	1,936
XII Paper, Stationery, Printing, Bookbinding, etc.	1,590	1,640	1,718	1,804	1,942	2,014	2,034	2,074	2,140	2,197
XIII Rubber	1,604	1,612	1,660	1,642	1,718	1,900	1,936	1,818	1,888	2,092
XIV Musical Instruments	1,432	1,594	1,486	1,578	1,650	1,896	1,638	1,652	1,722	1,935
XV Miscellaneous Products	1,266	1,318	1,344	1,368	1,436	1,556	1,560	1,646	1,676	1,751
XVI Heat, Light and Power	2,090	2,144	2,078	2,138	2,300	2,436	2,506	2,560	2,654	2,723
ALL CLASSES—										
Western Australia	1,570	1,604	1,658	1,696	1,780	1,884	1,926	1,976	2,056	2,180
Australia	1,674	1,744	1,802	1,854	1,992	2,072	2,112	2,170	2,264	2,433

(a) Excludes working proprietors and amounts drawn by them.

* Revised.

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	
	\$	\$	\$	\$	\$	\$	\$	\$
1955-56	51,560,302	943,840	14,157,600	65,717,902	111,855,770	121,158	1,211,580	113,067,350
1956-57	55,636,008	1,026,884	15,403,260	71,039,268	125,329,230	121,514	1,215,140	126,544,370
1957-58	57,795,418	1,059,720	15,895,800	73,691,218	126,477,070	120,308	1,203,080	127,680,150
1958-59	64,583,922	1,119,702	16,795,530	81,379,452	130,672,330	152,324	1,523,240	132,195,570
1959-60	68,898,354	1,216,478	18,247,170	87,145,524	126,925,040	152,486	1,524,860	128,449,900
1960-61	71,846,482	1,291,584	19,373,760	91,220,242	126,370,704	224,102	2,241,020	128,611,724
1961-62	76,829,696	1,433,796	21,506,940	98,336,636	121,274,748	215,802	2,158,020	123,432,768
1962-63	80,399,984	1,497,094	22,456,410	102,856,394	130,035,794	259,922	2,599,220	132,635,014
1963-64	83,757,692	1,670,346	25,055,190	118,812,882	152,741,074	277,324	2,773,240	155,514,314
1964-65	102,945,990	1,919,546	28,793,190	131,739,180	160,165,672	336,042	3,360,420	163,526,092

(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	
1955-56	12,122	10,609	1,462	15,601	11,867	172,009	6,369	223,670
1956-57	11,167	10,638	1,393	15,788	9,973	190,000	5,170	238,959
1957-58	11,318	11,002	1,302	13,362	9,707	196,028	4,931	242,719
1958-59	10,912	11,640	3,495	15,736	9,203	203,409	5,282	254,395
1959-60	10,070	11,665	3,505	19,292	6,145	210,983	5,558	261,660
1960-61	10,226	11,665	3,401	17,251	7,846	218,566	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	238,568	5,957	292,425
1963-64	9,734	13,559	3,395	23,088	4,205	273,444	7,470	327,425
1964-65	9,680	13,559	3,395	22,300	5,883	290,769	8,651	345,586

(†) Excludes engines held in reserve or idle and engines used in electricity generating stations. (a) Excludes horsepower of motors driven by 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.	\$		
1955-56	586,312	5,911,302	21,743	356,718	330,459	840,504	52,342	5,840,154	3,840,728	496,006
1956-57	537,464	5,292,732	23,460	433,406	322,222	841,528	52,209	6,642,740	3,867,650	539,092
1957-58	562,456	5,070,308	20,101	392,858	312,532	831,860	53,579	6,994,292	3,982,804	678,560
1958-59	581,979	5,074,142	18,464	425,518	281,841	756,454	64,861	7,066,000	4,105,862	768,338
1959-60	606,566	5,136,886	17,920	444,036	271,083	761,936	70,738	7,183,288	4,487,418	1,100,742
1960-61	493,993	4,211,276	17,975	445,574	306,982	880,550	97,195	8,824,074	4,576,816	1,152,764
1961-62	621,322	4,704,576	18,319	444,020	249,847	766,762	92,953	7,848,458	4,579,908	1,161,634
1962-63	673,726	5,178,534	17,463	438,168	238,927	768,354	99,177	7,957,038	5,009,674	1,116,256
1963-64	670,025	5,172,560	13,390	358,876	226,337	744,748	118,139	9,059,414	5,658,426	1,452,132
1964-65	732,424	5,709,288	12,394	349,326	211,554	681,938	132,347	9,701,472	6,352,482	1,826,012

(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. Oil engines are next in order 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 tables on page 325 show the various types of motive power used during the ten years from 1955-56 to 1964-65 and the quantities and cost of fuel used. The fuels consumed are used for such heating purposes as brick and pottery firing, lime burning and the heating of bakers' 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 318. The annual values of output and net production and of net production per person employed are shown in the following table for the years 1955-56 to 1964-65.

VALUE OF OUTPUT AND NET PRODUCTION

Year	Value of Output	Net Production		Year	Value of Output	Net Production	
		Total	Average per Person Employed(a)			Total	Average per Person Employed(a)
1955-56	\$ 350,292,870	\$ 139,465,804	\$ 2,784	1960-61	\$ 481,140,030	\$ 193,261,602	\$ 3,814
1956-57	375,272,008	146,883,898	3,014	1961-62	486,987,770	196,082,836	3,842
1957-58	392,525,266	150,824,500	3,108	1962-63	517,899,020	216,422,104	4,050
1958-59	392,405,396	157,524,318	3,254	1963-64	555,057,634	230,511,312	4,138
1959-60	431,164,952	172,746,824	3,480	1964-65	616,421,684	260,637,078	4,486

(a) Based on average employment (including working proprietors) over the whole year.

In the following table net production per employee is shown for each class of industry for the years 1960-61 to 1964-65.

NET PRODUCTION PER PERSON EMPLOYED (a)

Class of Industry	1960-61	1961-62	1962-63	1963-64	1964-65
	\$	\$	\$	\$	\$
I Treatment of Non-metalliferous Mine and Quarry Products	4,570	4,876	5,184	5,728	6,145
II Bricks, Pottery, Glass, etc.	3,566	3,710	3,880	4,264	4,581
III Chemicals, Dyes, Explosives, Paints, Oils, Grease	13,010	11,140	12,324	11,998	12,659
IV Industrial Metals, Machines, Implements and Conveyances	2,956	3,102	3,296	3,388	3,775
V Precious Metals, Jewellery, Plate	2,994	2,946	3,046	3,122	3,234
VI Textiles and Textile Goods (inclusive of Knitted Goods)	3,208	2,834	3,074	2,788	2,708
VII Skins and Leather (not Clothing or Footwear)	3,068	3,146	3,306	3,158	3,489
VIII Clothing (except Knitted)	1,858	1,884	1,888	1,930	2,023
IX Food, Drink and Tobacco	4,068	4,178	4,332	4,456	4,646
X Sawmilling, Woodworking and Basketware	3,038	3,274	3,246	3,418	3,793
XI Furniture of Wood, Bedding, etc.	2,648	2,844	2,908	3,054	3,275
XII Paper, Stationery, Printing, Bookbinding, etc.	3,796	3,844	4,102	4,302	4,488
XIII Rubber	4,280	4,956	4,456	4,070	3,903
XIV Musical Instruments	2,462	2,240	2,190	2,262	2,577
XV Miscellaneous Products	2,612	2,624	2,890	2,854	3,143
Classes I to XV	3,724	3,742	3,940	4,030	4,361
XVI Heat, Light and Power	7,438	7,940	8,774	9,180	10,652
ALL CLASSES	3,814	3,842	4,050	4,138	4,486

(a) Based on average employment (including working proprietors) over the whole year.

Summary According to Industry

The table on pages 327-31 gives number of factories, employment and summarized financial data for 1964-65 for each of the 16 classes of industry and for the sub-classes of which they are comprised.

SUMMARY OF FACTORIES ACCORDING TO INDUSTRY, 1964-65

Nature of Industry	Number of Factories	Persons Employed (a)		Salaries and Wages (b)	Value of Output	Cost of—					Net Production (c)	
		Males	Females			Power, Fuel, Light, Water and Lubricants Used	Repairs to Buildings, Plant and Machinery	Non-re-turnable Containers, etc.	Materials Used	Total		
												\$
Class I—Treatment of Non-metalliferous												
Mine and Quarry Products	18	131	7	324,182	2,613,244	241,948	63,262	83,300	1,064,832	1,452,942	1,165,902	
Lime, Plaster of Paris, Asphalt	33	301	18	640,302	1,868,494	26,034	30,732	9,482	830,000	907,308	907,182	
Fibrous Plaster and Products	12	71	4	135,050	430,966	6,362	14,530	246	141,946	168,084	207,482	
Marble, Slate, etc.	4	469	28	1,322,012	7,875,486	1,051,090	207,692	375,770	1,459,646	3,091,198	4,784,288	
Cement, Portland	72	718	36	1,719,738	8,953,870	106,550	233,898	494	4,985,460	5,328,402	8,625,468	
Asbestos Cement Sheets and Mouldings	9	125	13	336,772	1,660,688	65,254	62,042	31,152	538,350	696,798	963,890	
Other	148	1,815	101	4,472,056	23,402,348	1,497,238	614,450	496,444	9,019,994	11,628,132	11,774,216	
Total												
Class II—Bricks, Pottery, Glass, etc.												
Bricks and Tiles	22	858	5	2,174,356	6,732,768	1,127,406	347,370	3,578	747,230	2,225,584	4,507,184	
Earthenware, China, Porcelain, Terracotta	4	168	79	494,448	974,980	106,232	31,234	29,466	92,560	257,782	717,198	
Glass Bottles	22	414	32	975,966	3,208,868	217,042	9,698	15,252	1,059,288	1,300,280	1,903,568	
Glass (other than Bottles)	48	1,440	110	3,644,770	10,911,616	1,449,680	394,302	41,296	1,898,368	3,783,646	7,127,970	
Total												
Class III—Chemicals, Dyes, Explosives, Paints, Oils, Grease												
Industrial and Heavy Chemicals and Acids	15	436	33	1,252,468	6,619,000	474,330	245,892	208,584	2,175,372	3,104,178	3,514,822	
Pharmaceutical and Toilet Preparations	3	22	27	73,656	368,844	6,272	3,438	57,180	117,096	183,986	184,858	
White Lead, Paints, Varnishes	28	1,052	136	3,408,670	85,381,412	4,404,650	856,780	960,052	53,306,972	59,528,454	25,852,958	
Oils, Vegetable	12	134	3	344,746	2,328,530	142,840	73,886	92,882	834,960	1,144,568	1,183,962	
Oils, Mineral	8	56	27	156,012	929,238	8,314	14,272	179,202	463,058	664,846	264,382	
Oils, Animal	8	940	18	2,438,288	23,076,058	367,162	757,518	2,271,848	13,994,732	17,391,060	5,684,998	
Matches	8	21	13	66,950	588,782	2,814	3,212	149,072	154,068	309,166	279,616	
Other	80	2,661	259	7,740,790	119,391,854	5,406,382	1,954,798	3,918,820	71,046,258	82,326,258	36,965,596	
Total												
Class IV—Industrial Metals, Machines, Implements and Conveyances												
Smelting, Converting, Refining, Rolling of Iron and Steel	9	2,160	85	5,739,706	34,620,244	1,428,118	584,978	22,256	18,238,388	20,273,740	14,346,504	
Construction and Repair of Vehicles—Tramcars and Railway Rolling Stock: Other than Government												
Motor Vehicles: Construction and Assembly												

For footnotes see page 331.

SUMMARY OF FACTORIES ACCORDING TO INDUSTRY, 1964-65—continued

Nature of Industry	Number of Factories	Persons Employed (a)		Salaries and Wages (b)	Value of Output	Cost of—					Net Production (c)	
		Males	Females			Power, Fuel, Light, Water and Lubricants Used	Repairs to Buildings, Plant and Machinery	Non-returnable Containers, etc.	Materials Used	Total		
Class IV—Industrial Metals, Machines, Implements and Conveyances—continued												
Foundries (Ferroous) } †	23	925	32	2,667,740	13,171,018	1,361,888	598,056	1,314	4,388,790	6,345,048	6,825,970	
Extracting and Refining of other Metals: Alloys												
Plant, Equipment and Machinery (including Machine Tools)	205	4,051	231	10,087,084	33,782,802	306,904	322,702	58,030	17,365,904	18,053,540	15,729,262	
Other Engineering	179	1,230	66	2,583,010	8,733,712	100,182	118,136	2,552	3,861,218	4,082,088	4,451,824	
Electrical Machinery, Cables and Apparatus	111	1,116	141	2,622,214	9,863,856	92,258	76,076	44,468	5,075,718	5,288,520	4,575,336	
Construction and Repair of Vehicles—												
Tramcars and Railway Rolling Stock:												
Government and Municipal	18	3,178	23	6,521,574	11,089,840	185,262	104,652	.....	3,070,624	3,360,538	7,729,302
Motor Vehicles:												
Repairs	1,100	5,724	306	11,087,138	33,179,028	318,546	413,082	8,414	14,027,262	14,767,304	18,411,724	
Motor Bodies	261	1,721	68	2,996,622	11,223,700	71,834	61,626	72	5,592,956	5,756,488	5,467,212	
Motor Accessories	16	104	10	213,752	753,670	16,976	7,880	542	326,610	352,008	401,962	
Cycles and Accessories	16	52	1	68,702	295,536	5,042	3,320	74	150,334	158,770	136,766	
Construction and Repair of Vehicles—												
Aircraft	10	260	18	778,102	1,967,880	19,672	28,020	428	848,868	896,988	1,070,892	
Ship and Boat Building and Repairing, Marine Engineering—Government												
Cutlery and Small Hand Tools } †	14	52	2	89,504	276,166	2,984	3,372	4,236	70,298	80,890	195,276	
Sewing Machines												
Ship and Boat Building and Repairing, and Marine Engineering—												
Other than Government	45	267	8	553,278	1,695,046	12,916	23,144	20	701,164	737,244	957,502	
Agricultural Machines and Implements	51	560	31	1,212,570	3,716,846	36,000	79,568	4,216	1,584,014	1,703,798	2,013,048	
Non-ferrous Metals—												
Founding, Casting, etc.	27	375	23	790,522	2,768,004	58,884	29,800	1,384	1,228,276	1,313,344	1,454,060	
Galvanized Iron Working and Tinsmithing—												
Sheet Metal Working, Pressing and Stamping	101	1,557	236	3,792,402	17,055,704	181,488	209,146	103,328	9,083,046	9,577,008	7,478,696	
Pipes, Tubes and Fittings (Ferroous) } †	5	489	23	1,307,822	6,230,330	121,170	138,262	8,438	3,581,714	3,849,584	2,380,746	
Stoves, Ovens and Ranges	17	574	43	1,456,502	8,781,314	79,326	130,992	20,032	5,510,616	5,749,966	3,031,348	
Wire and Wire Working (including Nails)	46	180	23	407,656	1,028,050	10,790	6,754	690	365,660	383,894	644,158	
Wireless and Amplifying Apparatus	53	411	47	900,632	4,148,270	56,120	96,630	4,428	1,820,282	1,977,460	2,170,810	
Other Metal Works												
Total	2,305	24,986	1,417	55,820,532	204,381,018	4,461,360	3,066,196	293,922	96,886,742	104,708,220	99,672,798	
Class V—Precious Metals, Jewellery, Plate												
Jewellery	21	36	2	42,536	190,534	2,182	1,982	632	62,524	67,320	129,214	
Watches and Clocks (including Repairs)	53	87	5	102,170	354,072	3,722	1,060	308	70,174	75,264	273,808	
Electroplating (Gold, Silver, Chromium, etc.)	16	95	14	194,290	496,126	25,932	14,584	24	125,158	125,158	370,968	
Total	90	218	21	338,996	1,040,732	34,836	17,626	964	214,316	267,742	772,990	

Class VI—Textiles and Textile Goods (Inclusive of Knitted Goods)		Class VII—Skins and Leather (not Clothing or Footwear)		Class VIII—Clothing (except Knitted)		Class IX—Food, Drink and Tobacco					
Cotton Ginning	11	72	162	350,592	1,446,382	15,148	16,902	21,380	771,366	824,796	621,586
Hosiery and Other Knitted Goods	5	233	178	763,136	4,623,066	72,164	87,344	38,820	3,483,086	3,681,414	946,952
Flax Mills	16	79	83	226,702	1,375,040	5,602	8,264	1,890	872,312	887,968	487,472
Bags and Sacks	4	21	...	57,810	469,204	5,942	20,348	234	255,898	285,422	186,782
Wool—Carding, Spinning, Weaving	36	405	423	1,398,240	7,913,692	98,356	132,358	61,824	5,382,662	5,676,200	2,242,492
Rope and Cordage	5	113	18	280,074	1,118,416	22,298	26,048	4,492	596,464	649,302	469,114
Canvas Goods (Tents, Tarpaulins, etc.)	5	278	33	721,152	1,982,716	124,622	70,338	6,510	589,742	791,212	1,191,504
Other	14	79	66	202,958	799,402	4,184	5,084	1,648	401,270	412,186	387,216
Total	24	470	117	1,204,184	3,900,534	151,104	101,470	12,650	1,587,476	1,852,700	2,047,834
Furs, Skins and Leather—	99	185	391	614,966	1,987,260	16,048	9,980	2,856	862,002	890,886	1,046,374
Tanning, Currying and Leather Dressing	62	37	659	761,462	1,867,854	14,746	11,796	6,710	742,784	776,036	1,091,818
Woolscouring and Felmongery	7	2	30	31,384	115,082	978	154	16	52,594	58,742	62,240
Saddlery, Harness and Whips	13	40	495	623,215	1,554,575	9,664	7,940	30,638	629,930	678,170	876,408
Bags, Trunks and other Goods of Leather	19	234	296	779,202	2,552,506	17,630	34,934	27,476	1,221,142	1,301,182	1,251,324
and Leather Substitutes (not Clothing or Footwear)	76	130	5	120,126	567,704	6,944	2,232	1,662	161,688	172,526	395,178
Saddlery, Harness and Whips	83	239	304	708,272	1,841,264	107,284	43,696	19,338	230,250	400,568	1,440,696
Bags, Trunks and other Goods of Leather	359	567	2,180	3,638,660	10,437,148	173,294	110,732	88,694	3,900,300	4,273,110	6,164,088
and Leather Substitutes	13	314	18	812,322	11,520,638	163,084	106,790	794,276	8,732,042	9,796,192	1,724,346
Total	18	689	77	1,771,572	15,305,070	421,842	145,574	2,541,058	4,390,984	7,499,458	7,805,612
Flour Milling	21	185	18	407,860	5,571,494	63,138	88,020	282,460	4,190,776	4,574,394	997,100
Cereal Foods and Starch	282	966	318	1,953,796	11,840,230	356,490	167,880	300,730	6,068,104	6,893,204	4,947,926
Margarine	13	410	492	1,685,200	12,789,038	260,430	120,652	1,249,344	8,048,368	9,678,794	3,110,244
Meat	5	60	69	220,776	1,179,030	25,322	18,306	232,762	474,204	750,594	428,436
Milling	3	8	12	28,812	133,618	2,116	2,306	27,334	36,662	68,418	65,200
Tobacco, Cigars and Cigarettes	4	245	98	717,352	8,041,612	91,326	65,740	334,120	5,859,468	6,350,654	1,690,958
Sausages, Cakes and Pastry	13	410	492	1,685,200	12,789,038	260,430	120,652	1,249,344	8,048,368	9,678,794	3,110,244
Bakeries (including Cakes and Pastry)	5	60	69	220,776	1,179,030	25,322	18,306	232,762	474,204	750,594	428,436
Biscuits	3	8	12	28,812	133,618	2,116	2,306	27,334	36,662	68,418	65,200
Sugar Refining	4	245	98	717,352	8,041,612	91,326	65,740	334,120	5,859,468	6,350,654	1,690,958
Confectionery (including Chocolate and Icing Sugar)	13	410	492	1,685,200	12,789,038	260,430	120,652	1,249,344	8,048,368	9,678,794	3,110,244
Ice Cream	5	60	69	220,776	1,179,030	25,322	18,306	232,762	474,204	750,594	428,436
Jams, Fruit and Vegetable Canning	3	8	12	28,812	133,618	2,116	2,306	27,334	36,662	68,418	65,200
Pickles, Sauces, Vinegar	4	245	98	717,352	8,041,612	91,326	65,740	334,120	5,859,468	6,350,654	1,690,958
Bacon Curing											

For footnote: see page 331.

SUMMARY OF FACTORIES ACCORDING TO INDUSTRY, 1964-65—continued

Nature of Industry	Number of Factories	Persons Employed (a)		Salaries and Wages (b)	Value of Output	Cost of—						Net Production (c)
		Males	Females			Power, Fuel, Light, Water and Lubricants Used	Repairs to Buildings, Plant and Machinery	Non-re-ferable Containers, etc.	Materials Used	Total		
Class IX—Food, Drink and Tobacco—continued												
Butter Factories	18	273	64	715,212	9,013,282	177,046	142,268	325,724	7,519,880	8,165,518	1,447,764	
Cheese Factories	68	1,827	329	4,959,474	32,589,334	566,912	455,468	1,216,872	21,679,110	23,917,862	8,071,472	
Condensed and Dried Milk Factories	67	262	332	927,216	6,207,738	60,964	62,860	1,420,150	2,376,268	3,920,242	2,287,496	
Meat and Fish Preserving	30	323	56	833,974	2,696,582	260,080	152,212	478,188	210,600	1,104,080	1,592,502	
Blending and Packing, Food Packing, etc.	39	263	83	626,776	4,501,434	63,922	76,342	1,167,118	1,603,142	2,910,324	1,990,910	
Ice and Refrigerating	34	66	19	89,694	694,144	6,180	7,776	68,290	342,010	424,256	260,888	
Aerated Waters, Cordials, etc.	11	77	4	162,708	748,984	6,902	5,190	396,978	280	409,350	339,634	
Bottling												
Total	626	5,968	1,989	15,917,744	123,432,228	2,526,354	1,020,384	10,784,904	71,531,898	86,463,540	36,968,088	
Class X—Sawmilling, Woodworking and Basketware												
Sawmills—Sawing from the Log	168	2,757	65	5,691,488	21,209,490	472,896	879,796	11,134	7,976,796	9,340,622	11,868,868	
Sawmills—Resawing, Dressing, etc.	24	584	25	1,184,268	5,618,334	102,612	110,634	10,840	3,370,214	3,594,200	2,024,134	
Plywood Mills (Including Veneers)	9	328	15	790,208	3,212,330	62,178	141,980	5,718	1,670,824	1,880,100	1,332,230	
Cooperage												
Boxes and Cases	226	1,623	44	3,200,108	11,378,694	94,776	149,750	2,812	5,741,556	5,982,894	5,305,800	
Other	5	15	3	23,784	95,554	488	746	90	23,594	23,918	71,686	
Joinery	7	49	3	94,244	202,718	1,342	994	52	67,528	69,916	132,802	
Woodturning, Woodcarving, etc.	4	55	1	146,062	641,460	23,144	44,488	360	280,330	359,322	288,138	
Basketware, Wickerware, etc.												
Perambulators												
Wall and Ceiling Boards (not Plaster or Cement)	443	5,411	156	11,130,162	42,353,580	762,336	1,321,788	31,006	10,129,842	21,244,972	21,113,608	
Total	155	1,053	59	1,857,902	8,044,248	44,140	57,350	2,474	4,479,730	4,582,684	3,461,564	
Class XI—Furniture of Wood, Bedding, etc.												
Cabinet, Furniture Making and Upholstery	3	148	76	431,624	2,191,308	10,394	39,168	1,000	1,101,548	1,236,116	953,192	
Bedding and Mattresses (not Wire)	6	10	3	31,582	151,788	442	170	...	80,848	81,458	70,346	
Furnishing Drapery	3	10	3	13,774	84,694	516	204	...	89,638	90,358	43,338	
Picture Frames	11	58	63	208,676	1,047,686	4,152	9,004	5,080	639,002	657,188	890,498	
Window and Verandah Blinds												
Total	178	1,274	229	2,549,558	11,519,734	59,644	99,896	8,510	6,423,754	6,596,804	4,922,930	

Class	13	865	34	9,270,624	108,130	78,740	338	3,660,884	3,848,092	5,422,532
Class XII—Paper, Stationery, Printing, Newspapers and Bookbinding, etc.										
Printing, Government	5	266	96	1,909,074	63,866	48,460	7,318	734,454	844,068	1,065,006
Stereotyping, Electrotyping										
Paper Making										
Other	100	943	408	8,237,360	73,776	101,258	48,872	3,074,672	3,298,578	4,983,782
Printing, General (including Bookbinding)	8	162	70	453,302	15,676	19,698	15,756	1,790,228	1,841,298	1,299,302
Stationery and Paper Products	5	175	17	1,004,600	18,108	10,102	250	145,740	174,200	880,098
Cardboard Boxes, Cartons and Containers	10	79	85	2,154,528	10,550	15,930	16,604	1,306,016	1,349,100	805,428
Processes and Photo-engraving										
Paper Bags										
Total	155	2,490	710	25,716,484	290,106	274,128	89,138	10,701,964	11,355,336	14,361,148
Class XIII—Rubber										
Rubber Goods (including Tyre Making)	61	457	69	5,087,944	147,780	111,966	16,738	2,758,564	3,035,048	2,052,896
Tyre Retreading and Repairing										
Total	61	457	69	5,087,944	147,780	111,966	16,738	2,758,564	3,035,048	2,052,896
Class XIV—Musical Instruments										
Pianos, Piano-players, Organs, etc.	7	29	....	87,558	762	88	60	11,902	12,812	74,746
Other										
Total	7	29	....	87,558	762	88	60	11,902	12,812	74,746
Class XV—Miscellaneous Products										
Plastic Moulding and Products	26	160	81	2,042,570	40,478	43,872	15,698	1,089,662	1,189,710	852,860
Brooms and Brushes										
Surgical and Other Scientific Instruments and Appliances	26	162	54	899,718	9,652	9,652	10,848	285,362	314,914	584,804
Toys, Games and Sports Requisites										
Optical Instruments and Appliances	6	35	3	194,640	2,074	3,574	150	62,008	67,806	126,834
Photographic Material, Developing, etc.	18	49	90	619,292	12,082	5,066	1,850	177,358	195,886	423,376
Other	10	26	6	199,742	3,774	1,552	5,508	83,754	94,588	105,154
Total	86	432	234	3,955,932	68,060	63,116	33,584	1,698,144	1,862,904	2,093,028
Total, Classes I to XV	4,646	48,923	8,021	593,442,402	17,127,792	9,883,804	15,878,554	302,197,274	345,087,424	248,354,978
Class XVI—Heat, Light and Power										
Electric Light and Power—										
Government	10	674	10	1,909,720	6,262,136	420,208	...	50,760	6,733,104	8,980,784
Local Authority	36	116	....	283,644	435,924	93,248	...	1,168	530,340	758,682
Other	80	214	....	556,638	4,101,744	289,626	...	23,546	2,324,212	1,777,532
Gas Works—										
Government	3	138	....	340,432	207,920	68,422	5,136	828,048	1,109,526	705,102
Other										
Total	88	1,142	11	3,090,434	8,917,020	871,504	5,136	903,522	10,697,182	12,282,100
GRAND TOTAL	4,734	50,065	8,032	616,421,684	26,044,812	10,755,308	15,883,690	303,100,796	355,784,606	260,637,078

(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 318. † 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 concern 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 1955-56 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
1955-56	111	8,104	172	8,276	\$ 13,628,936	\$ 153,196	\$ 13,782,132
1956-57	118	8,124	165	8,289	13,663,174	157,914	13,821,088
1957-58	119	8,298	170	8,468	14,183,710	168,850	14,352,560
1958-59	141	8,674	176	8,850	15,407,338	175,910	15,583,248
1959-60	142	8,378	178	8,556	15,769,740	184,090	15,953,830
1960-61	151	8,228	172	8,400	16,329,996	189,998	16,519,994
1961-62	129	7,167	177	7,344	14,635,678	218,046	14,853,724
1962-63	129	7,299	172	7,471	15,129,544	207,630	15,337,174
1963-64	133	7,299	183	7,482	15,848,368	222,202	16,070,570
1964-65	135	7,351	198	7,549	16,630,004	252,048	16,882,052

Year	Value of Output	Cost of—			Net Production (b)	Book Values of—	
		Power, Fuel, Light, Water and Lubricants Used	Materials Used and Repairs to Buildings and Plant, etc. (a)	Total		Land and Buildings	Plant and Machinery
1955-56	\$ 38,242,350	\$ 5,789,658	\$ 11,853,926	\$ 17,643,584	\$ 20,598,766	\$ 10,685,732	\$ 26,446,092
1956-57	38,720,868	5,995,746	12,016,722	18,012,468	20,708,400	11,729,040	34,378,908
1957-58	39,024,160	5,753,872	11,686,358	17,440,230	21,583,930	11,661,998	38,742,132
1958-59	42,199,728	6,056,876	12,753,718	18,810,594	23,389,134	15,283,044	38,725,998
1959-60	45,017,460	6,522,824	13,465,720	19,988,544	25,023,906	16,364,298	38,641,230
1960-61	46,390,310	6,871,676	13,434,260	20,305,936	26,084,374	16,910,248	39,108,044
1961-62	42,194,248	6,336,910	12,130,506	18,467,416	23,726,832	16,789,576	35,770,680
1962-63	44,145,430	6,703,196	12,401,206	19,104,402	25,041,028	16,306,550	34,160,250
1963-64	45,253,254	7,367,212	11,913,610	19,280,822	25,972,432	15,908,304	32,866,612
1964-65	48,522,778	8,046,354	12,188,520	20,234,874	23,287,904	15,402,890	30,185,908

(a) Including non-returnable containers. (b) See *Explanatory Notes and Definitions* on page 318.

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 each of the five years from 1960-61 to 1964-65. 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 34 per cent.; boots, shoes and sandals, 38 per cent.; cordials and syrups, 35 per cent.; electricity, 42 per cent.; lime (quicklime), 47 per cent.; soft-filled mattresses, 87 per cent.; ready-mixed paints and enamels (excluding water paints), 51 per cent.; fabricated constructional steel, 84 per cent.; sulphuric acid, 39 per cent.; superphosphate, 31 per cent.; raw and refined tallow (including dripping), 53 per cent.; men's and youths' sports trousers, 80 per cent.; and tyre retreads, 45 per cent. However, there have been many fluctuations over the period reviewed and there are numerous examples of declining pro-

duction and of peak production occurring in intermediate years. Consequently a more accurate assessment of trends will be obtained by considering each of the five years shown rather than by comparing two years only.

ITEMS OF FACTORY PRODUCTION (a)

Commodity (b)	Unit	1960-61	1961-62	1962-63	1963-64	1964-65
Aerated Waters	gal.	5,149,068	5,607,775	5,690,530	6,462,323	6,917,932
Bacon and Ham	lb.	7,084,739	7,839,387	8,594,473	8,468,073	8,921,238
Bath Heaters—Solid Fuel	number	5,332	5,076	5,018	4,717	4,621
Boots, Shoes and Sandals (c)	pair	582,219	638,374	712,019	731,471	804,280
Bran	ton (2,000lb.)	34,085	28,005	26,474	27,502	25,452
Bread (2 lb. loaf) (d)	'000	55,926	55,147	56,522	58,172	57,731
Bricks (e)	'000	119,998	119,868	131,176	155,792	146,057
Butter	'000 lb.	17,160	16,762	15,596	15,491	17,387
Cardigans, Pullovers (all types)	dozen	11,392	10,091	9,935	11,323	(†)
Cases—Fruit, Vegetable, etc. (including Shooks)	number	2,750,983	1,984,974	2,031,319	1,986,555	1,795,209
Cheese	lb.	3,025,354	3,055,856	3,223,011	3,372,811	4,061,243
Coats—Sports—Men's and Youths'	number	5,301	1,195	827	1,057	877
Coke (including Coke Breeze)	ton	22,228	20,885	19,130	13,928	12,822
Cordials and Syrups	gal.	250,620	295,595	277,269	281,730	337,629
Electricity (f)	'000 kWh.	1,035,455	1,110,407	1,219,492	1,318,199	1,474,277
Fibrous Plaster Sheets	sq. yd.	1,494,263	1,446,494	1,578,030	1,641,742	1,596,637
Flour—Plain (g)	ton (2,000lb.)	168,237	141,103	135,911	143,296	134,378
Self-raising	ewt.	80,237	79,553	78,952	82,548	74,206
Gas (Town) (h)	'000 cub. ft.	1,449,928	1,403,223	1,400,705	1,435,478	1,458,064
Ice	ton	8,767	10,629	9,444	8,604	8,424
Iron—Pig-Iron	"	52,262	49,736	45,095	46,769	47,355
Jelly Crystals	lb.	930,717	996,516	939,231	867,317	992,212
Lime (Quicklime)	ton	28,045	28,653	30,387	30,024	41,280
Macaroni, Spaghetti, Vermicelli	ewt.	23,671	20,524	18,252	17,239	15,437
Mattresses—Soft-filled (i)	number	31,809	30,756	37,249	47,855	59,491
Paints and Enamels (j)	gal.	363,051	410,289	458,212	521,590	546,549
Pickles and Chutneys	pint	462,020	320,593	297,652	271,486	438,066
Plaster of Paris	ton	18,792	17,933	20,469	*20,929	22,263
Pollard	ton (2,000lb.)	25,838	21,417	22,007	21,732	18,975
Pyjamas—Men's and Boys' (k)	dozen	12,398	10,106	11,029	13,063	12,555
Sauce (all types)	pint	906,562	826,127	657,457	488,120	483,594
Shirts (all types)—Men's and Boys'	dozen	53,562	56,084	55,515	58,952	66,489
Sleepers, Railway—Sawn	'000 sup. ft.	40,536	51,704	46,606	46,489	53,189
Slippers	pair	132,077	119,521	122,106	143,471	109,818
Soap and Soap Substitutes (l)	ewt.	58,786	58,072	59,713	65,488	54,231
Steel, Constructional—Fabricated	ton	21,751	23,996	32,380	34,348	39,995
Stock and Poultry Foods—Meat and Bone Meal	ewt.	201,792	220,296	253,148	*218,832	191,662
Suits—Men's and Youths'—2 and 3 piece	number	15,957	13,020	10,886	10,570	10,869
Sulphuric Acid	ton	234,540	237,860	262,538	306,889	326,103
Superphosphate	ton	660,501	672,256	751,574	863,628	897,205
Tallow (Raw and Refined) (m)	ewt.	158,427	171,989	217,702	227,081	242,347
Timber (from local logs)—Sawn (n)	'000 sup. ft.	186,911	192,789	185,809	195,724	207,304
Trousers—Men's and Youths'—Sports Work	number	83,711	100,757	106,313	126,243	150,910
Tyres (Retreaded and Recapped)	"	165,353	140,069	124,445	130,022	124,454
Vinegar (including bulk)	gal.	150,609	177,173	195,085	193,872	218,146
Wool—Scoured	'000 lb.	195,513	151,819	132,973	152,290	158,457
		29,586	31,878	29,348	27,478	26,543

(a) Some major items of production are not available for publication. (b) Includes quantities produced and used in own works. (c) Excludes sandshoes, thongs and other footwear wholly of rubber. (d) Includes loaves other than 2 lb. size, and bread rolls, etc., in terms of 2 lb. loaf equivalent. (e) For years prior to 1964-65, figures include all types of standard size bricks. For 1964-65, figures represent clay bricks only (all sizes). (f) Total generated—see page 343 for electricity distributed. (g) Includes quantities used for making self-raising flour. (h) Total made—see page 343 for gas distributed. (i) Includes rubber, plastic foam and sponge. (j) Ready-mixed, excluding water paints. (k) Woven fabric. (l) Includes detergents. (m) Includes dripping. (n) Includes railway sleepers (see separate item above) and plywood veneers in terms of super. feet. † Not available for publication. * Revised.

The consumption of various materials in specific industries is shown in the following table for the years 1960-61 to 1964-65. As in the preceding table, figures are in terms of physical units and particulars for individual items may therefore be directly compared over the period reviewed without considering price changes which might have occurred. However, they do not necessarily represent total factory consumption of the materials shown, as information is not available or cannot be published for some industries.

INDIVIDUAL INDUSTRIES

The tables on pages 335-41, which appear in the industry order shown in the table on pages 327-31, deal with factory activity in selected industries for each of the ten years from 1955-56 to 1964-65. When considering employment, salaries and wages, value of output and net production, reference should be made to the section *Explanatory Notes and Definitions* on page 318.

It has been possible to include particulars of only a limited number of items of materials used and commodities produced (see reference to *Confidential Information* on page 318).

MATERIALS USED IN FACTORIES

Item	Industry or Process in which Used	Unit	1960-61	1961-62	1962-63	1963-64	1964-65
Canvas and Duck—Cotton and Flax	Canvas Goods	sq. yd.	457,690	499,481	525,908	461,754	596,169
Cement	Cement Goods (excl. Asbestos-cement Goods)	ton	61,130	66,567	61,332	82,363	116,499
Coal—Fuel	Total Factory Consumption	"	493,993	621,322	673,726	670,025	732,424
Gas	Gas Works	cwt.	47,635	50,844	51,634	42,963	43,045
Colours—Inorganic (excl. Natural Earths)	Paints	dozen	2,083	2,160	3,278	2,767	3,134
Eggs	Egg Pulping	dozen	996,090	693,285	485,679	742,403	†
Flour—Plain	Bakeries	150 lb. bag	565,654	565,110	578,064	594,030	589,188
	Biscuits, Confectionery, Ice Cream	"	43,800	†	†	†	†
	Macaroni, Spaghetti, Cereals	"	16,933	15,760	13,467	13,180	10,747
Fruit (excluding Grapes for Wine)	Self-raising Flour	"	58,107	59,733	54,853	57,267	53,267
Grapes—Fresh	Jams, Essential Oils, Canning, etc.	cwt.	101,493	49,171	*71,721	104,492	139,925
Gypsum	Wine Making	ton	4,124	4,333	4,333	5,339	4,538
Hides (all kinds)	Limn, Plaster and Cement	sq. yd.	32,022	30,885	36,632	37,251	41,837
Leather—Purchased by weight	Canvas Goods, Bags and Sacks	number	2,477,854	2,200,659	2,281,237	2,083,224	1,673,447
Leather—Purchased by area	Tanning	sq. ft.	79,407	83,112	65,269	75,394	85,284
Linseed Oil	Saddlery, Bags, Boots and Shoes	lb.	921,797	731,655	622,528	690,566	641,850
Meatmeal (incl. Whale Meal and Solubles)	Boot Accessories and Repairing	gal.	1,642,082	2,112,811	1,726,459	1,792,370	1,916,770
Oats	Paints	ton	27,727	27,381	34,303	27,234	29,472
Paper—Paperboard	Animal and Bird Foods	bushel	3,874	4,522	5,508	6,787	8,621
Phosphate Rock	Animal and Bird Foods	ton	466,031	564,890	647,996	689,319	552,978
Plaster of Paris	Boxes, General Printing, etc.	ton	5,664	6,480	8,084	9,251	9,769
Rubber	Chemical Fertilizers	"	413,544	423,001	470,853	543,189	547,099
Sugar—Refined	Fibrous Plaster and Products	"	17,964	15,208	16,121	16,799	16,949
	Tyre Repairing	lb.	1,598,360	1,727,407	1,835,847	2,002,674	2,343,059
	Aerated Waters	70 lb. bag	88,891	98,217	99,250	109,996	125,149
	Bakeries	"	24,800	24,715	25,812	29,288	33,285
	Biscuits, Condenseries, Ice Cream	"	75,144	76,157	82,103	82,103	70,403
	Jams, Pickles, Sauces	"	13,938	17,497	21,809	15,773	19,176
	Manufacturing Grocers	"	57,814	54,105	52,869	44,711	51,070
	Chemical Fertilizers	ton	54,596	57,539	64,336	73,994	76,653
	Tanning	ton	544	442	†	†	†
Sulphur	Sawnalls, Plywood Mills, etc.	'000 sup. ft.(a)	440,257	472,126	435,222	462,389	469,929
Tanning Extract	Pickles, Jams, Sauces	cwt.	11,796	14,184	14,468	19,742	19,742
Timber (Local)	Flour Mills, Stock Foods, etc.	bushel	26,769	37,503	31,850	32,438	33,638
Logs—Hardwoods	Wool Scouring	lb.	13,243	11,539	8,259	15,913	24,284
Pines	Knitting Mills	"	7,989,182	6,790,164	6,701,126	7,130,050	6,890,352
Tomatoes		"	49,727,711	53,159,202	48,172,216	45,385,100	44,646,302
Vegetables		"	131,387	151,544	123,469	141,574	†
Wheat		"					
Wool—Greasy		"					
Yarn—Worsted and Woollen		"					

* Revised. † Not available for publication. (a) Hoppus measure.

INDIVIDUAL INDUSTRIES
LIME, PLASTER AND PLASTER SHEETS

Year	Num-ber of Fac-tories	Land Buildings and Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Pro-duction	Materials Used		Production (d)				
										Sisal Hemp and Substitutes	Limestone	Fibrous Plaster Sheets	Lime (Quicklime) (e)			
		\$	rated h.p.		\$	\$	\$	\$	\$	tons	\$	sq. yds.	tons			
1955-56	51	912,990	1,310	573	901,452	171,462	1,567,036	3,105,204	1,366,706	1,199	157,875	60,772	2,171,929	1,036,660	25,649	448,880
1956-57	54	946,328	1,326	482	736,862	166,874	1,397,424	2,890,478	1,326,180	832	148,904	67,952	1,491,998	727,052	25,759	443,466
1957-58	51	1,003,728	1,759	478	746,150	185,868	1,366,954	2,969,564	1,416,742	737	137,640	53,139	1,505,789	805,694	27,900	431,050
1958-59	54	1,142,610	2,231	453	761,442	177,680	1,570,854	3,194,930	1,446,378	691	128,450	43,701	1,349,280	744,016	22,983	364,382
1959-60	57	1,365,304	2,236	483	821,164	160,302	1,545,452	3,252,164	1,546,410	710	158,626	46,886	1,422,618	793,682	23,280	342,572
1960-61	58	1,506,898	2,859	457	830,932	181,852	1,754,196	3,632,928	1,596,880	789	157,782	62,122	1,494,263	868,786	28,045	453,808
1961-62	58	1,591,050	3,114	456	869,030	199,312	1,763,928	3,687,330	1,724,090	750	176,954	64,053	1,440,494	820,936	28,663	447,800
1962-63	57	1,532,986	3,392	476	915,602	237,362	1,907,050	4,032,242	1,887,830	806	215,478	66,573	1,578,080	917,724	30,387	465,798
1963-64	*53	1,690,084	3,851	460	946,842	247,660	2,054,646	4,291,584	1,989,878	800	204,836	60,177	1,641,742	944,446	30,034	463,660
1964-65	51	1,775,360	3,895	457	964,484	267,982	2,080,668	4,481,738	2,133,088	93	257,784	81,886	1,596,687	969,558	41,280	544,408

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Includes quantities produced in factories classified to other industries. (e) Includes quantities produced and used in own works. * Revised.

CEMENT AND CEMENT GOODS (INCLUDING ASBESTOS CEMENT SHEETS)

Year	Num-ber of Fac-tories	Land Buildings and Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Pro-duction	Materials Used		Production (e)			
										Reinforcing Steel	Cement	Cement Roofing Tiles Produced	Lime		
		\$	rated h.p.		\$	\$	\$	\$	\$	tons	\$	tons	'000		
1955-56	52	5,613,422	13,510	1,146	1,897,486	1,921,744	3,470,334	8,975,682	3,489,954	1,657	182,006	32,708	766,682	7,489	449,798
1956-57	48	5,308,508	13,148	898	1,943,256	1,926,850	2,777,492	7,529,094	3,825,722	1,613	160,938	39,486	706,234	6,716	431,374
1957-58	48	5,138,980	13,099	877	1,994,770	367,754	3,076,510	8,024,948	4,077,254	1,953	124,772	31,951	772,060	6,782	436,050
1958-59	55	5,306,790	13,009	899	1,965,534	511,682	3,394,286	8,259,392	4,350,674	1,538	153,940	42,154	973,134	5,740	361,350
1959-60	53	5,414,550	13,348	929	1,736,382	759,658	3,610,618	8,722,154	4,595,068	1,583	139,408	47,257	1,113,960	5,989	347,588
1960-61	64	6,523,504	14,242	857	1,910,534	767,798	4,238,900	10,118,144	5,119,146	1,898	189,336	58,944	1,408,952	4,086	310,002
1961-62	63	6,933,408	14,641	1,012	2,107,988	776,754	4,254,574	10,400,823	5,677,900	2,277	235,608	63,619	1,474,572	3,967	326,208
1962-63	75	6,877,450	15,658	1,099	2,124,482	946,595	4,734,674	13,276,210	6,573,084	2,852	295,606	86,034	2,030,164	4,000	300,000
1963-64	76	7,101,090	16,309	1,113	2,365,490	909,792	6,123,006	14,499,454	7,300,686	2,768	307,598	89,944	2,243,168	4,000	300,000
1964-65	76	11,777,633	21,689	1,246	3,033,750	1,157,640	7,261,960	16,829,356	8,409,766	3,023	312,568	114,979	2,788,822	4,000	300,000

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Excludes quantities used in production of asbestos cement sheets. (e) Includes quantities produced in factories classified to other industries. * Not available for publication.

BRICKS, TILES, EARTHENWARE, PORCELAIN, ETC. (a)

Year	Number of Factories	Land, Buildings, Plant and Machinery Used (b)	Engines and 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 (Clay) Produced (e)
1955-56	86	4,168,606	9,413	1,181	1,977,688	968,940	807,022	4,906,426	8,181,564	96,247,000
1956-57	84	4,024,976	9,200	1,017	1,869,940	776,592	710,222	4,589,918	2,491,898	80,542,000
1957-58	82	3,943,970	9,637	1,092	1,842,746	879,544	800,052	4,086,752	5,359,856	101,070,000
1958-59	81	3,769,864	9,531	1,094	1,857,338	792,184	739,440	4,713,942	3,181,668	93,194,000
1959-60	80	3,484,550	9,637	1,013	1,857,012	787,130	730,036	5,018,972	3,493,806	100,462,000
1960-61	80	3,524,770	9,714	1,069	2,075,500	899,886	856,626	5,498,404	3,741,942	105,993,000
1961-62	81	3,794,142	10,826	1,098	2,192,938	838,812	860,098	5,537,985	3,841,078	106,000,000
1962-63	83	3,584,258	11,805	1,058	2,400,430	913,548	970,906	6,116,996	4,232,748	106,000,000
1963-64	86	4,484,798	12,349	1,139	2,513,736	1,137,066	1,092,698	7,064,832	4,585,048	106,000,000
1964-65	86	4,525,080	13,287	1,110	2,663,804	1,232,638	1,250,728	7,707,745	5,224,382	146,057,000

(a) Excludes cement bricks and cement roofing tiles; see preceding table. (b) Book values at end of year. (c) Excludes motors driven by electricity of own generation. (d) Includes water and lubricants. (e) Clay bricks of standard size only for years prior to 1964-65. For 1964-65, figures represent clay bricks of all sizes. † Not available for publication.

CHEMICAL FERTILIZERS

Year	Number of Factories	Land, Buildings, Plant and Machinery Used (a)	Engines and Electric Motors Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Production	Materials Used		Superphosphate Produced
										Phosphate Rock	Sulphur	
1955-56	6	8,065,872	7,684	977	1,797,462	290,850	10,018,498	15,125,366	4,813,018	300,836	35,492	468,413
1956-57	6	7,723,908	8,180	942	1,678,456	299,122	10,856,422	15,203,088	4,047,644	307,102	32,201	1,405,614
1957-58	6	7,516,404	8,050	1,004	2,016,556	330,384	12,826,100	17,578,108	4,421,624	368,621	47,123	1,963,024
1958-59	6	7,603,072	8,819	975	1,911,856	304,000	10,788,228	15,935,252	3,943,026	336,237	42,117	1,514,034
1959-60	6	7,298,940	9,334	927	1,896,556	338,884	11,985,692	17,288,104	4,963,630	398,056	62,462	1,760,942
1960-61	6	7,400,226	9,632	984	2,091,166	325,356	12,707,080	18,265,742	5,226,336	418,644	54,596	1,714,904
1961-62	7	7,735,398	9,676	986	2,182,810	397,322	12,970,394	18,466,996	5,189,280	423,001	5,805,808	1,803,970
1962-63	8	8,569,364	11,412	1,008	2,214,848	397,078	14,002,776	20,173,624	5,470,553	67,707,034	64,336	1,982,270
1963-64	8	11,397,686	11,512	958	2,268,700	364,218	15,335,390	21,513,696	5,814,088	543,189	73,994	2,029,160
1964-65	8	14,022,720	12,207	958	2,438,288	367,162	17,023,898	23,076,058	5,684,998	547,099	76,653	2,129,076

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants.

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)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Production
1955-56	1,484	30,801,868	51,787	19,410	29,588,624	1,775,768	36,674,320	82,381,398	43,931,310
1956-57	1,564	33,223,940	65,967	19,490	30,090,272	2,016,522	41,104,990	89,672,478	46,550,938
1957-58	1,609	43,441,100	67,817	19,549	30,900,752	2,092,658	44,860,482	95,701,672	48,748,532
1958-59	1,754	43,938,078	66,505	19,980	31,232,018	2,204,370	44,585,182	96,665,094	48,873,662
1959-60	1,869	43,873,916	73,456	20,494	34,409,424	2,771,738	54,892,354	113,034,986	56,410,894
1960-61	1,924	49,624,248	75,987	21,124	37,889,086	2,933,760	60,998,068	126,389,444	62,457,628
1961-62	2,006	52,937,560	77,902	21,528	39,236,448	3,014,844	67,654,164	137,366,292	66,797,284
1962-63	2,080	55,100,558	80,185	23,249	43,613,956	3,072,982	77,983,202	157,611,656	76,601,472
1963-64	2,160	77,508,884	99,737	24,924	49,140,626	3,764,446	85,676,644	173,906,418	84,463,328
1964-65	2,305	86,692,270	104,111	26,403	55,826,532	4,481,360	100,246,860	204,381,018	99,672,798

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants.

BOOTS AND SHOES

Year	Num-ber of Fac-tories	Land, Buildings, Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Em-ployed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Con-tainers and Materials Used	Leather Used		Production (d)			
								Purchased by Weight	Purchased by Area	Boots, Shoes and Sandals	Shippers		
1955-56	10	580,428	495	607	765,180	15,114	1,043,162	309,420	1,647,141	551,871	1,545,180	498,081	507,940
1956-57	11	587,623	600	592	769,760	13,978	878,574	236,622	1,278,551	550,370	1,370,560	378,188	406,596
1957-58	11	592,122	563	503	670,358	13,064	805,584	219,662	1,100,615	538,583	1,470,884	266,176	449,276
1958-59	12	615,175	575	512	665,592	12,868	897,492	241,558	1,294,116	668,970	1,456,430	238,749	371,520
1959-60	11	681,984	489	523	741,696	12,968	1,059,114	263,604	1,245,599	699,555	1,781,284	163,040	266,734
1960-61	12	819,232	715	457	664,360	14,358	982,980	237,562	1,240,112	582,219	1,681,576	182,077	251,618
1961-62	13	663,980	668	502	704,842	16,538	1,137,840	196,926	1,580,589	638,374	1,862,822	119,521	247,846
1962-63	13	764,688	650	440	570,874	13,808	1,007,572	159,832	1,315,818	712,016	1,633,808	182,106	220,504
1963-64	12	†	†	†	†	†	†	169,974	1,342,027	731,471	1,821,368	143,471	268,276
1964-65	14	†	†	†	†	†	†	163,266	1,414,492	804,280	1,961,812	109,318	227,672

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Includes quantities produced in factories classified to other industries. † Not available for publication.

FLOUR MILLING

Year	Num-ber of Fac-tories	Land, Build-ings, and Electric Machinery Used (a)	Engines and Electric Motors Used (b)	Persons Em-ployed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Con-tainers and Materials Used	Value of Output	Wheat Ground	Production (d)							
										Flour (e)	Bran	Pollard	tons (f)	\$	tons (f)	\$	tons (f)
1955-56	20	2,792,788	5,089	510	867,966	233,232	12,804,036	14,432,256	1,444,938	8,601,658	11,562,944	179,367	10,631,492	41,489	1,598,746	29,018	1,116,500
1956-57	20	2,320,660	5,407	504	844,304	229,454	12,559,832	14,307,196	1,517,910	8,318,043	11,356,044	169,535	10,473,910	39,178	1,534,632	29,274	1,148,010
1957-58	19	2,658,366	5,537	455	789,234	207,882	11,317,766	13,120,574	1,594,926	7,392,991	10,317,924	148,148	9,488,284	34,073	1,362,390	26,061	1,040,824
1958-59	20	2,611,456	5,280	428	771,578	201,452	11,071,870	12,819,802	1,546,480	7,125,484	10,205,356	139,702	9,098,630	32,203	1,255,988	24,320	940,164
1959-60	18	2,558,764	5,151	396	810,390	218,632	12,025,026	13,815,894	1,572,146	7,577,149	11,113,254	150,774	9,953,192	33,426	1,318,974	25,539	1,006,614
1960-61	18	2,341,680	5,149	433	842,490	217,618	12,589,390	14,506,594	1,699,586	7,612,425	11,406,034	168,237	11,698,712	34,085	1,339,394	25,838	1,032,528
1961-62	16	2,279,238	5,049	379	753,246	182,084	10,662,338	12,447,098	1,602,676	6,285,090	9,703,042	141,103	10,091,428	28,005	1,093,594	21,417	364,662
1962-63	15	2,044,238	4,596	345	736,474	179,500	10,444,892	12,184,124	1,569,732	6,101,377	9,233,625	135,911	9,887,150	26,474	1,029,782	22,007	891,096
1963-64	15	1,884,538	4,768	354	736,492	174,878	10,172,280	11,936,198	1,589,040	6,358,589	9,207,176	143,296	9,786,750	27,502	979,960	21,732	807,418
1964-65	13	1,819,468	4,401	332	812,322	163,084	9,693,108	11,520,638	1,724,446	5,931,983	8,633,620	134,378	9,467,225	25,452	910,496	18,975	709,288

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Includes quantities produced and used in own works. (e) Includes quantities used to make self-raising flour. (f) Short ton = 2,000 lb.

CONFECTIONERY

Year	Number of Factories	Land, Build-ings, Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Con-tainers and Materials Used	Value of Output	Net Production
1955-56	7	308,510	447	325	353,130	32,330	818,590	1,465,712	614,792
1956-57	6	318,836	469	289	353,274	31,508	930,862	1,576,550	614,160
1957-58	7	350,204	420	297	370,178	32,634	1,005,910	1,693,862	655,318
1958-59	6	335,206	496	284	355,922	30,968	1,103,032	1,859,172	725,172
1959-60	6	346,732	501	268	370,282	36,464	1,176,674	1,969,326	756,188
1960-61	6	394,602	501	282	413,366	45,564	1,188,374	1,923,650	689,212
1961-62	6	383,324	529	259	392,952	38,712	1,197,236	1,836,078	729,110
1962-63	6	366,662	583	269	407,122	40,736	1,134,616	1,808,940	613,586
1963-64	6	348,340	532	277	445,988	42,232	1,104,644	1,853,358	666,462
1964-65	6	360,692	544	279	477,076	38,126	1,204,394	2,043,078	800,588

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants.

JAMS, PICKLES, SAUCES AND VINEGAR

Year	Num-ber of Fac-tories	Land, Build-ings, and 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 Pro-duction		Materials Used		Production (e)							
								Net Output	Value of Output	Fruit	Vegetables (d)	Pickles and Chutneys	Sauces	Vinegar (including bulk)					
		\$	rated h.p.		\$	\$	\$	\$	cwt.	\$	cwt.	\$	pints	\$	pints	\$	gal.	\$	
1955-56	9	354,738	278	139	171,132	12,492	611,792	970,696	346,412	23,143	51,394	27,108	107,034	454,458	128,040	760,127	155,498	203,302	59,966
1956-57	9	370,986	337	151	196,778	15,150	797,590	1,228,932	416,192	15,901	39,268	22,005	131,296	475,257	137,044	699,700	157,402	191,418	57,356
1957-58	9	425,030	349	124	166,846	13,400	590,118	981,166	377,048	31,783	66,584	12,088	67,936	500,802	132,150	753,172	181,152	166,868	56,676
1958-59	9	427,076	378	118	170,278	17,270	573,364	982,036	391,402	21,882	51,190	4,689	26,242	469,789	129,806	730,498	176,322	115,254	68,346
1959-60	9	443,556	370	129	188,064	16,943	639,626	1,081,484	424,910	23,330	57,932	8,039	35,500	474,799	137,678	802,536	201,164	189,271	66,404
1960-61	9	456,268	450	147	233,038	20,254	891,884	1,338,788	426,650	53,407	133,408	13,243	76,212	462,020	152,708	906,562	180,348	195,513	74,640
1961-62	9	533,760	437	158	239,892	18,580	971,388	1,523,670	533,702	28,341	88,962	11,539	75,914	350,593	103,330	826,127	138,988	151,519	54,272
1962-63	9	513,998	439	150	234,552	21,536	944,972	1,470,588	504,080	43,591	108,018	8,259	46,176	297,652	92,818	657,457	112,632	132,973	66,168
1963-64	9	958,358	754	122	213,024	21,996	859,044	1,305,262	424,222	49,895	120,258	15,913	79,788	271,486	92,186	488,120	102,692	152,920	70,030
1964-65	8	1,089,824	1,125	149	249,588	27,438	791,574	1,312,648	493,636	44,915	120,602	24,284	99,894	438,066	151,020	483,594	91,156	158,457	77,182

(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-duction of jams is not available for publication.

BACON CURING

Year	Num-ber of Fac-tories	Land, Build-ings, and 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 Materials Used	Value of Output	Net Pro-duction	Pigs Killed (d)				Bacon and Ham Produced (e)
										For Curing	For other purposes	Total	Cost at Works	
		\$	rated h.p.		\$	\$	\$	\$	\$	No.	No.	No.	\$	lb.
1955-56	4	323,804	878	267	367,638	67,040	4,207,978	4,688,284	418,196	88,089	17,275	105,314	3,041,008	7,237,217
1956-57	4	340,998	831	254	380,112	70,298	4,584,250	5,024,466	675,018	94,686	11,989	106,655	3,693,506	6,839,975
1957-58	4	367,934	1,133	205	463,706	78,442	3,153,969	6,008,320	785,988	121,891	24,257	146,178	3,646,906	6,612,477
1958-59	4	428,328	1,123	201	463,706	78,442	3,482,772	3,586,008	988,219	101,893	39,651	121,544	3,194,468	6,619,106
1959-60	5	557,456	1,238	288	483,762	72,624	3,487,514	6,309,080	778,942	77,444	29,776	107,220	3,650,666	7,117,467
1960-61	4	568,560	1,314	320	593,644	74,816	6,042,024	7,158,568	1,041,798	66,216	49,894	116,110	8,614,872	7,084,789
1961-62	4	592,558	1,203	339	638,824	82,640	6,057,262	7,407,419	1,267,550	70,613	71,869	142,472	8,329,458	7,839,387
1962-63	4	668,438	1,399	322	643,266	81,142	6,010,180	7,569,534	1,489,219	63,981	51,043	117,034	3,231,886	8,634,478
1963-64	4	696,922	1,418	322	664,064	84,076	6,151,098	7,500,368	1,266,362	†	†	†	†	8,468,073
1964-65	4	797,506	1,439	343	717,352	91,326	6,259,328	8,041,612	1,690,985	†	†	†	†	9,321,238

(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) Includes quantities produced in factories classified to other industries. † Not available for publication.

BUTTER, CHEESE AND CONDENSED AND PROCESSED MILK

Year	Number of Factories	Land, Buildings, and Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Production	Materials Used		Production					
										Butter Fat Content of Cream	Total Whole Milk (d)	Butter		Cheese			
												lb.	gal.	lb.	lb.		
1955-56	18	1,131,182	2,345	292	460,740	130,470	6,603,648	7,726,334	992,716	13,544,985	5,078,668	37,141,040	5,774,774	16,584,601	5,881,252	1,708,439	332,542
1956-57	18	1,184,246	2,393	312	497,928	140,390	6,849,486	8,049,502	1,059,626	13,702,685	5,076,126	38,381,870	5,915,934	16,715,523	5,893,482	2,647,935	592,860
1957-58	18	1,229,994	2,345	302	507,734	128,944	6,116,654	7,179,804	934,006	12,456,776	4,400,298	34,828,242	5,219,580	15,247,884	5,091,008	2,277,385	468,002
1958-59	19	1,651,742	3,078	325	553,754	125,096	6,065,762	7,420,448	1,229,590	11,265,489	4,193,244	32,073,417	5,012,202	13,812,718	5,025,866	2,644,853	613,704
1959-60	19	1,665,244	3,524	315	539,950	132,160	7,279,326	8,479,114	1,067,628	13,463,763	5,354,048	37,281,495	6,225,554	16,521,619	6,110,398	3,231,706	766,534
1960-61	19	1,728,436	3,844	332	590,396	148,544	7,233,656	8,641,578	1,259,378	14,119,248	5,290,968	38,376,477	6,006,504	17,190,334	6,147,072	3,025,354	748,556
1961-62	18	2,214,672	4,012	339	616,536	147,064	6,890,204	8,214,816	1,177,548	13,761,693	5,059,322	37,296,660	5,723,206	16,761,850	5,955,978	3,065,856	758,266
1962-63	18	2,286,250	4,969	344	633,824	149,576	6,898,470	8,169,964	1,121,918	12,762,503	4,814,806	34,026,659	5,455,154	15,596,382	5,544,772	3,223,011	818,054
1963-64	17	2,213,064	4,267	344	674,196	151,402	7,091,374	8,587,302	1,344,526	12,706,218	4,868,950	34,848,519	5,749,414	15,490,635	5,805,470	3,372,811	884,094
1964-65	18	2,155,558	4,351	337	715,212	177,646	7,987,872	9,613,282	1,447,764	14,232,500	5,418,656	39,214,520	6,374,876	17,386,724	6,296,514	4,051,243	1,073,710

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Includes whole milk equivalent of cream used.

AERATED WATERS, CORDIALS, ETC.

Year	Number of Factories	Land, Buildings, Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Employed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Production	Sugar Used (70 lb. bags)	Production (d)		
											Aerated Waters	Cordials and Syrups	
1955-56	45	883,300	1,082	281	362,674	32,024	1,018,888	2,079,590	824,068	66,814	308,482	gal.	\$
1956-57	44	951,078	1,139	271	345,092	28,854	1,032,468	1,868,596	807,274	63,317	319,036	gal.	\$
1957-58	45	1,013,522	1,200	274	358,226	35,954	1,166,434	2,142,990	940,200	73,078	371,668	gal.	\$
1958-59	42	1,020,458	1,173	265	393,502	43,510	1,232,570	2,145,378	869,298	85,767	393,548	gal.	\$
1959-60	43	1,052,414	1,257	269	388,146	41,326	1,227,878	2,058,398	789,194	74,521	382,592	gal.	\$
1960-61	42	1,313,342	1,205	317	495,386	47,572	1,524,356	2,679,494	1,107,580	88,891	503,494	gal.	\$
1961-62	41	1,390,464	1,290	311	519,562	51,476	1,740,750	3,010,294	1,218,038	98,217	544,636	gal.	\$
1962-63	40	1,570,358	1,311	320	530,522	55,948	1,676,146	3,171,882	1,440,736	109,956	552,042	gal.	\$
1963-64	39	1,798,800	1,427	335	558,898	59,048	2,245,128	3,590,128	1,284,670	109,996	610,052	gal.	\$
1964-65	39	2,120,272	1,585	346	626,776	63,922	2,846,602	4,501,434	1,590,910	122,149	679,060	gal.	\$

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Includes quantities produced in factories classified to other industries.

SAWMILLING (MILLS OPERATING ON LOGS) (a)

Year	Num-ber of Saw-mills	Land, Buildings, and Machinery (b)		Engines and Electric Motors Used (c)	Persons Em-ployed	Salaries and Wages	Power, Fuel and Light Used (d)	Repairs, Con-tainers and Materials Used	Value of Output	Net Pro-duction	Logs (Local), Sawm (e)				Sawn Timber Produced from Local Logs (f)					
		Hardwoods									Pines		Hardwoods		Pines		Hardwoods		Pines	
		\$	rated h.p.								\$	'000 sup. ft. (Hoopins)	\$	'000 sup. ft. (Hoopins)	\$	'000 sup. ft.	\$	'000 sup. ft.	\$	'000 sup. ft.
1955-56	231	4,808,836	32,545	459,762	3,872	5,541,558	459,762	7,848,074	17,548,680	9,245,844	7,051,988	216,405	16,569,784	181,558	17,908,860	5,353	488,800			
1956-57	232	5,092,824	34,924	493,922	3,602	5,150,490	493,922	7,287,092	17,078,754	9,283,493	6,995,750	198,979	16,942,696	198,979	18,287,578	6,450	482,806			
1957-58	217	4,408,954	33,233	474,566	3,201	5,111,056	474,566	7,287,092	17,058,364	9,338,293	6,792,760	177,542	16,442,696	177,542	17,717,216	7,633	630,306			
1958-59	215	4,697,800	33,574	500,000	3,480	5,334,048	500,000	7,574,500	18,098,049	9,684,138	7,442,688	200,348	16,442,696	200,348	18,301,528	7,673	654,430			
1959-60	208	4,474,390	33,212	494,668	3,189	5,110,710	494,668	7,693,450	18,443,468	10,303,820	472,644	198,429	18,069,836	198,429	20,429,802	8,310	731,882			
1960-61	193	4,492,278	34,438	493,130	3,147	5,414,542	493,130	7,697,472	18,192,214	10,001,612	440,257	177,386	18,108,860	177,386	19,387,578	6,450	482,806			
1961-62	190	3,641,480	35,458	493,922	3,080	5,334,026	493,922	7,892,090	18,946,614	10,591,832	472,124	1,484	18,069,836	1,484	19,387,578	6,450	482,806			
1962-63	181	3,726,554	37,487	461,612	2,885	5,143,870	461,612	7,739,896	18,116,684	9,917,976	435,222	1,468	18,069,836	1,468	19,387,578	6,450	482,806			
1963-64	183	3,989,984	35,463	435,924	2,832	5,439,986	435,924	8,290,270	19,153,832	10,427,628	423,330	6,994,648	183,048	18,301,528	183,048	20,429,802	8,310	731,882		
1964-65	168	4,020,522	33,415	472,896	2,822	5,691,488	472,896	8,867,726	21,209,490	11,868,868	468,929	7,294,536	198,958	18,069,836	198,958	20,429,802	8,310	731,882		

(a) Excluding particulars of felling and hauling. (b) Book values at end of year. (c) Excludes motors driven by electricity of own generation. (d) Includes water and lubricants. (e) Includes logs used by plywood mills. (f) Includes railway sleepers and plywood veneers in terms of super. feet.

CABINET AND FURNITURE MAKING AND UPHOLSTERY

Year	Number of Factories	Land, Buildings, Plant and Machinery (a)	Engines and Electric Motors Used (b)	Salaries and Wages	Persons Employed	Power, Fuel and Light Used (c)	Repairs, Con-tainers and Materials Used	Value of Output	Net Production	Wooden Furniture Produced (d)
1955-56	152	1,419,272	3,410	1,856,816	1,102	35,642	2,314,254	4,518,816	2,168,920	3,896,746
1956-57	151	1,507,570	3,310	1,247,770	1,025	36,868	2,206,494	4,263,466	2,020,104	3,954,694
1957-58	150	1,479,720	3,363	1,307,974	1,009	35,932	2,418,110	4,593,652	2,139,604	4,610,238
1958-59	150	1,536,880	3,628	1,351,018	1,010	36,192	2,576,892	4,773,524	2,160,440	4,627,430
1959-60	153	1,662,550	3,588	1,485,414	1,069	38,544	3,100,440	5,658,912	2,519,928	5,865,422
1960-61	153	1,765,878	3,606	1,574,390	1,072	39,366	3,104,946	5,813,668	2,669,356	6,103,852
1961-62	162	1,828,678	3,647	1,494,914	1,007	38,448	3,186,988	5,834,282	2,658,848	6,103,852
1962-63	149	1,897,410	3,384	1,580,428	1,042	44,200	3,443,226	6,443,226	2,810,720	6,791,086
1963-64	162	1,756,944	3,609	1,652,008	1,048	42,602	3,906,184	6,898,838	3,050,452	7,504,724
1964-65	155	2,094,298	3,513	1,867,902	1,117	44,140	4,538,544	8,044,248	3,461,564	8,523,000

(a) Book values at end of year. (b) Excludes motors driven by electricity of own generation. (c) Includes water and lubricants. (d) Includes quantities produced in factories classified to other industries. Excludes furniture of wicker, etc., and of metal or partly of metal.

ELECTRICITY AND TOWN GAS UNDERTAKINGS

Electricity Generation and Transmission

Prior to the establishment of the State Electricity Commission in 1946, electricity was generated and distributed by a large number of independent power stations. A government-owned steam power station at East Perth supplied the metropolitan area, and small units of the same type, but privately-owned, operated in the major mining centres of Collie and Kalgoorlie. With other minor exceptions the country areas were dependent on internal combustion equipment, owned privately or by local government authorities and supplying either alternating or direct current at various voltages. Since 1946 a number of power stations have been absorbed into the Commission's network and, although there are still some independent operators generating electricity for sale or for their own industrial requirements, the Commission now supplies most of the electricity used in the State and all electricity sold in the metropolitan area. The Commission functions under the State Electricity Commission Act, 1945-66 and consists of nine members, including the Chairman, appointed by the Governor. Four of the Commissioners are representatives of consumers, one for the metropolitan area, two for the rest of the State and one representing commercial consumers. Of the remaining five, one is the Under Treasurer of the State or his deputy, one represents employees of the Commission and three are required to be qualified engineers.

In Western Australia, electricity is now supplied principally by steam power stations, with internal combustion equipment next in importance and a small quantity provided by a hydro-electric installation. Steam power stations accounted for 54 per cent. of installed generator capacity in 1937-38 but by 1964-65 the proportion had risen to almost 80 per cent. Coal is the most important source of energy for electricity generation but substantial quantities of fuel oil are also used.

In the metropolitan area the Commission has modernized the 55,000 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 and to a station being built at Muja, to which reference is made below.

One of the responsibilities undertaken by the State Electricity Commission was the administration of the South-West State Power Scheme Act, 1945, designed to develop electrification in the south-western portion of the State. As a first stage in this development, it acquired the Collie power station and increased its capacity from 5,000 to 12,500 kilowatts. In 1956 it installed at Wellington Dam, near Collie, a hydro-turbine which is connected to the Collie power station and operated from it by remote control. Completion of the raising of the wall of the dam in 1960 has made it possible to operate the unit at the head of water for which it was designed. A new power station is being constructed at Muja near Collie, adjacent to a source of open-cut coal. The first major contracts for this station were let in 1961, and the first unit of 60,000 kilowatts went on load in July, 1965. Another unit of the same capacity was commissioned in November, 1966. Contracts for a further two 60,000 kilowatt units were let in 1964, and the station is planned to be on full load in December, 1968 increasing the installed capacity of the interconnected system by 240,000 kilowatts.

The main interconnexions are two 132,000 volt transmission lines from the Bunbury power station to the Cannington substation in the metropolitan area, a 132,000 volt line from the Muja power station to the Cannington substation and a 132,000 volt line from Muja to the Bunbury power station. Another 132,000 volt interconnexion from Muja to the metropolitan area is under construction. The map facing page 320 shows the main transmission lines and rural spur lines constructed and under construction at the 30th June, 1966.

In the Geraldton area the Commission purchases current in bulk from the Geraldton Town Council to supply surrounding districts and in 1965 completed a 33,000 volt line from Geraldton to 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 3,000 consumers have been connected in country and metropolitan areas under this provision.

ELECTRICITY GENERATING (a)

Year	Gener-ating Sta-tions	Land, Buildings, Plant and Ma-chinery (b)	Engines Used to Drive Gen-erators	Persons Em-ployed	Salaries and Wages	Power, Fuel, and Light Used (c)	Repairs and Materials Used	Value of Output	Net Pro-duction	Fuels Used			Electricity (d)		
										Coal		Fuel Oil		Gener-ated	Distributed
										tons	gal.	\$	\$			'000 kWh.	'000 kWh.
1955-56	90	24,614,690	359,751	949	2,000,180	6,804,790	736,170	12,668,796	5,327,766	470,060	9,688,107	1,704,876	870,075	22,623,234	
1956-57	87	34,969,430	406,482	971	2,104,980	6,877,904	583,088	13,291,384	5,831,082	464,243	11,044,893	2,018,332	1,110,407	23,021,734	
1957-58	87	35,918,138	410,906	1,070	2,240,722	6,864,410	574,630	14,075,378	6,636,338	501,171	11,399,167	2,072,638	1,019,838	25,080,252	
1958-59	88	40,472,746	452,673	1,108	2,362,346	7,059,632	667,480	14,712,922	6,986,430	526,573	12,118,145	2,204,158	1,111,948	26,381,896	
1959-60	91	41,460,946	500,680	1,080	2,487,546	7,220,856	656,212	15,708,714	7,332,546	551,858	12,118,145	2,229,574	1,240,735	28,219,413	
1960-61	89	41,573,138	544,592	1,065	2,597,262	7,540,936	858,940	16,939,520	8,540,544	445,068	3,702,584	3,449,206	1,035,455	28,623,284	
1961-62	89	40,023,554	547,972	1,052	2,631,518	7,244,932	803,466	16,932,316	8,933,913	572,701	4,260,672	2,077,106	1,110,407	28,071,784	
1962-63	92	39,702,554	556,167	1,053	2,691,318	7,560,452	747,364	18,237,744	9,919,928	622,725	4,703,480	2,074,238	1,219,492	28,281,988	
1963-64	94	41,117,256	544,648	1,020	2,681,838	7,981,562	929,204	18,859,184	9,948,418	622,203	4,718,928	3,161,308	1,318,195	28,581,896	
1964-65	85	33,124,562	544,546	1,015	2,750,002	8,709,100	878,566	21,104,624	11,616,998	692,208	5,318,208	34,983,955	1,474,277	28,219,413	

(a) Excluding particulars of transmission and distribution. (b) Book values at end of year. (c) Includes water and lubricants. (d) Includes quantities produced in factories classified to other industries. (e) Excludes quantities produced in own works.

GAS WORKS (a)

Year	Gas Works	Land, Buildings, Plant and Ma-chinery (b)	Engines and Electric Motors Used (c)	Persons Em-ployed	Salaries and Wages	Power, Fuel, and Light Used (d)	Repairs, Painters and Ma-terials Used	Value of Output	Net Pro-duction	Materials Used			Gas Distributed	Coke (including Coke Breeze) Produced (e)	
										Coal (Carbonized)		Oil			
										\$	rated h.p.	\$	\$	tons	gal.
1955-56	4	3,447,540	1,212	191	345,304	209,560	1,279,986	2,049,432	559,886	55,956	930,964	1,701,038	251,676	1,246,847	25,778
1956-57	4	3,569,654	1,155	179	316,758	349,838	1,132,778	2,030,198	547,562	41,789	821,184	1,469,938	241,898	1,246,847	29,878
1957-58	3	3,625,612	1,204	184	334,942	297,442	1,232,692	2,124,132	681,016	54,388	912,180	1,532,775	264,284	1,246,847	26,769
1958-59	3	3,651,584	1,204	182	359,250	272,044	1,204,966	2,149,932	673,922	52,206	850,878	1,618,740	277,652	1,246,847	33,716
1959-60	3	3,572,668	1,356	176	380,744	266,844	1,161,350	2,147,086	715,922	52,438	793,348	1,697,103	287,898	1,246,847	19,631
1960-61	3	3,421,982	1,356	177	383,670	265,004	1,169,614	2,132,824	698,206	47,635	773,048	1,478,931	235,410	1,246,847	37,446
1961-62	3	3,386,614	1,356	169	376,396	264,274	1,006,006	2,081,732	761,452	50,844	790,020	1,575,804	136,796	1,246,847	22,228
1962-63	3	3,736,922	1,442	164	374,130	228,458	972,624	1,957,902	756,820	51,544	763,582	1,683,066	134,552	1,246,847	20,855
1963-64	3	3,374,072	1,432	145	352,066	194,234	866,244	1,807,482	746,984	42,963	593,496	2,411,132	169,174	1,246,847	19,130
1964-65	3	3,519,578	1,396	138	340,432	207,920	901,006	1,874,628	765,102	43,045	587,796	2,505,479	177,262	1,246,847	13,928

(a) Excluding particulars of distribution. (b) Book values at end of year. (c) Excludes motors driven by electricity of own generation. (d) Includes water and lubricants. (e) Includes quantities produced and used in own works.

Minor systems which are privately-owned or controlled by local government authorities are being absorbed as the transmission lines extend into the country areas and when this work is completed all except the more sparsely-populated areas of the State will be provided with electric power of standard frequency and voltage.

Town Gas Production

Town gas production in Western Australia is 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.

SUMMARY OF AUSTRALIAN STATISTICS

Details of the number of factories in Australia in 1964-65, classified according to the average number of persons employed, are given in the following table in respect of each State and Territory. The relative importance of large and small factories is illustrated in the second part of the table by the classification of the average number of persons employed by the size of factory in which they were engaged.

FACTORIES AND PERSONS EMPLOYED—AUSTRALIA: 1964-65

Classification According to Number of Persons Employed (a)

Particulars	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
NUMBER OF FACTORIES									
Factories with employment numbering (a)—									
Less than 4	10,504	6,251	2,061	2,726	2,308	809	66	42	24,767
4	1,859	1,418	557	479	413	138	23	15	4,902
5-10	5,377	4,243	1,569	1,218	981	421	56	56	13,921
11-20	2,944	2,498	780	650	460	208	19	50	7,609
21-50	2,107	1,970	588	462	368	135	9	15	5,654
51-100	806	758	204	186	124	49	1	2	2,130
101-200	401	434	104	83	48	26	....	5	1,106
201-300	130	144	51	31	7	....	....	1	382
301-400	75	68	15	13	8	2	....	....	181
401-500	38	35	14	6	1	2	....	....	96
501-750	53	61	11	11	2	2	....	1	141
751-1,000	32	16	5	5	1	2	....	....	61
Over 1,000	42	29	3	12	2	4	....	....	92
TOTAL—FACTORIES	24,368	17,925	5,962	5,887	4,784	1,805	174	187	61,042
PERSONS EMPLOYED									
In factories with employment numbering (a)—									
Less than 4	19,003	12,108	4,294	4,894	4,173	1,501	131	89	46,193
4	7,437	5,672	2,227	1,916	1,652	555	93	60	19,612
5-10	37,262	29,769	10,769	8,411	6,753	2,972	379	395	96,710
11-20	42,689	36,796	11,297	9,557	6,607	3,025	258	675	110,904
21-50	66,375	62,028	18,591	14,658	11,485	4,297	303	447	178,184
51-100	56,609	53,156	14,267	13,024	8,796	3,427	62	213	149,554
101-200	56,112	60,064	15,084	12,449	6,606	3,502	....	528	154,345
201-300	30,971	35,053	12,682	7,727	4,229	1,722	....	230	92,614
301-400	26,168	23,792	5,161	4,568	2,673	661	....	....	63,023
401-500	17,003	15,200	6,061	2,600	450	973	....	....	42,287
501-750	31,185	37,035	6,731	6,663	1,004	1,263	....	594	84,475
751-1,000	27,439	13,341	4,429	4,201	790	1,709	....	....	51,909
Over 1,000	95,860	50,412	5,074	26,107	3,991	7,257	....	....	188,701
TOTAL—PERSONS EMPLOYED	514,113	434,426	116,667	116,775	59,209	32,864	1,226	3,231	1,278,511

(a) Average number of persons employed during the period of operation. ^{incl}

^{incl} proprietors.

The following table gives details of the principal statistics covering the operations of factories in each of the Australian States and Territories for 1964-65.

FACTORIES—SUMMARY OF OPERATIONS : AUSTRALIA, 1964-65

Particulars	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
Factories	No. 24,368	No. 17,925	No. 5,962	No. 5,887	No. 4,734	No. 1,805	No. 174	No. 187	No. 61,042
Persons employed (a)	508,979	432,413	116,246	116,183	58,097	32,580	1,210	3,227	1,268,935
Salaries and Wages (b)	\$ mill. 1,230.0	\$ mill. 1,028.5	\$ mill. 252.4	\$ mill. 274.2	\$ mill. 120.0	\$ mill. 76.5	\$ mill. 3.5	\$ mill. 8.7	\$ mill. 2,993.7
Value of—									
Output (c)	5,951.7	4,500.8	1,341.9	1,206.8	616.4	381.5	12.1	26.4	14,037.7
Power, Fuel, Light, etc. (d)	217.5	125.2	38.7	39.3	26.0	18.3	0.9	0.6	466.6
Materials Used (e)	3,212.7	2,426.0	824.7	668.9	329.7	196.0	4.5	11.4	7,674.0
Net Production (f)	2,521.5	1,949.7	478.4	498.6	260.6	167.3	6.7	14.4	5,897.1
Land and Buildings (g)	1,539.2	1,105.7	237.4	256.5	131.7	209.0	6.8	21.6	3,508.0
Plant and Machinery (g)	1,564.4	1,127.9	350.3	388.9	163.5	155.3	6.1	9.7	3,766.3

(a) Average over the whole year and inclusive of working proprietors. (b) Excludes amounts drawn by working proprietors. (c) Value at the factory of goods produced, including amounts received for work done. (d) Includes water and lubricating oil. (e) Includes containers, etc., tools replaced and repairs to plant. (f) Value added in process of manufacture (i.e., value of output less value of materials and fuel used). (g) Depreciated or book value at end of year, including estimated value for rented premises and machinery.

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 \$100,000, 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 \$51,918.

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 \$18,946, compared with \$134,270 from the United Kingdom and a total of \$189,064 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 54 per cent. of Western Australia's purchases and the United Kingdom 36 per cent. The total value of imports was only \$1.75 million in 1890, 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, caused a rise in the value of imports to \$11.9 million in 1900. Of this amount \$5.35 million was spent on goods from the other Australian Colonies and \$4.45 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 7,585 lb. of wool valued at \$1,516 was sent to England. In 1892 almost 9 million lb. worth \$653,406 was shipped from the Colony, representing nearly two-fifths of a total value of exports of \$1,764,296. Other items, in order of importance, were gold, \$452,564; pearl-shell and pearls, \$238,518; timber, \$156,838; sandalwood, \$85,740; and hides and skins, \$73,794. 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 coin and bullion worth \$11.1 million accounted for more than four-fifths of a total export income of \$13.7 million, while timber with an export value of \$0.92 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 1891 to 1900 took 49 per cent. of all exports, compared with 41 per cent. consigned to the other Australian Colonies and 10 per cent. to all other destinations.

TRADE FROM 1901 to 1954-55

After Federation, external 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 \$12.9 million at the beginning of the century to \$283.4 million in 1954-55. 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 1954-55.

During the period from 1901 to 1954-55 the value of exports rose from \$17·0 million to \$192·2 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 1903, the peak year of production, gold shipments earned \$17·2 million compared with \$1·28 million from timber and \$0·89 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 export, \$6·80 million, was exceeded for the first time by that from wheat and flour, \$10·1 million, wool being next in order with export earnings of \$7·87 million.

Between 1921 and 1930 the area sown to wheat trebled 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, \$1·31 million, was the lowest recorded for 35 years. In the same year wheat and flour earned \$16·0 million and wool \$9·93 million of a total export income of \$36·5 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 22·9 cents per bushel and for wool of 6·70 cents per lb. Despite substantial increases in shipments, particularly of wheat, 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, 1955 export earnings from wool, greasy and scoured, were \$579·9 million, and from wheat and flour \$394·7 million, these items together accounting for about two-thirds of the total export revenue.

CLASSIFICATION AND VALUATION OF IMPORTS AND EXPORTS

Particulars of Western Australian trade, as presented in this Chapter, are classified in accordance with a Statistical Classification of Imports and Exports based on the tariff schedule used for Customs purposes. The classification comprised some 3,000 items of imports and about 1,300 items of exports, the items being grouped into a number of classes and sub-classes, which are shown in the table on page 351.

From the 1st July, 1965, 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 have been 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 amendment, 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 imports 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, 1955-56 TO 1964-65

Statistics during the ten-year period ended 30th June, 1965 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 \$69·1 million (in 1955-56) and \$208·5 million (in 1960-61). Interstate trade showed a deficit in each year, the largest being \$223·1 million in 1964-65, and the smallest, \$106·3 million in 1956-57.

In 1955-56 the total value of imports fell by \$12·5 million and total export income increased by \$39·2 million, mainly as a result of larger shipments of refined petroleum to the other Australian States (see letterpress *Petroleum Products* on page 356). In consequence the deficit for the year, \$39·6 million, was some \$51·6 million less than that of the previous year.

Imports and Exports, 1955-56 to 1964-65

million dollars

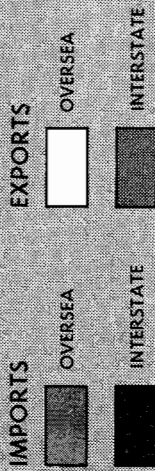
500

400

300

200

100



The value of imports showed little change in 1956-57, but export income rose by more than \$80 million, resulting in a surplus of \$43.0 million, the first since 1952-53. In 1957-58 imports increased by nearly \$18 million to \$286.9 million. Earnings from exports of wheat, gold and wool showed substantial decreases and the total decline in export income amounted to more than \$42 million. The excess of imports over exports for the year was \$16.9 million. In 1958-59 imports from overseas declined by almost \$2 million but interstate imports continued to increase, rising by \$7.33 million to \$202.4 million. The value of imports from all sources was \$292.4 million. Export income fell by \$17.0 million due largely to smaller returns from wool, wheat and petroleum products. The year's trading showed an unfavourable balance of \$39.4 million, a deficiency greater by \$22.5 million than that for the previous year. Although imports in 1959-60 rose by \$46.7 million to \$339.1 million, exports increased by \$65.0 million to \$318.0 million giving a net trade deficit of \$21.1 million. The improvement in exports was attributable principally to increases in earnings from wool of \$19.4 million, from wheat of \$16.3 million and from gold of \$14.6 million. While imports continued to rise in 1960-61 the year's trade resulted in a surplus, the first since 1956-57, amounting to \$53.5 million. The quantity of gold bullion exported, 2,532,438 fine ounces, and the value, \$79.3 million, were the greatest ever recorded, and, although the value of wool shipped showed some decline, there was a substantial increase in the value of wheat and flour exported. Trade in 1961-62 again showed a favourable balance (\$36.2 million), brought about mainly by reduced imports, record shipments of wheat, totalling 73.9 million bushels valued at \$104.4 million, and unusually large exports of greasy wool, amounting to 136.9 million lb. worth \$68.2 million. In 1962-63 the value of imports was \$426.4 million and of exports \$346.4 million, resulting in an unfavourable balance of \$80.0 million. The adverse movement was due mainly to lower returns from oversea exports of primary commodities and increased purchases of motor vehicles and machinery from other Australian States. In 1963-64 the quantity of greasy wool exported, 159.3 million lb., and the value, \$97.1 million, were the greatest ever recorded, and the increased earnings from this source and from larger shipments of wheat were principally responsible for a reduction in the trade deficit from \$80.0 million to \$47.2 million. During 1964-65 the value of exports decreased by \$25.6 million, due mainly to reduced earnings from greasy wool and wheat, while expenditure on imports increased by \$52.6 million. The resulting deficit of \$125.4 million exceeded the 1963-64 figure by more than \$78 million and was larger than any previously recorded.

SUMMARY OF IMPORTS AND EXPORTS
(\$'000)

Item	Year ended 30th June—									
	1956	1957 (a)	1958 (a)	1959	1960	1961	1962	1963	1964	1965
OVERSEA										
Imports	92,963	80,423	91,775	89,972	92,363	110,531	100,178	112,640	121,677	153,540
Exports	162,071	229,665	189,377	183,602	240,137	319,077	296,997	254,726	295,791	251,292
Excess of—										
Imports over Exports	...	...	...	...	...	...	...	...	...	...
Exports over Imports	69,108	149,242	97,602	93,630	147,774	208,546	196,819	142,086	174,114	97,752
INTERSTATE										
Imports	177,052	188,680	195,103	202,430	246,696	245,474	245,208	313,712	323,176	343,899
Exports	69,273	82,390	80,567	69,384	77,860	90,461	84,626	91,636	101,884	120,750
Excess of—										
Imports over Exports	108,679	106,290	114,536	133,046	168,836	155,013	160,582	222,076	221,292	223,149
Exports over Imports	...	...	...	...	...	...	...	...	...	...
TOTAL										
Imports	270,915	269,103	286,879	292,402	339,059	356,005	345,386	426,351	444,854	497,439
Exports	231,344	312,055	269,945	252,986	317,997	409,538	381,623	346,363	397,676	372,041
Excess of—										
Imports over Exports	39,571	...	16,934	39,416	21,062	...	...	79,988	47,178	125,398
Exports over Imports	...	42,952	...	...	...	53,533	36,238	...	...	...

(a) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, an amount of \$1,008,900, representing the value of goods exported overseas in 1956-57 but not recorded until 1957-58.

IMPORTS

In each year of the period from 1955-56 to 1964-65, about two-thirds of Western Australia's expenditure on imports was on goods purchased in the other Australian States. In 1962-63 the proportion was as high as 73.6 per cent. and the average for the period was 70.4 per cent. The following table, which relates to the years 1963-64 and 1964-65, provides a summary of the principal items imported from this source, and also gives a dissection of imports according to main supplying States in 1964-65.

VALUE OF PRINCIPAL IMPORTS FROM AUSTRALIAN STATES (a)

Commodity	Year ended 30th June, 1964	Year ended 30th June, 1965				
	All States	New South Wales	Victoria	South Australia	Queensland, Tasmania, Northern Territory	All States
Apparel—	\$	\$	\$	\$	\$	\$
Footwear	6,817,086	2,014,738	3,434,086	267,960	102,558	5,819,342
Other	20,787,012	8,781,984	15,917,482	451,930	575,434	25,726,830
Builders' and engineers' hardware	5,222,436	1,673,802	3,482,888	477,470	411,276	6,045,436
Cable and wire, insulated	2,189,148	1,551,174	1,221,686	74,404	434	2,847,698
Coal	609,248	417,208	910	....	....	418,118
Electrical appliances and equipment, n.e.l.	7,177,534	4,696,124	2,264,414	420,434	165,052	7,546,024
Foodstuffs—						
Breakfast foods	686,288	691,818	80,120	26,412	....	798,350
Cheese	1,860,338	1,546	1,267,970	20,014	21,486	1,311,016
Coffee and chicory	935,782	600,528	655,288	91,628	....	1,347,444
Confectionery	3,757,172	1,251,236	1,181,714	116,532	958,908	3,508,390
Fruit, canned	1,742,752	4,906	704,122	463,436	702,348	1,874,812
Infants' and invalids' foods	943,512	251,632	591,258	38,704	59,994	941,588
Jams	667,728	63,880	386,464	67,382	135,120	652,846
Margarine	1,353,902	1,333,610	46,038	84,128	93,468	1,557,244
Milk, preserved	1,762,766	28,210	1,289,088	228,430	24	1,545,752
Pickles and sauces	1,826,578	213,518	505,120	71,344	8,756	798,738
Vegetables, canned	1,283,304	405,236	690,760	2,002	193,350	1,291,348
Other foodstuffs	15,457,862	3,612,418	5,406,874	1,875,318	5,228,014	16,122,624
Glass	582,484	436,912	6,810	5,604	....	449,326
Glassware	664,226	426,918	130,742	20,962	294	578,916
Hand tools	1,675,358	860,980	868,594	56,176	44,206	1,829,956
Iron and steel						
Crude shapes	13,729,774	10,250,303	....	2,313,240	....	12,563,548
Pipes, tubes and fittings	3,896,834	5,507,936	28,520	871,086	136	6,407,678
Other	13,506,586	17,093,256	427,376	376,332	4,170	17,901,134
Leather and leather manufactures	1,225,776	736,706	525,172	34,342	7,726	1,303,946
Live animals	2,425,236	499,566	105,206	2,697,880	299,082	3,601,734
Machines and machinery—						
Agricultural	7,974,340	298,306	4,903,662	1,556,982	52,154	6,811,104
Dynamo electrical	767,038	291,578	185,644	262,584	13,386	753,192
Earthworking and road-making	1,977,826	1,916,076	1,747,766	18,482	64	3,682,388
Internal combustion engines	1,306,284	732,946	328,332	24,632	78,296	1,164,206
Refrigerating	4,306,838	1,914,000	1,344,798	953,956	25,018	4,237,772
Tractors and parts	4,721,664	419,470	4,757,974	167,314	16,458	5,361,216
Other machinery	14,627,234	9,010,076	6,422,640	2,619,124	1,243,066	19,294,906
Magazines and books	1,321,492	919,800	546,254	65,950	13,534	1,545,538
Medicinal preparations	6,035,182	4,301,492	1,922,480	448,360	16,892	6,689,224
Metals, non-ferrous	4,698,802	5,883,698	1,016,086	131,048	120,522	7,151,354
Paper and paper board	5,262,188	2,051,092	2,059,058	419,596	1,808,294	6,338,040
Petroleum oils and spirits	1,663,074	283,376	1,815,902	82,592	1,202,542	3,384,412
Pigments, paints and varnishes	2,047,386	1,200,734	328,772	356,696	345,422	2,231,624
Plastic materials and manufactures	3,915,060	1,139,912	3,256,500	91,354	49,652	4,537,418
Radio, television and communica- tion equipment	6,586,430	4,509,180	2,682,384	816,850	56,774	8,065,188
Scientific apparatus including optical equipment	679,976	471,626	342,984	45,712	3,144	863,466
Soap and soap substitutes	2,722,984	1,380,634	1,179,972	58,098	6,816	2,625,520
Spirituous and alcoholic liquors	2,163,284	309,338	500,356	1,494,918	20,342	2,324,954
Sporting material	1,047,012	445,764	357,470	32,032	27,550	862,816
Stationery	1,496,516	806,124	609,950	125,622	41,298	1,582,994
Surgical, dental and veterinary equip- ment	878,966	465,134	336,102	20,120	6,278	827,634
Textile manufactures—						
Carpets and carpeting	1,921,636	629,330	1,701,742	77,976	11,388	2,420,436
Piece-goods	6,085,582	2,186,090	3,480,514	239,692	217,468	6,123,764
Other	4,221,734	2,048,598	1,934,300	498,014	83,798	4,564,710
Toilet preparations	3,502,602	2,803,328	1,017,206	60,828	678	3,882,040
Toys	813,794	554,340	346,472	46,558	3,490	950,860
Tyres and tubes	8,280,048	2,567,136	3,883,724	29,406	1,986	6,482,252
Vehicles and components	52,317,128	9,192,512	22,152,614	17,569,130	717,284	49,631,540
Wire and wire manufactures	2,493,104	2,041,606	420,260	55,104	88	2,517,058
Wool	876,196	12,888	139,142	408,740	....	560,770
All other commodities	49,678,188	21,456,036	24,245,290	4,047,470	1,891,956	51,640,752
TOTAL INTERSTATE IMPORTS	323,176,270	145,648,370	137,185,052	43,978,090	(b)17,087,474	343,898,986

(a) Figures relate to the State from which the commodity was imported, which is not in all cases the State in which it was produced. (b) Comprises Queensland, \$12,191,704; Tasmania, \$4,656,934; Northern Territory, \$238,836.

Western Australia's imports consist predominantly of manufactured goods and equipment. During the ten years ended 30th June, 1965 more than three-quarters (78.0 per cent.) of the total of \$3,528 million spent on imports from all sources represented commodities in five of the statistical classes shown in the following table. Class XII—*Metals, metal manufactures and machinery* accounted for 40.6 per cent.; Class IX—*Oils, fats and waxes*, for 12.9 per cent.; Class VIII—*Yarns and manufactured fibres, textiles and apparel*, for 12.6 per cent.; Class II—*Foodstuffs of vegetable origin*, for 6.13 per cent.; and Class XIX—*Chemicals, medicinal products, essential oils and fertilizers*, for 5.82 per cent.

VALUE OF IMPORTS ACCORDING TO STATISTICAL CLASS
(\$'000)

Statistical Class	Year ended 30th June—					
	1956	1957	1958	1959	1960	
I	Foodstuffs of animal origin	6,185	6,289	7,658	7,979	8,250
II	Foodstuffs of vegetable origin	17,443	19,390	18,099	19,954	21,015
III	Spirituos and alcoholic liquors	1,895	1,827	1,663	1,824	2,369
IV	Tobacco, cigarettes, cigars and snuff	5,353	6,278	5,591	7,102	7,594
V	Live animals	1,121	1,173	2,041	1,550	1,507
VI	Animal substances other than foodstuffs	1,073	2,681	1,786	1,129	1,740
VII	Vegetable substances and fibres	1,099	1,443	1,264	1,075	1,319
VIII (A)	Yarns and manufactured fibres	2,948	3,969	3,643	3,125	3,229
VIII (B)	Textiles	13,194	12,422	12,924	12,626	14,526
VIII (C)	Apparel	20,471	23,050	22,341	23,009	28,204
IX	Oils, fats and waxes	36,610	38,457	43,474	40,970	43,016
X	Pigments, paints and varnishes	2,934	2,964	*3,021	2,828	2,690
XI	Rocks and minerals, including ores and concentrates	2,895	2,800	2,907	2,473	2,458
XII (A)	Metals and metal manufactures	57,815	52,738	63,230	59,953	75,918
XII (B)	Dynamo electrical machinery and appliances	11,449	10,943	10,430	11,158	21,066
XII (C)	Machines and machinery (except dynamo electrical)	34,597	28,221	31,212	32,805	40,455
XIII (A)	Rubber and rubber manufactures	7,911	6,928	6,896	7,512	7,751
XIII (B)	Leather and leather manufactures	728	797	770	730	735
XIV	Wood and wicker, raw and manufactured	1,679	1,661	1,747	1,631	1,793
XV	Earthenware, cement, china, glass, etc.	3,310	3,014	3,168	3,281	3,479
XVI (A)	Pulp, paper and board	4,658	4,815	5,093	5,478	6,177
XVI (B)	Paper manufactures and stationery	5,374	5,590	*5,456	5,945	6,490
XVII	Sporting materials, toys, fancy goods, etc.	3,026	2,926	2,976	2,702	3,436
XVIII	Optical, surgical and scientific instruments and apparatus	1,947	1,949	2,126	2,489	2,759
XIX	Chemicals, medicinal products, essential oils and fertilizers	13,519	14,824	16,666	18,998	19,215
XX	Miscellaneous	11,682	11,954	*10,697	14,074	11,869
XXI	Gold and silver; bronze specie	(a)	....	....	....	....
	TOTAL IMPORTS	270,915	269,103	286,879	292,402	330,059

Statistical Class	Year ended 30th June—					
	1961	1962	1963	1964	1965	
I	Foodstuffs of animal origin	7,536	7,218	8,371	8,408	8,534
II	Foodstuffs of vegetable origin	21,518	22,264	24,582	25,281	26,664
III	Spirituos and alcoholic liquors	2,033	2,250	2,273	2,591	2,856
IV	Tobacco, cigarettes, cigars and snuff	8,417	8,157	8,411	8,899	8,924
V	Live animals	1,179	1,129	2,041	2,435	3,609
VI	Animal substances other than foodstuffs	1,162	1,123	1,345	1,142	832
VII	Vegetable substances and fibres	1,255	1,192	1,406	1,377	1,416
VIII (A)	Yarns and manufactured fibres	5,084	3,383	3,861	3,732	5,062
VIII (B)	Textiles	13,898	13,114	14,777	16,853	17,814
VIII (C)	Apparel	26,023	25,943	28,117	33,625	32,165
IX	Oils, fats and waxes	52,689	49,076	*49,528	52,742	48,980
X	Pigments, paints and varnishes	2,366	2,057	2,643	2,301	2,568
XI	Rocks and minerals, including ores and concentrates	2,800	2,299	2,662	2,833	2,773
XII (A)	Metals and metal manufactures	84,621	79,589	122,391	119,515	133,098
XII (B)	Dynamo electrical machinery and appliances	19,800	16,197	20,242	19,277	24,172
XII (C)	Machines and machinery (except dynamo electrical)	40,144	41,267	48,870	52,589	68,423
XIII (A)	Rubber and rubber manufactures	8,261	8,887	11,919	11,978	11,150
XIII (B)	Leather and leather manufactures	896	932	1,050	1,290	1,401
XIV	Wood and wicker, raw and manufactured	2,407	1,677	1,684	2,206	3,134
XV	Earthenware, cement, china, glass, etc.	3,808	4,591	5,269	5,738	6,462
XVI (A)	Pulp, paper and board	6,620	5,981	7,246	7,495	8,835
XVI (B)	Paper manufactures and stationery	5,691	5,532	7,335	7,332	7,539
XVII	Sporting materials, toys, fancy goods, etc.	3,571	3,672	4,205	4,446	4,455
XVIII	Optical, surgical and scientific instruments and apparatus	3,076	3,294	3,948	3,726	4,624
XIX	Chemicals, medicinal products, essential oils and fertilizers	18,662	21,076	23,679	27,229	31,535
XX	Miscellaneous	12,488	13,482	18,492	19,811	30,343
XXI	Gold and silver; bronze specie	(a)	3	4	2	72
	TOTAL IMPORTS	356,005	345,386	426,351	444,854	497,439

(a) Less than \$1,000. * Revised.

In 1964-65 the value of imports of commodities in the five main statistical classes was \$388 million or 78.0 per cent. of all imports aggregating \$497 million.

In Class XII, which accounted for \$225.7 million, principal items were motor vehicles and components \$57.2 million, iron and steel \$42.5 million, tractors and parts \$12.6 million, radio, television and communication equipment \$9.73 million, agricultural machinery \$7.82 million, non-ferrous metals and alloys \$7.34 million, builders' and engineers' hardware \$6.46 million, earthworking and roadmaking machinery \$5.81 million, internal combustion engines and parts \$4.83 million, mining and metallurgical machinery \$4.71 million, refrigerating appliances \$4.43 million, covered electrical cable and wire \$3.02 million, wire and wire manufactures \$2.81 million, electric controlling, regulating and starting equipment \$2.73 million, office and accounting machines \$2.67 million, and electrical cooking and heating appliances \$2.60 million.

In Class VIII imports totalled \$55.0 million, the main commodities being apparel other than footwear \$26.1 million, piece-goods \$9.13 million, footwear \$6.10 million, bags, sacks and woolpacks \$3.21 million, carpets and carpeting \$3.02 million, bed linen and bedspreads \$0.92 million, towels and towelling \$0.80 million, linoleums \$0.70 million, blankets and rugs \$0.70 million, knitting wool \$0.65 million, and cordage, rope and twine \$0.58 million.

Class IX recorded a total of \$49.0 million, the predominant items being crude petroleum \$34.9 million and refined petroleum oils and spirits \$10.8 million. (See letterpress *Petroleum Products* on page 356.)

In Class XIX, with a total of \$31.5 million, imports consisted largely of medicinal preparations and drugs \$7.06 million, chemical fertilizers \$5.22 million, toilet preparations \$3.91 million, and soap and soap substitutes \$2.70 million.

In Class II, imports aggregating \$26.7 million comprised mainly confectionery \$3.57 million, canned and dried fruits (including juices and syrups) \$3.30 million, tea \$1.98 million, canned and frozen vegetables \$1.65 million, jams, pickles, chutneys and sauces \$1.49 million, coffee \$1.44 million, bananas \$1.00 million, biscuits \$0.93 million, prepared soups \$0.90 million, edible nuts \$0.83 million, and breakfast foods \$0.80 million.

EXPORTS

It will be apparent from an examination of the table on page 362 that Western Australia continues to be dependent for a very large part of its export income on the products of its primary industries as, for example, wool in the grease, wheat, oats and barley, skins and hides, fresh fruit and vegetables, mineral ores, or commodities derived from them by the first stages of processing such as wool scouring, flour milling, gold refining, sawmilling, and meat and fish freezing.

During the ten years ended 30th June, 1965 the aggregate value of Western Australia's exports (excluding the value of ships' stores) was \$3,192 million. Of this total more than two-thirds (69.5 per cent.) was accounted for by fourteen commodities or groups of commodities, namely wool, greasy and scoured (\$820 million or 25.7 per cent.), wheat and wheaten flour (\$658 million, 20.6 per cent.), gold bullion (\$201 million, 6.30 per cent.), frozen and chilled meats, including offals, poultry and rabbits (\$109 million, 3.42 per cent.), timber (\$70.5 million, 2.21 per cent.), crayfish tails (\$66.7 million, 2.09 per cent.), oats (\$55.4 million, 1.74 per cent.), skins and hides (\$42.0 million, 1.31 per cent.), fresh fruit (\$39.4 million, 1.23 per cent.), barley (\$30.8 million, 0.97 per cent.), fresh vegetables (\$15.8 million, 0.49 per cent.), sheep, cattle and pigs (\$13.4 million, 0.42 per cent.), eggs (\$8.13 million, 0.25 per cent.), and the principal export minerals, comprising asbestos, iron, manganese, ilmenite, tin, copper and lead (\$86.0 million, 2.69 per cent.).

A large oil refinery began production early in 1955 and, during the first ten full years of operation, refined liquid petroleum products valued at \$464 million were exported as commercial cargo (see letterpress *Petroleum Products* on page 356). The addition of earnings from these items to the income from those already enumerated meant that in the ten years ended 30th June, 1965 the total value of exports of fifteen commodities or groups of commodities was \$2,681 million or 84.0 per cent. of that of all exports, excluding the value of ships' stores. In addition, refined liquid petroleum products valued at \$78.3 million were supplied as fuel for ships and aircraft during the ten-year period.

In the following tables and accompanying letterpress these commodities are dealt with separately for each year of the period from 1955-56 to 1964-65. The figures shown in the tables exclude details of exports in the form of ships' stores, to which some reference is made on page 361.

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 ten-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, 41.67 cents per lb., was recorded in 1958-59, when 111 million lb. returned \$46.3 million, and the highest, 65.62 cents per lb., in 1956-57. In 1964-65 the quantity exported decreased by some seven million lb. and earnings by about \$14 million in comparison with 1963-64, when both quantity exported and income received were higher than any previously recorded.

EXPORTS OF GREASY WOOL

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity.... '000 lb.	113,289	108,582	96,453	111,131	111,104	131,903	136,894	131,433	159,262	151,812
Value..... \$'000	57,894	71,251	57,224	46,313	58,137	59,290	68,177	66,401	97,138	83,030
Average value (a) cents	51.10	65.62	59.33	41.67	52.33	44.95	49.80	50.52	60.99	54.69

(a) F.o.b. value per lb.

The principal market during the ten-year period was the United Kingdom which received shipments totalling 373 million lb. worth \$191 million, equivalent to 28.8 per cent. of the value of all greasy wool exported. The purchasing country next in importance was Japan, which took 228 million lb. valued at \$127 million, followed by France which bought 141 million lb. worth \$70.8 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 the 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 each year from 1961-62 to 1964-65 Japan was the most important market and purchased 39.5 million lb. worth \$22.1 million in 1964-65, while the United Kingdom bought 29.3 million lb. valued at \$15.5 million.

EXPORTS OF SCOURED WOOL

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity.... '000 lb.	16,745	18,746	18,557	21,763	27,430	26,128	25,331	25,222	22,901	22,586
Value..... \$'000	12,419	16,259	15,462	12,224	19,820	15,552	15,688	15,706	17,101	15,264

The principal market for scoured wool during the ten-year period was the United States of America, which purchased 47.3 million lb. valued at \$30.9 million, or 19.9 per cent. of the total. Next in importance was China (Mainland), which took consignments worth \$26.4 million (17.0 per cent.), followed by the United Kingdom and the Federal Republic of Germany. In 1964-65 the largest purchases were made by the United States of America, which bought 8.72 million lb worth \$6.11 million, and the Federal Republic of Germany, which took 4.21 million lb. valued at \$2.73 million.

Skins and Hides

EXPORTS OF SKINS AND HIDES

Type	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY ('000 lb.)										
Sheep and Lamb	9,169	10,863	9,676	12,040	12,795	11,986	*12,435	*10,248	*9,703	8,772
Cattle and Calf	2,850	(a) 3,057	(a) 3,024	4,639	4,457	4,080	4,704	7,194	8,652	8,700
VALUE (\$'000)										
Sheep and Lamb (b)	2,702	4,076	3,415	2,935	3,694	3,017	3,548	3,164	3,822	2,893
Cattle and Calf	366	(a) 459	(a) 421	819	1,014	769	950	1,085	954	1,124
Other	206	136	40	34	59	42	82	91	190	159
Total	3,274	(a)4,672	(a)3,876	3,489	4,767	3,828	4,580	4,339	4,966	4,177

(a) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, an amount of \$22,012, representing the value of a consignment of 204,367 lb. of cattle hides exported overseas in 1956-57 but not recorded until 1957-58. (b) Includes small values for which a quantity is not recorded. * Revised.

Skins exported from Western Australia consist largely of sheep and lamb skins, mainly wool-bearing. France was by far the most important customer in each of the years under review, taking consignments valued at \$19.2 million, equivalent to 58.2 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 calf skins and certain furred skins, notably kangaroo, for which the other Australian States provided a regular market throughout the period. The United States of America was an important buyer in some years.

The export trade in hides, which consist principally of cattle hides, was mainly with the other Australian States, their purchases amounting to about two-thirds of the total value of exports during the ten-year period. Among oversea customers, whose importance has increased significantly in recent years, Japan, the Republic of South Africa 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 \$28.9 million in 1955-56 to \$104.4 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 to oversea countries in that year. Returns in each of the two succeeding years, although considerably less than in 1961-62, continued at an unusually high level. A significant fall occurred in 1964-65, when earnings declined to about one-half of those for 1961-62 and were the lowest since 1959-60.

In 1955-56 the f.o.b. value of wheat, 126.7c per bushel, was the lowest since 1945-46 when the value was 86.6c. It increased in 1956-57 and reached a maximum for the period of 153.4c in 1957-58. In the next two years values declined to 134.7c, and after a small increase in 1960-61 were stable in the last four years of the period, varying between 140.6c and 142.3c.

EXPORTS OF WHEAT

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity '000 bush.	22,773	46,796	26,644	23,503	36,713	52,430	73,883	50,720	55,022	40,507
Value \$'000	28,860	61,291	40,861	33,113	49,442	71,230	104,356	72,197	77,881	56,955
Average value (a) cents	126.7	131.0	153.4	140.9	134.7	135.8	141.2	142.3	141.5	140.6

(a) 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 five years, valued at \$57.8 million, were greatly exceeded by those of China (Mainland) which were worth \$117.5 million, and Japan which spent \$97.1 million. Other important markets during the period were India, the Federal Republic of Germany, Pakistan, Hong Kong and Spain. Significant quantities of wheat were purchased in 1963-64 and again in 1964-65 by the Union of Soviet Socialist Republics.

EXPORTS OF WHEATEN FLOUR

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity short tons (a)	129,421	127,491	111,827	104,559	87,789	135,375	97,951	74,397	69,036	92,362
Value \$'000	7,766	7,474	6,907	6,337	5,096	7,838	5,888	4,641	4,391	5,921

(a) Short ton = 2,000 lb.

Exports of wheaten flour during the ten years went mainly to the Arabian States, Singapore, Malaya and Indonesia. Indonesia was the largest customer in 1955-56 and 1956-57, and Singapore in 1957-58. From 1958-59 the Arabian States provided the principal market in all years except 1961-62 when Ceylon, which had been a consistent buyer, predominated. Significant purchases were also made throughout the ten-year period by Aden (South Arabia). In 1963-64 and 1964-65 the Union of Soviet Socialist Republics was an important buyer.

Oats

Exports of oats showed wide fluctuations during the ten-year period, the annual income varying between \$1.91 million in 1957-58 and a record \$8.72 million in 1960-61. A steady decline in the quantity and value of exports since 1960-61 was arrested in 1964-65 when earnings rose to \$5.80 million, an increase of almost \$1.5 million over the figure for the previous year.

EXPORTS OF OATS

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity '000 bush.	4,410	4,188	1,868	9,544	6,496	11,836	9,529	7,744	5,300	7,116
Value \$'000	3,393	3,309	1,910	7,686	5,699	8,718	7,914	6,691	4,316	5,803

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, China (Mainland) and the United Kingdom. In 1964-65 the Federal Republic of Germany and China (Mainland) took consignments worth \$2.97 million and \$1.79 million, respectively, or more than four-fifths of the total value of oats shipped in that year.

Barley

Apart from a decline in the years 1957-58 and 1960-61, annual export income rose from \$1.93 million in 1955-56 to \$5.24 million in 1961-62. After a sharp decrease in 1962-63 and a small improvement in 1963-64, export income in 1964-65 fell to \$1.82, the lowest since 1957-58.

EXPORTS OF BARLEY

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity '000 bush.	2,234	2,130	1,124	2,589	4,912	5,765	5,411	3,006	3,167	1,729
Value \$'000	1,926	2,016	1,268	2,761	4,820	4,633	5,242	3,030	3,287	1,821

The United Kingdom purchased 14.0 million bushels worth \$13.1 million, representing almost half the total value of exports during the period, and was the principal buyer in 1955-56 and again in 1961-62 and 1963-64. Japan was the most valuable market in 1956-57, the Federal Republic of Germany in 1957-58, Denmark in 1958-59 and Italy in 1959-60, 1960-61, 1962-63 and 1964-65. Exports in 1964-65 to countries other than Italy were negligible.

Minerals and Mineral Products**Gold**

The quantity of gold shipped annually during the ten years was extremely variable, although production was well sustained at a level of more than 800,000 fine ounces in each year except 1963-64 and 1964-65, when it fell to 712,847 and 659,437 fine ounces, respectively. Export earnings ranged from \$4.12 million in 1958-59 to the record figure of \$79.3 million in 1960-61. In all, 6.42 million fine ounces were exported during the period, for an aggregate value of \$201.0 million.

EXPORTS OF GOLD BULLION

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Quantity fine oz.	410,278	770,061	207,665	131,634	599,571	2,532,438	452,624	416,681	384,595	512,561
Value \$'000	12,842	24,119	6,511	4,118	18,738	79,271	14,195	13,048	12,045	16,127

About 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 a small quantity in 1955-56, and consignments worth \$18.7 million in 1959-60 and \$61.9 million in 1960-61. Switzerland purchased 22,363 fine ounces valued at \$0.71 million in 1960-61. In the last four years of the period, exports of gold were made solely to New South Wales.

Minerals other than Gold

The principal minerals, other than gold, exported during the ten years from 1955-56 to 1964-65 were asbestos, iron ore and concentrates, manganese ore, and ilmenite concentrates. Significant returns were received from exports of ores and concentrates of tin, copper, and lead (including silver-lead).

EXPORTS OF PRINCIPAL MINERALS OTHER THAN GOLD

Mineral	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY ('000 tons)										
Asbestos	7	11	12	11	15	11	13	12	8	11
Ilmenite Concentrates ....	....	(a) 15	88	65	89	130	156	180	259	325
Iron Ore (b)	472	329	439	589	796	1,509	1,132	1,497	1,379	1,557
Manganese Ore	55	58	75	56	79	47	108	52	27	76
VALUE (\$'000)										
Asbestos	1,440	2,140	2,920	2,166	3,111	2,364	2,753	2,799	1,767	2,210
Ilmenite Concentrates ....	....	(a) 169	1,011	648	713	1,198	1,441	1,717	2,571	3,194
Iron Ore (b)	936	649	870	1,169	1,601	2,547	2,487	3,000	2,817	3,114
Manganese Ore	1,271	1,551	2,501	1,628	2,224	1,267	2,945	1,390	695	1,747

(a) Oversea exports only. Interstate exports of all titanium and zirconium ores and concentrates amounted to 12,129 tons valued at \$130,162.
 (b) From 1959-60, includes pyritic cinders.

The principal market for asbestos during the period under review was the United States of America, which took shipments worth approximately one-third 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.

Iron ores and concentrates (including pyritic cinders) exported during the period totalled 9.70 million tons valued at \$19.2 million. Shipments to Japan, consisting mainly of pyritic cinders, amounted to 0.66 million tons worth \$1.10 million. Apart from insignificant consignments to the United States of America, the United Kingdom, the Federal Republic of Germany, and Belgium-Luxembourg, the remainder went to New South Wales.

Exports of manganese ore during the period amounted to 0.63 million tons valued at \$17.2 million. Almost half this total derived from sales to Japan, the principal market in each of the last six years, and the sole oversea buyer in 1956-57, 1962-63 and 1963-64. Other important markets were the other Australian States, which contributed nearly two-fifths of total export earnings, the United States of America and France.

In the nine years from 1956-57, when the first shipments of ilmenite concentrates were made, purchases by the United Kingdom amounted to almost two-fifths of the total value of exports. Other important markets were Tasmania, Japan and the United States of America. In 1964-65 the United Kingdom took consignments valued at \$1.69 million.

Exports of tin ores and concentrates, mainly to other Australian States, were valued at \$5.23 million during the ten-year period. Japan was the principal buyer of copper ores and concentrates, which had a total export value of \$4.2 million, the other Australian States providing the next most important market. Japan was also the largest customer for lead ores and concentrates, its purchases accounting for almost three-quarters of the total value of exports worth \$3.67 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 was the establishment of a major oil refinery which began production in January, 1955. The total value of exports of refined liquid petroleum products, including quantities supplied as fuel to ships and aircraft, was \$41.9 million in 1955-56, the first full year of operation, a record \$63.0 million in 1960-61, and fluctuated between \$50.1 million and \$62.1 million in the past four years of the period.

The following table shows the amount spent on imports of these products and of crude petroleum in each year from 1955-56 to 1964-65. The value of products sent out of the State in the form of commercial cargo and as supplies to ships and aircraft is also given, together with the net balance of exports in relation to imports. The significance of the refining industry in the trade of Western Australia will be readily appreciated from the fact that, in the five years before the industry came into production, trade in liquid petroleum products showed an average annual net deficit of \$9.12 million compared with an average surplus of \$11.0 million in the first ten full years of operation. In 1957-58 the net gain was a record \$16.2 million.

SUMMARY OF TRADE IN PETROLEUM AND PETROLEUM PRODUCTS
(\$'000)

Year ended 30th June	Imports			Exports (b)			Excess of Exports over Imports
	Crude Petroleum	Refined Liquid Petroleum Products (a)	Total	Commercial Cargo	Supplies to Ships and Aircraft	Total	
1956	26,396	9,039	35,435	33,401	8,539	41,941	6,506
1957	29,084	7,982	37,066	37,383	10,782	48,165	11,099
1958	35,906	6,329	42,235	48,755	9,730	58,484	16,249
1959	32,656	7,059	39,715	43,194	7,793	50,988	11,273
1960	34,110	7,630	41,740	47,467	7,126	54,593	12,853
1961	42,436	9,008	51,445	54,919	8,106	63,025	11,580
1962	37,052	9,543	46,596	50,639	7,031	57,671	11,075
1963	32,958	13,666	46,624	49,679	5,840	55,519	8,895
1964	*29,840	16,226	*46,066	54,751	7,394	62,146	*16,080
1965	34,889	10,787	45,676	43,615	6,466	50,081	4,405

(a) Includes petroleum spirit, kerosene, aviation turbine fuel, solar oil, diesel fuel oil, furnace oil and lubricating oil.
(b) Consists wholly of refined liquid petroleum products, there being no exports of crude petroleum. * Revised.

Almost all of the crude petroleum was imported from Iran, Kuwait, Qatar and Iraq while most of the output of refined liquid products was sent to other Australian States and New Zealand, the remainder being shipped principally to South Arabia (Aden and dependencies), Japan, the Republic of South Africa, Mozambique, the United Kingdom, Ceylon and India.

Other Principal Export Commodities

Crayfish

The export of crayfish is a post-war development and although some small shipments had been made before 1948-49 it was not until that year that income from this source began to be significant. The value of exports of frozen crayfish tails increased each year until 1959-60 when shipments amounted to 6.60 million lb. valued at \$6.50 million. During the next four years, exports of all crayfish (including whole crayfish) increased from 6.14 million lb. valued at \$6.63 million in 1960-61 to 8.65 million lb. worth more than \$10 million in 1963-64. Although the quantity exported in 1964-65 decreased to 6.47 million lb., earnings reached the unprecedentedly high level of \$11.1 million.

EXPORTS OF CRAYFISH

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY ('000 lb.)										
Crayfish Tails	3,529	3,566	4,708	6,117	6,604	5,105	7,952	7,694	7,532	5,891
Whole Crayfish	(a)	(a)	(a)	(a)	(a)	1,033	421	799	1,117	582
Total	(b)	(b)	(b)	(b)	(b)	6,138	8,373	8,493	8,649	6,473
VALUE (\$'000)										
Crayfish Tails	3,022	3,514	3,965	5,231	6,499	5,881	9,778	8,910	9,211	10,592
Whole Crayfish	(a)	(a)	(a)	(a)	(a)	746	289	597	790	462
Total	(b)	(b)	(b)	(b)	(b)	6,626	10,067	9,507	10,001	11,054

(a) Particulars not recorded separately. (b) Not available; see note (a).

For the ten years ended 1964-65 the aggregate income from the export of crayfish tails was \$66.7 million, of which \$64.8 million came from purchases by the United States of America. Small consignments went to other Australian States and to Canada throughout the period and, in some years, to France, Saudi Arabia, the United Kingdom and a number of other countries.

During the five years to 1964-65, exports of whole crayfish amounting to 3.95 million lb. valued at \$2.88 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 four-fifths of the total export market during the ten-year period to 1964-65. Apart from a small improvement in 1962-63, the value of exports of eggs declined steadily from \$1.51 million in 1957-58 to \$0.33 million in 1964-65.

EXPORTS OF EGGS

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY										
In Shell '000 doz.	2,213	2,085	2,331	1,894	1,490	1,271	1,156	1,384	959	1,080
Not in Shell '000 lb.	972	1,260	2,410	1,196	652	457	69	45	31	34
VALUE (\$'000)										
In Shell	963	1,003	979	758	594	510	491	529	364	323
Not in Shell	232	311	533	239	136	118	21	11	8	9
Total	1,195	1,314	1,512	997	730	628	512	540	372	332

The Arabian States, predominantly Saudi Arabia, provided the largest market for eggs in shell, taking consignments worth \$3.06 million during the ten years. Singapore, with purchases valued at \$2.19 million, was next in importance. The principal buyers of eggs in liquid form throughout the period were the United Kingdom and Singapore.

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 1964-65 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, Singapore and the Federal Republic of Germany were other important customers.

Grapes, most of which were sent to Singapore, Ceylon and Malaya, predominated among the other fresh fruits exported. Exports of plums were worth \$1.34 million during the period, pears \$1.00 million and citrus fruits \$0.44 million. Singapore was the largest buyer of both plums 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—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY										
Apples '000 bush.	907	1,284	871	942	626	1,284	666	1,124	872	1,277
Grapes (a) cental	21,695	17,517	23,606	22,111	19,600	*17,163	19,177	14,734	*17,012	13,803
VALUE (\$'000)										
Apples	2,856	3,910	3,047	2,954	1,903	3,951	2,253	4,380	3,180	4,452
Grapes (a)	429	431	469	385	359	362	334	261	315	251
Other (b)	107	257	209	270	175	323	231	341	520	460
Total	3,393	4,598	3,725	3,609	2,437	4,636	2,818	4,982	4,016	5,164

(a) Oversea exports only; see note (b).

(b) Includes interstate exports of grapes, which are not recorded separately.

* Revised.

Potatoes constituted the principal item of exports of fresh vegetables and were sent mainly to other Australian States, whose purchases amounted to \$4.36 million, representing 77.7 per cent. of the total earnings for the period. Among oversea buyers Singapore was predominant, while Mauritius, Malaya and Hong Kong took significant quantities.

Tomatoes were next in importance to potatoes and were marketed largely in other Australian States, Singapore being the chief oversea 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 oversea buyer, made purchases equivalent to almost one third of the total.

A notable development during the period was the increase in interstate exports of beans, which rose from 5,239 cwt. in 1955-56 to 31,981 cwt. in 1964-65.

The most valuable markets for other fresh vegetables throughout the period were the other Australian States and Singapore. In 1960-61, separate particulars of exports of cauliflowers and lettuce became available and in the five years to the 30th June, 1965 consignments valued at \$1.44 million were shipped, mainly to Singapore.

EXPORTS OF FRESH VEGETABLES

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY (cwt.)										
Potatoes	44,773	152,119	275,534	168,848	189,190	153,933	203,308	354,944	195,359	254,622
Tomatoes	51,529	81,965	61,137	45,749	33,004	37,150	39,170	22,507	19,911	39,538
Onions	20,677	44,231	40,122	45,885	45,404	60,663	66,211	83,108	92,571	69,846
Beans (a)	5,239	9,658	13,243	18,327	16,668	24,411	23,290	16,424	24,354	31,981
VALUE (\$'000)										
Potatoes	171	736	832	368	436	437	632	810	353	841
Tomatoes	575	323	267	308	340	357	296	241	164	252
Onions	89	142	118	108	224	155	219	212	265	188
Beans (b)	91	182	148	205	187	276	255	184	273	358
Other	214	289	267	264	280	336	334	321	405	456
Total	1,141	1,673	1,633	1,253	1,466	1,561	1,736	1,768	1,460	2,096

(a) Interstate exports only; oversea exports not recorded separately.

(b) Nominal value only. See also note (a).

Meats

The items of export of frozen and chilled meats in order of importance 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 oversea countries.

EXPORTS OF FROZEN AND CHILLED MEATS

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY ('000 lb.)										
Beef and Veal	16,757	(a)15,876	(a)17,528	23,226	29,977	27,365	27,654	38,069	45,257	42,682
Lamb	7,487	7,174	7,943	9,623	6,565	11,506	9,229	5,259	5,273	4,141
Mutton	7,069	5,587	3,262	12,300	12,694	13,553	9,439	11,117	6,599	6,970
Pork	1,637	1,615	5,124	4,372	2,618	4,176	6,946	4,543	1,398	1,259
Other (b)	3,215	(a) 2,895	(c)	4,084	6,156	5,861	5,727	6,041	7,781	9,420
VALUE (\$'000)										
Beef and Veal	2,343	(a) 2,114	(a) 2,409	4,342	6,742	6,141	6,299	9,382	11,497	11,730
Lamb	1,576	1,246	1,604	1,763	889	2,138	1,213	890	938	815
Mutton	580	496	297	1,414	1,488	1,763	1,223	1,511	957	1,166
Pork	482	588	1,462	1,178	953	1,501	2,025	1,404	718	516
Other (b)	787	(a) 678	(a) 612	996	1,278	1,361	1,107	1,148	1,430	1,875
Total	5,768	(a)5,121	(a)6,383	9,694	11,350	12,904	11,867	14,335	15,540	16,102

(a) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, 6,776,366 lb. of beef valued at \$893,102 and 490,789 lb. of beef offal valued at \$73,898 exported overseas in 1956-57 but not recorded until 1957-58.

(b) Comprises mainly offals, poultry and rabbits. (c) Not available.

The United Kingdom was the most important market for beef in each of the first five years of the period under review and the United States of America in each of the last five years. Purchases made by the United States of America during the ten years amounted to \$31.3 million, or more than half the aggregate value of beef exported, while those of the United Kingdom totalled \$20.5 million.

The principal market for lamb was the United Kingdom which took consignments worth \$9.90 million compared with total exports valued at \$13.1 million during the period. Other significant markets were Canada, Singapore, and the other Australian States. Mutton, of a total export value of \$10.9 million, went mainly to the United Kingdom (\$2.61 million), the United States of America (\$2.32 million), Singapore, Canada and Japan.

The other Australian States provided by far the most important market for pork, with purchases worth \$9.00 million, or more than four-fifths of the total value of exports during the period. Singapore and the United Kingdom were the next most important customers. Christmas Island (Indian Ocean) was the largest oversea buyer in each of the three years to 1964-65.

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

Income from exports of sheep, cattle and pigs amounted in total to more than \$13 million during the ten years under review. More than one and a half million sheep and over forty-four thousand head of cattle were exported during the period, mainly to oversea countries.

EXPORTS OF SHEEP, CATTLE AND PIGS

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1 65
NUMBER										
Sheep	101,346	128,737	120,352	135,314	147,086	147,355	198,200	222,669	197,127	170,772
Cattle	3,593	3,020	4,168	6,148	5,502	5,811	368	680	6,829	8,419
Pigs	870	720	890	882	502	20	120	79	244	(a)
VALUE (\$'000)										
Sheep	625	923	841	764	845	881	1,254	1,495	1,433	1,376
Cattle	177	243	308	396	325	318	55	160	331	427
Pigs	35	35	36	37	25	3	6	5	19	(a)
Total	837	1,201	1,185	1,197	1,195	1,201	1,315	1,661	1,783	(b)

(a) Not recorded separately.

(b) Not available; see note (a).

The total income from sheep exported, \$10.4 million, was derived mainly from purchases by Singapore and Malaya. Other important markets were Kuwait and Mauritius.

Shipments of cattle valued at \$2.74 million went principally to the Philippines, Singapore, Hong Kong and Australian States.

Timber

Almost all of the timber exported from Western Australia consists of the hardwoods, jarrah and karri. Much of it is shipped in the form of railway sleepers, the value of which represented more than two-fifths of that of all timber exported during the ten years under review.

Income from the export of timber increased in each year from 1955-56 to 1958-59, when consignments of 77.6 million super. feet had a total value of \$8.41 million, the highest ever recorded. After that year exports showed a general decline, except for a slight improvement in 1961-62. Shipments in 1964-65 amounted to 56.5 million super. feet worth \$6.28 million. Exports during the ten years totalled 649 million super. feet, valued at \$70.5 million. The average annual value of consignments of all timber was \$7.05 million, sales of sleepers accounting, on the average, for \$3.08 million and other timber, for \$3.97 million.

EXPORTS OF TIMBER (a)

Item	Year ended 30th June—									
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
QUANTITY ('000 super. feet)										
Railway Sleepers	22,570	24,737	35,905	40,557	33,695	25,469	32,829	28,219	28,151	14,817
Other (a)	32,021	31,410	30,967	37,004	39,906	40,943	35,230	37,592	35,180	41,693
Total (a)	54,591	56,147	66,872	77,561	73,601	66,412	68,059	65,811	63,331	56,511
VALUE (\$'000)										
Railway Sleepers	2,294	2,821	4,052	4,478	3,606	2,596	3,520	3,043	2,847	1,527
Other (a)	3,304	3,394	3,444	3,937	4,155	4,579	4,009	4,198	3,966	4,752
Total (a)	5,598	6,215	7,496	8,415	7,760	7,175	7,528	7,241	6,813	6,279

(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 market, taking quantities worth almost half the value of all timber exported during the ten years. Interstate sales accounted for almost one-quarter of the total income from sleepers and more than two-thirds of that from other timber. New Zealand was the principal oversea 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 oversea destinations were mainly to the United Kingdom, New Zealand and the Republic of South Africa.

SUMMARY OF EXPORTS DURING 1963-64 AND 1964-65

Principal Exports during 1963-64 and 1964-65

The table on page 362 gives details of Western Australia's principal exports during each of the years 1963-64 and 1964-65.

Of the amounts shown in the table under the heading of Ships' Stores, approximately two-thirds represented bunker oil. Details of this and other commodities supplied to ships during each of the years 1963-64 and 1964-65 are given in the following table.

EXPORTS IN THE FORM OF SHIPS' STORES

Commodity	Unit of Quantity	Year ended 30th June—			
		1964		1965	
		Quantity	Value	Quantity	Value
Alcoholic beverages	gallon	177,517	\$ 185,948	179,612	\$ 212,132
Coal	ton	4,300	82,458	3,196	61,368
Fodders for animals	cwt.	27,223	58,704	24,581	55,414
Foodstuffs—					
Eggs in shell	dozen	205,120	122,898	240,955	133,844
Fish	lb.	319,102	* 176,040	320,302	217,128
Fruit	n.a.	n.a.	* 82,116	n.a.	89,110
Meats	lb.	1,927,070	* 426,052	1,982,972	605,760
Vegetables	n.a.	n.a.	* 210,740	n.a.	298,124
Petroleum oils and spirits—					
Bunker oil	gallon	85,624,724	7,049,044	78,138,864	5,988,582
Other (a)	"	1,011,665	345,114	n.a.	477,026
Other ships' stores (b)	n.a.	n.a.	* 993,848	n.a.	870,068
Total (c)	n.a.	n.a.	9,732,962	n.a.	9,008,556

n.a. denotes "not applicable" or "not available." (a) Includes fuel for aircraft. (b) Where the value of ships' stores recorded in any one entry is less than \$100, the stores concerned are not allocated according to commodity. This item includes amounts of \$572,878 in 1963-64 and \$470,463 in 1964-65 not so allocated. (c) Comprises oversea and interstate ship's stores valued at \$9,077,154 and \$655,808 respectively in 1963-64, and \$8,213,128 and \$795,428 in 1964-65. * Revised.

PRINCIPAL EXPORTS—QUANTITY AND VALUE

Commodity	Unit of Quantity	Year ended 30th June—			
		1964		1965	
		Quantity	Value	Quantity	Value
Animals—			\$		\$
Cattle	number	6,829	331,222	8,419	427,336
Sheep	number	197,127	1,432,952	170,772	1,376,006
Apparel—					
Footwear	n.a.	n.a.	722,692	n.a.	964,088
Other	n.a.	n.a.	573,000	n.a.	910,022
Foodstuffs—					
Barley	bushel	3,167,379	3,287,070	1,728,598	1,821,154
Confectionery	lb.	1,534,830	466,446	1,803,122	490,836
Fish—					
Crayfish tails	lb.	7,532,197	9,210,784	5,891,149	10,591,532
Other	lb.	3,704,627	2,007,710	3,536,116	1,762,472
Flour, plain white	short ton (a)	69,036	4,390,544	92,362	5,921,490
Fruit, fresh—					
Apples	bushel	871,743	3,180,346	1,277,444	4,453,062
Other	n.a.	n.a.	835,650	n.a.	711,494
Fruit, dried (currants)	lb.	5,066,400	676,302	2,422,048	348,248
Honey	lb.	5,218,841	748,076	5,979,306	612,398
Meats—					
Preserved by cold process—					
Beef and veal	lb.	45,257,000	11,497,198	42,681,699	11,729,564
Lamb	lb.	5,273,367	937,734	4,141,002	815,252
Mutton	lb.	6,598,879	956,916	6,969,936	1,165,896
Pork	lb.	1,898,325	717,528	1,258,730	516,108
Offal, edible	lb.	4,811,904	801,614	6,106,653	1,190,248
Other	lb.	2,968,900	628,490	3,313,753	684,750
Otherwise prepared	lb.	615,111	195,840	729,175	266,834
Sausage casings, natural	n.a.	n.a.	362,764	n.a.	458,800
Oats—					
Grain	bushel	5,300,141	4,316,380	7,115,921	5,803,126
Unkilned	ton	14,450	974,196	6,675	438,322
Vegetables, fresh—					
Onions	cwt.	92,571	265,304	69,846	188,294
Potatoes	cwt.	195,359	353,294	254,622	840,728
Other	cental	98,874	841,640	148,250	1,066,436
Wheat	bushel	55,021,794	77,880,932	40,507,154	56,955,076
Other foodstuffs	n.a.	n.a.	2,456,422	n.a.	2,435,552
Gold bullion	fine ounce	384,595	12,044,688	512,561	16,127,202
Iron and steel	ton	184,374	15,029,330	217,350	17,933,152
Leather	n.a.	n.a.	443,588	n.a.	530,960
Machines and machinery—					
Agricultural	n.a.	n.a.	1,654,250	n.a.	2,236,912
Mining	n.a.	n.a.	769,798	n.a.	960,318
Tractors and parts	n.a.	n.a.	4,891,632	n.a.	5,549,336
Other (b)	n.a.	n.a.	5,074,640	n.a.	3,509,670
Ores, concentrates and mineral earths—					
Metallic—					
Copper	cwt.	116,382	686,394	56,295	387,336
Ilmenite	ton	258,883	2,571,018	325,709	3,193,978
Iron (including pyritic cinders)	ton	1,378,958	2,816,554	1,557,304	3,114,368
Manganese	ton	27,133	695,130	76,109	1,747,460
Tin	cwt.	14,718	1,080,242	11,793	1,229,338
Other	n.a.	n.a.	557,028	n.a.	1,876,308
Non-metallic—					
Asbestos fibre	cental	177,876	1,767,140	245,406	2,209,800
Other	n.a.	n.a.	270,988	n.a.	216,438
Petroleum oils and spirits	gallon	576,296,580	54,751,444	452,257,089	43,615,322
Plywood and veneers	square ft.	5,295,894	560,956	6,944,501	811,794
Skins and hides	lb.	18,744,067	4,965,980	17,574,083	4,176,520
Tallow and dripping	cwt.	208,529	1,350,892	192,962	1,728,892
Tanning substances	cwt.	104,246	645,832	97,900	652,312
Timber—					
Sleepers	super. ft.	28,151,053	2,846,902	14,817,400	1,526,930
Other	super. ft.	35,179,663	3,965,806	41,693,006	4,752,412
Wool—					
Greasy	lb.	159,262,029	97,138,126	151,811,912	83,029,978
Scoured and carbonized	lb.	22,901,022	17,100,602	22,586,361	15,264,094
Noils, tops and waste	lb.	5,326,758	5,529,894	2,480,973	2,513,970
All other commodities	n.a.	n.a.	17,690,738	n.a.	29,192,242
TOTAL	n.a.	n.a.	387,942,638	n.a.	363,032,666
Ships' stores—					
Bunker oil	gallon	85,624,724	7,049,044	78,408,864	5,988,578
Other ships' stores (c)	n.a.	n.a.	2,683,918	n.a.	3,019,978
TOTAL	n.a.	n.a.	9,732,962	n.a.	9,008,556
TOTAL EXPORTS	n.a.	n.a.	397,675,600	n.a.	372,041,222

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 361.

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 land-backed berths, provides almost 704,000 square feet of covered storage space and 11,148 feet of wharf berth accommodation. The outer harbour has three main anchorages, Gage Roads, Owen Anchorage and Cockburn Sound. Deep-water jetties in Cockburn Sound serve an oil refinery, a steelworks and an alumina refinery, while provision is made in Owen Anchorage for 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 predominance of the Port of Fremantle in the State's trade is clearly shown in the following table.

In 1964-65 the total value of Albany's oversea imports and exports was \$22.4 million. Rock phosphate and sulphur, for use in the manufacture of superphosphate fertilizer, were the largest import items, while commodities exported included wheat, oats, barley, apples, wool, whale oil and frozen and chilled meats. Oversea trade at Bunbury had a total value of \$13.0 million. Imports consisted mainly of rock phosphate and sulphur, and among the exports were mineral sands, wheat, timber and oats. Geraldton's total oversea trade was valued at \$15.2 million. Rock phosphate and sulphur were the principal imports, and wheat, manganese, oats and barley the main items of export. At Esperance, inward cargo comprised mainly petroleum products and rock phosphate, and exports included wheat and copper concentrates. Timber was the only item of export from Busselton.

Among the ports of the north-west and northern coasts, shipments from Yampi, consisting almost entirely of iron ore consigned to New South Wales, were greatest. Port Hedland exported mineral ores, mainly manganese, wool, and cattle. Asbestos fibre and wool were shipped from Point Samson. Exports from Wyndham were predominantly frozen and chilled meats, cotton, tallow and hides. Consignments of frozen and chilled meats, pearl-shell and wool were sent from Broome, while Derby exported cattle and wool.

OVERSEA TRADE OF PORTS

Port	Year ended 30th June—			
	1964		1965	
	Imports	Exports	Imports	Exports
Port of Fremantle (a)	\$ 117,669,778	\$ 228,162,732	\$ 148,493,764	\$ 187,723,808
Other Ports—				
Albany	1,216,362	24,848,358	1,463,680	20,962,260
Broome	8,422	640,690	21,178	2,858
Bunbury	1,689,004	13,371,910	1,366,010	11,076,822
Busselton .....	.....	196,392	.....	147,272
Carnarvon .....	.....	142,216	.....	.....
Derby	3,494	225,780	12,922	809,360
Esperance	504	1,259,140	523,714	2,297,330
Geraldton	1,012,484	14,755,780	1,498,348	13,694,006
Onslow .....	.....	.....	.....	.....
Point Samson	41,436	639,938	18,766	884,156
Port Hedland	35,810	831,734	2,382	1,422,396
Wyndham .....	.....	1,639,386	139,718	3,458,140
Yampi .....	.....	.....	.....	.....
Total	4,007,516	58,551,324	5,046,718	55,354,600
All Ports	121,677,294	286,714,056	153,540,482	243,078,408
Ships' Stores	n.a.	9,077,154	n.a.	8,213,012
GRAND TOTAL	121,677,294	295,791,210	153,540,482	251,291,420

n.a. denotes "not applicable." (a) For the purpose of this table, the value of goods received from or consigned to oversea countries as air freight or by parcel post 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 1964-65 accounted for \$344 million, or 69.1 per cent. of the value of all imports amounting to \$497 million. The United Kingdom ranked next in importance, providing goods worth \$36.9 million. Imports from other Commonwealth countries were valued at \$22.9 million. Purchases from foreign countries, more than one-third of which represented crude petroleum from Kuwait, Iran, Qatar and Iraq, amounted to \$93.4 million.

**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—	
	1964	1965	1964	1965
AUSTRALIA—	\$	\$	\$	\$
New South Wales	132,216,942	145,648,370	38,716,284	46,225,212
Victoria	139,304,538	137,185,052	31,509,588	38,654,738
Queensland	8,619,564	12,191,704	4,715,338	4,875,028
South Australia	38,142,864	43,978,090	21,446,398	24,520,148
Tasmania	4,465,968	4,656,934	2,338,494	2,620,218
Northern Territory	426,394	238,836	2,490,480	3,040,914
TOTAL	323,176,270	343,898,986	101,228,582	110,954,258
UNITED KINGDOM	29,092,458	36,918,234	41,459,938	33,455,668
OTHER COMMONWEALTH COUNTRIES—				
Arabia, South	5,709,864	2,741,354	1,540,256	857,264
Canada	1,855,518	3,364,312	2,519,434	1,336,208
Ceylon	1,460,118	1,320,154	667,698	1,763,848
Christmas Island (Indian Ocean)	1,103,640	1,266,148	1,000,856	1,153,618
Hong Kong	652,860	890,452	3,966,258	3,414,562
India	2,898,308	3,416,202	2,739,316	7,201,740
Malaya	477,350	(a)	3,442,814	(a)
Malaysia .....	.....	3,759,504	.....	11,607,186
Mauritius	2,942	31,126	844,572	597,236
Nauru	1,635,688	1,922,068	173,712	1,110
New Zealand	1,006,144	1,108,548	13,203,840	4,470,186
Pakistan	1,823,274	1,516,510	2,348,120	275,798
Sabah	65,372	(a)	15,818	(a)
Sarawak	711,162	(a)	48,054	(a)
Singapore	725,876	(a)	7,411,044	(a)
Other	1,664,712	1,520,916	1,465,700	1,756,114
TOTAL	21,792,828	22,857,294	41,387,492	34,434,870
FOREIGN COUNTRIES—				
Austria	81,716	198,248	42,428	70,450
Belgium-Luxembourg	1,147,574	1,743,834	4,229,614	3,363,844
Burma	7,104	6,864	107,198	92,224
China (Mainland)	323,632	463,640	38,302,896	22,328,746
China, Republic of (Formosa)	64,010	90,290	497,554	58,168
Czechoslovakia	199,126	221,682	2,280,256	1,992,220
Denmark	354,992	310,830	225,184	136,932
France	878,220	1,653,594	12,170,642	9,133,184
Germany (East)	54,202	56,650	171,190	889,104
Germany, Federal Republic of	3,290,406	4,377,720	12,925,452	13,144,106
Greece	30,388	55,236	274,498	761,466
Indonesia	871,578	1,726,478	720,590	772,162
Iran	16,365,946	14,486,116	680,044	848,472
Iraq	3,670,730	1,101,788	208,986	267,036
Italy	1,576,918	1,810,196	7,527,444	8,157,442
Japan	6,521,772	13,100,720	61,546,978	52,470,356
Korea (North) .....	.....	.....	2,296,528	5,642
Korea, Republic of	28	44,764	744,060	22,470
Kuwait	12,700,502	12,237,416	883,628	1,325,278
Mexico	578,382	456,538	1,009,870	1,261,978
Mozambique	8,838	4,534	1,103,232	769,384
Netherlands	758,772	1,136,500	1,004,514	1,136,244
Norway	509,446	403,294	346,674	92,196
Philippines	50,786	114,198	150,754	331,972
Poland	12,438	44,850	1,475,648	705,360
Portugal	180,250	245,656	86,658	93,014
Qatar	6,241,840	8,682,664	159,938	243,286
Saudi Arabia	46,118	.....	474,422	561,980
South Africa, Republic of	575,714	799,054	3,759,034	4,667,976
Spain	190,036	284,384	958,788	523,818
Sweden	1,075,844	1,668,814	863,572	1,544,490
Switzerland	390,218	450,784	183,566	201,586
Thailand	72,520	73,914	462,746	616,958
Turkey	12,150	13,200	1,583,528	503,772
Union of Soviet Socialist Republics	3,786	3,214	12,042,194	10,523,750
United States of America	10,632,642	23,793,872	25,798,696	30,266,156
Yugoslavia	47,450	107,224	211,402	216,086
Other	1,063,790	1,398,552	5,172,376	4,428,876
TOTAL	70,595,812	93,417,312	202,686,080	174,528,084
NOT STATED	196,196	347,642	1,180,546	659,786
SHIPS' STORES .....	.....	.....	9,732,962	9,008,556
GRAND TOTAL	444,853,564	497,439,468	397,675,600	372,041,222

(a) Included in Malaysia.

Of exports (excluding ships' stores) valued at \$363 million in 1964-65, other Australian States took goods worth \$120 million, the United Kingdom \$33.5 million, other Commonwealth countries \$34.4 million, and foreign countries \$174.5 million.

The table on page 364 shows details of Western Australia's imports and exports during 1963-64 and 1964-65 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 dissection of the net amounts of customs and excise duties collected in Western Australia during 1963-64 and 1964-65.

CUSTOMS AND EXCISE—NET COLLECTIONS IN WESTERN AUSTRALIA

Statistical Class		Year ended 30th June—	
		1964	1965
CUSTOMS		\$	\$
I	Foodstuffs of animal origin	68,400	79,368
II	Foodstuffs of vegetable origin	225,672	152,062
III	Spirituos and alcoholic liquors	660,140	784,410
IV	Tobacco, cigars, cigarettes and snuff	303,318	334,466
V	Live animals	—2	—
VI	Animal substances other than foodstuffs	—46	128
VII	Vegetable substances and fibres	8,562	6,212
VIII (A)	Yarns and manufactured fibres	72,242	124,624
VIII (B)	Textiles	677,214	747,858
VIII (C)	Apparel	178,216	220,172
IX	Oils, fats and waxes—		
	Aviation spirit	201,660	215,758
	Motor spirit and solvents	2,492,744	479,630
	Aviation turbine fuel	28,882	42,652
	Diesel fuel	2,728	36,352
	Other oils, fats and waxes	219,304	130,016
X	Pigments, paints and varnishes	22,656	18,924
XI	Rocks and minerals, including ores and concentrates	6,450	9,892
XII (A)	Metals and metal manufactures—		
	Motor vehicles	1,069,496	1,513,138
	Other	539,104	935,842
XII (B)	Dynamo electrical machinery and appliances	323,922	451,744
XII (C)	Machines and machinery (except dynamo electrical)	882,142	1,377,578
XIII (A)	Rubber and rubber manufactures	110,150	190,468
XIII (B)	Leather and leather manufactures	10,316	12,522
XIV	Wood and wicker, raw and manufactured	128,262	275,874
XV	Earthenware, cement, china, glass, etc.	364,092	402,076
XVI (A)	Pulp, paper and board	54,716	44,448
XVI (B)	Paper manufactures and stationery	61,106	63,126
XVII	Sporting material, toys, fancy goods, etc.	241,300	269,120
XVIII	Optical, surgical and scientific instruments and apparatus	52,616	103,624
XIX	Chemicals, medicinal products, essential oils and fertilizers	106,142	116,446
XX	Miscellaneous	474,292	662,518
	Primage	188,984	248,300
	Sundry undistributed duties	5,234	34,860
	Other miscellaneous receipts	1,888	9,650
Total		9,781,902	10,093,858
<i>Less : Credits to Commonwealth Government Departments for Duty Paid (a)</i>		—	17,166
Total Net Customs Duties		9,781,902	10,076,692
EXCISE			
	Tobacco, cigars and cigarettes	10,060,140	11,350,132
	Spirits, potable and non-potable	566,758	614,618
	Petrol	8,924,996	11,909,286
	Other excise duty (b)	18,194,390	19,407,246
Total		37,746,284	43,281,282
<i>Less : Credits to Commonwealth Government Departments for Duty Paid (a)</i>		—	198,054
Total Net Excise Duties (b)		37,746,284	43,083,228
TOTAL NET REVENUE		47,528,186	53,159,920

Minus sign (—) indicates excess of refunds over collections.

(a) As from July, 1964 duty is included in the price of petroleum products purchased by Commonwealth Government departments and is subsequently credited by Commonwealth Treasury to the departments concerned. (b) Includes excise on beer, details of which are not available for publication. The figures shown incorporate an adjustment to take account of receipts of Diesel Fuel Tax and rebates of duty on diesel fuel under the Diesel Fuel Tax Acts 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—			
			1964		1965	
			Quantity	Gross Collections	Quantity	Gross Collections
Beer	gal.	\$ 0.983	(a)	\$ (a)	(a)	\$ (a)
Spirits, potable—						
Brandy	pf. gal.	4.900	49,618	243,180	53,698	263,170
Gin	"	8.200	6,694	54,934	8,661	71,058
Whisky	"	8.000	15,930	127,496	15,466	123,790
Rum	"	8.200	8,983	73,714	9,811	80,502
Liqueurs	"	8.100	1,916	15,560	1,923	15,640
Vodka	"	8.100	1,237	10,434	2,212	17,964
Flavoured spirituous liquors....	"	8.100	268	2,204	294	2,404
Other	"	9.100	77	700	....	8
Total	"	n.a.	84,773	528,272	92,065	574,536
Other spirits for—						
Fortifying wine	"	0.400	57,108	22,844	58,739	23,498
Industrial purposes	"	2.500	4,499	11,260	4,503	11,268
Vinegar making	"	0.200	10,730	2,148	11,935	2,390
Manufacture of—						
Essences	"	1.000 to 1.200	2,335	2,656	2,674	2,966
Scents and toilet preparations	"	1.400 to 1.600	34	54	80	130
Tobacco	lb.	0.692 to 2.042	834,432	1,511,038	741,315	1,463,148
Cigarettes	"	3.183 to 3.708	2,685,646	8,549,334	2,731,987	9,887,422
Petrol—						
Aviation	gal.	0.071 to 0.098	....	....	....	....
Other	"	0.098	91,158,012	8,925,896	121,626,727	11,909,286
Aviation turbine fuel	"	0.054	1,620,716	87,788	6,487,806	351,426
Diesel fuel	"	0.100	7,499,478	749,948	9,246,040	924,606
Cigarette papers and tubes	60 papers or tubes ton	0.015	6,408,832	93,466	5,314,927	77,508
Coal	"	0.033	904,536	30,154	956,130	31,872
Canned fruit	dozen containers	0.025 to 0.700	17,880	3,392	29,891	5,836
Other (b)	n.a.	n.a.	n.a.	17,320,330	n.a.	18,083,282
TOTAL COLLECTIONS	n.a.	n.a.	n.a.	(b) 37,838,580	n.a.	(b) 43,349,174

n.a. denotes "not applicable."

(a) Not available for publication.

(b) Includes excise duty paid on beer; 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, 1965, of a new Australian Customs Tariff. 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 Tariffs 1966, the Act now in operation, 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 1,095 items arranged in 21 divisions. The preferential rates specified apply mainly to goods being the produce 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 primage duty, which may be levied at a rate of five per cent. or ten per cent. of the value of the goods.

The Tariff Board Act 1921-1966 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. Subsidiary 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 oversea and interstate cargoes and a considerable volume of the intrastate 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, Bunbury, Busselton, Albany and Esperance in the more highly-developed south-western and southern part of the State, and Carnarvon, Exmouth, Onslow, Dampier, Point Samson, Port Hedland, Broome, Derby, Yampi 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 1963-64 and 1964-65. The net tonnage of a vessel, expressed in tons of 100 cubic feet, represents the volume of enclosed space that can be used for cargo and passengers. Most cargoes are recorded in terms of the ton weight of 2,240 lb. but some cargo, consisting mainly of bulky commodities, is recorded on the basis of the ton measurement, a unit equivalent to 40 cubic feet of space. Statistics are compiled accordingly in terms of "tons weight" or "tons measurement." In order to provide a ready comparison, as in the following table, of the volume of cargo handled at the several ports or in different years, the amounts recorded in the two categories have been aggregated. In the tables on page 369, details of cargo handled at each port during 1964-65 are presented separately on the basis of "tons weight" and "tons measurement."

VESSELS ENTERED AND CARGO HANDLED AT PORTS

Port	Vessels Entered				Cargo Handled			
	Year ended 30th June—				Year ended 30th June—			
	1964		1965		1964		1965	
	Number	Net Tons	Number	Net Tons	Discharged	Shipped	Discharged	Shipped
Port of Fremantle	1,418	7,881,324	1,411	7,714,697	4,862,627	3,870,293	4,716,342	3,420,484
Other Ports—					tons	tons	tons	tons
Albany	149	713,432	157	763,499	161,897	340,104	200,492	285,508
Barrow Island (a)	(b)	(b)	20	18,946	(b)	(b)	(b)	(b)
Broome	96	167,449	96	147,835	14,715	3,567	20,201	7,034
Bunbury	142	603,496	139	659,600	198,541	471,638	204,467	522,715
Busselton	21	32,295	16	22,097	....	17,407	....	14,999
Carnarvon	65	109,911	81	99,176	9,018	4,547	13,075	2,068
Dampier	(b)	(b)	7	24,459	(b)	(b)	7,779	....
Derby	115	198,556	111	189,553	24,703	20,988	22,204	23,653
Esperance	26	136,286	33	163,653	69,722	22,310	120,182	44,791
Exmouth	(b)	(b)	21	47,555	(b)	(b)	7,204	....
Geraldton	112	389,489	95	371,715	115,609	277,104	125,910	286,711
Onslow	72	125,036	79	127,053	1,959	949	2,454	1,367
Point Samson	103	186,915	110	201,641	4,459	8,449	28,797	9,160
Port Hedland	103	172,108	131	200,563	14,116	32,896	31,603	72,881
Wyndham	98	222,996	98	209,590	30,342	10,321	36,107	12,277
Yampi	165	676,483	192	816,029	11,437	1,369,811	9,529	1,510,652
Total	1,267	3,734,452	1,386	4,062,964	656,518	2,580,091	835,004	2,793,816
	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
All Ports	2,685	11,615,776	2,797	11,777,661	5,519,145	6,450,384	5,551,346	6,214,300
	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)

(a) Lighter facilities only.

(b) Not recorded.

(c) Incomplete; see note (b).



PASSENGER TERMINAL AT THE PORT OF FREMANTLE

TONNAGE OF OVERSEA, INTERSTATE AND INTRASTATE CARGO: 1964-65
(Tons)

Port	Oversea		Interstate		Intrastate		Total	
	Weight	Measurement	Weight	Measurement	Weight	Measurement	Weight	Measurement
DISCHARGED								
Port of Fremantle	3,753,360	157,724	697,097	72,179	17,390	18,592	4,467,847	248,495
Other Ports—								
Albany	124,903	5,125	1,030	786	59,848	8,800	185,781	14,711
Barrow Island (a)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Broome			2		17,270	2,929	17,272	2,929
Bunbury	112,874	284	1,256	80	89,973		204,103	364
Busselton								
Carnarvon	7,493				10,556	26	18,049	26
Dampier	4,327				3,452		7,779	
Derby	3,986	109		10	5,216	12,883	9,202	13,002
Esperance	59,546		39,555		21,081		120,182	
Exmouth	2,037	3,707			1,401	59	3,438	3,766
Geraldton	66,224	1,213	154	7	58,084	228	124,462	1,448
Onslow					2,357	97	2,357	97
Point Samson	19,200	51			3,451	6,095	22,651	6,146
Port Hedland	17,584		1		14,018		31,603	
Wyndham	6,145	75	2,275	35	8,400	19,177	16,820	19,287
Yampi			3,969		5,560		9,529	
Total (c)	424,319	10,564	48,242	918	300,667	50,294	773,228	61,776
All Ports (c)	4,177,679	168,288	745,339	73,097	318,057	68,886	5,241,075	310,271
SHIPPED								
Port of Fremantle	1,521,828	66,991	1,444,735	28,994	293,774	64,162	3,260,337	160,147
Other Ports—								
Albany	265,706	19,802					265,706	19,802
Barrow Island (a)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Broome			15	8	6,469	542	6,484	550
Bunbury	434,879	35,738	49,772	347		1,979	484,651	38,064
Busselton	610	1,619	2,003	8,086	1,226	1,455	3,339	11,160
Carnarvon			4		2,013	51	2,017	51
Dampier								
Derby	11,561	2,550		41	6,470	3,031	18,031	5,622
Esperance	44,788					3	44,788	3
Exmouth								
Geraldton	268,983	505	16,426	12	660	125	268,069	642
Onslow					1,367		1,367	
Point Samson	4,192		1,038		3,190	740	8,420	740
Port Hedland	58,696		10,687		3,498		72,881	
Wyndham	4,356	66	1,409	155	953	5,338	6,718	5,559
Yampi			1,510,433		219		1,510,652	
Total (c)	1,093,771	60,280	1,591,787	8,649	26,065	13,264	2,711,623	82,193
All Ports (c)	2,615,599	127,271	3,036,522	37,643	319,839	77,426	5,971,960	242,340

(a) Lighter facilities only. (b) Not recorded. (c) Incomplete; see note (b).

Apart from general cargo, oversea and interstate consignments discharged were principally petroleum products, iron and steel products, 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 discharged at south-western and southern 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. Its principal services are those which make regular calls at ports on the north-west and north coasts and extend to Darwin in the Northern Territory. Following a short trial period which began in 1964, ships of the Service now make a number of voyages around Australia each year, in the course of which calls are made at ports in the southern part of the State, as well as those in the north. The operations of the Service are subsidized 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 south include asbestos and other minerals from Point Samson and Port Hedland, meats, skins and hides, blood and bone manures and tallow from Wyndham, Broome 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 1964-65 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 : 1964-65

Port	From Oversea Countries			From Other Australian States		From Other Western Australian Ports	Total	
	Direct	Via Other Australian States	Via Other Western Australian Ports	Direct	Via Other Western Australian Ports		Vessels	Net Tons '000
Port of Fremantle	605	50	58	491	92	115	1,411	7,715
Other Ports—								
Albany	47	1	14	50	7	38	157	763
Barrow Island (a)						20	20	19
Broome				4	27	65	96	148
Bunbury	22	8	28	21	3	57	139	660
Busselton				1		15	16	22
Carnarvon	3		10	1	12	55	81	99
Dampier	3	1	1			2	7	24
Derby	9		11	14	20	57	111	190
Esperance	9			13		11	33	164
Exmouth	3	6	1			11	21	48
Geraldton	40	2	4	1	8	40	95	372
Onslow			2	1	24	52	79	127
Point Samson	8	3	3	2	27	67	110	202
Port Hedland	18		11	10	21	71	131	201
Wyndham	10	2	2	23		61	98	210
Yampi	13			68	23	88	192	816

(a) Lighter facilities only.

VESSELS CLEARED FROM EACH PORT : 1964-65

Port	To Oversea Countries			To Other Australian States		To Other Western Australian Ports	Total	
	Direct	Via Other Australian States	Via Other Western Australian Ports	Direct	Via Other Western Australian Ports		Vessels	Net Tons '000
Port of Fremantle	648	41	19	478	94	130	1,410	7,723
Other Ports—								
Albany	58	8	24	22		48	160	797
Barrow Island (a)						23	23	24
Broome				4	46	46	96	148
Bunbury	32	1	72	12	2	21	140	662
Busselton		3	1	8		3	15	21
Carnarvon	7			4	20	50	81	99
Dampier	1			1		4	6	18
Derby	11		3	3	47	47	111	190
Esperance	7		4	1		22	35	165
Exmouth	2				1	17	20	49
Geraldton	10		29	2	30	21	92	361
Onslow					43	34	77	128
Point Samson	6		6		47	49	108	197
Port Hedland	21		1	6	49	52	129	200
Wyndham	2	1	3	55		35	96	207
Yampi	5	1		99	39	50	194	804

(a) Lighter facilities only.

Administration of Ports

The Port of Fremantle is controlled and operated by the Fremantle Port Authority. The ports at Albany and Bunbury are administered by the Albany Harbour Board and the Bunbury Harbour Board, which are constituted as statutory authorities. Private organizations control the ports at Yampi and Dampier (for the export of iron ore), Exmouth (for the construction of a United States Navy radio com-

munications station), and Barrow Island (lighter facilities in connexion with the development of a petroleum oilfield). 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, 1965 there were 4,187 route miles of railway open for general and passenger traffic in Western Australia. Of this total, 3,733 miles were owned and operated by the State Government, and 454 miles by the Commonwealth Government. There were, in addition, 21 miles of privately-owned railway used for the haulage of timber. Construction of a standard gauge railway between Kwinana and Kalgoorlie is proceeding (see letterpress on pages 372 and 376) and at the 31st December, 1966, 196 miles of railway linking Kwinana and Merredin were open for traffic.

Origin and Development

The earliest railways in the Colony, built in 1871 from Busselton into the nearby forest and in 1872 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 line, completed in 1879, 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 1879 and by March, 1881, Fremantle, Perth and Guildford had been connected. Extensions of the line were opened in 1884 to Chidlow, in 1885 to Spencers Brook and in 1886 to Northam. The first section of what is now the Great Southern Railway was completed in 1885 from Spencers 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 Toodyay 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 430 miles of railway open for general and passenger traffic, 188 miles being owned by the Government of the Colony and 242 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 Busselton in 1895 and from Brunswick Junction to Collie and from Donnybrook to Bridgetown in 1898. The Eastern Goldfields Railway from Northam reached Southern Cross in 1894, Boorabbin and Kalgoorlie in 1896, and Menzies in 1899. Eastward extensions of the Northern Railway were completed between Narngulu 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 an eastward extension from York to Greenhills. A second private railway constructed on the land-grant 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, 1.88 million bushels, was almost double. Ten years later over one million acres were cropped for a harvest of 13.3 million bushels, and in 1915 the area sown was 1.73 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 1915, 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 route were added, bringing the total length of the State Government system to a maximum of 4,381 miles in 1940. Since that time restricted construction and the closure of some lines have resulted in a general decrease, and at the 30th June, 1965 the total mileage of the system was 3,733.

On the 1st August, 1964 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, 1963 which authorized the State Government to purchase the assets of the Company.

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, 1904-1965 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. 6in. gauge and was opened in July, 1963.

An agreement on a proposal to construct a standard gauge railway between Kwinana and Kalgoorlie, with 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 the 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 \$1,973,102 in 1960-61, \$4,081,106 in 1961-62, \$2,279,516 in 1962-63, \$2,939,172 in 1963-64 and \$3,766,232 in 1964-65.

The reduction in 1962-63 was attributable mainly to a decrease in the tonnage of wheat and other grains carried, and the improvement in later years 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 1960-61 to 1964-65. It should be noted that the financial details shown include those relating to road services (see following section *Road Services*).

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS (a)

Particulars	Year ended 30th June—				
	1961	1962	1963	1964	1965

FINANCE (b)

	\$'000	\$'000	\$'000	\$,000	\$'000
Capital Investment at 30th June (c)	109,913	112,591	117,428	124,034	127,449
Operating Revenues—					
Passenger Fares	2,543	2,611	2,609	2,684	2,937
Parcels and Mails	1,040	1,120	1,125	1,192	1,259
Paying Goods and Livestock	27,932	30,305	28,182	29,873	31,036
Miscellaneous	-1,561	1,573	1,513	1,441	1,454
Total Operating Revenues	33,076	35,608	33,429	35,190	36,686
Operating Expenses	31,103	31,527	31,150	32,250	32,920
Excess of Operating Revenues over Expenses	1,973	4,081	2,280	2,939	3,766
Depreciation	3,629	3,818	3,922	4,049	4,355
Interest Charges	4,842	5,082	5,226	5,577	6,232
Total Deficit	6,498	4,819	6,868	6,687	6,820

RAILWAY OPERATIONS

	'000	'000	'000	'000	'000
Route Mileage at 30th June	4,123	3,851	3,797	3,677	3,733
Employees at 30th June	12,461	12,122	11,929	11,508	11,390
Number of—					
Train Miles Run (d)	8,631	8,900	8,359	8,332	8,324
Passengers Carried—					
Suburban	12,026	11,308	10,936	10,298	9,911
Country	635	598	600	516	484
Total	12,661	11,906	11,536	10,814	10,395
Tons of Freight—					
Paying Goods and Livestock	4,833	5,342	4,793	5,187	5,229
Departmental (e)	535	622	529	521	512
Total	5,368	5,964	5,322	5,708	5,741
Ton Mileage—					
Paying Goods and Livestock	747,580	831,127	762,274	813,319	842,066
Departmental	53,186	61,365	55,665	46,390	46,796
Total	800,766	892,492	817,939	859,709	888,862

ROAD SERVICE OPERATIONS

	'000	'000	'000	'000	'000
Route Mileage at 30th June—					
Omnibus	3,013	3,265	3,240	3,256	3,732
Freighter	790	800	820	1,112	1,314
Employees at 30th June	159	165	166	174	233
Number of—					
Miles Run—					
Omnibus	1,514	1,556	1,649	1,671	1,949
Freighter	302	377	349	546	759
Total	1,816	1,933	1,998	2,217	2,708
Passengers Carried	266	261	263	251	260

(a) The railway and road service operations of The Midland Railway Company of Western Australia Limited were transferred to Western Australian Government Railways control with effect from the 1st August, 1964. (b) Includes financial transactions in relation to road services. (c) Including Stores Funds. (d) Revenue and non-revenue train miles. (e) 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 overloaded 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 636,171 passengers were carried and the mileage travelled was 2,125,564. From that year until 1958-59, operations showed a continuous decline as country rail services improved with the increased use of diesel electric traction. Since 1958-59, operations have increased steadily as road freighter services have been developed and passenger services improved and extended to cover routes formerly served by rail.

Some of the omnibuses 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 mails. In addition to passenger-freighter 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.

Goods and Livestock Carried

The table on page 373 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 1960-61 to 1964-65. The classification used in the table is that adopted by the Railways Commission in dissecting its freight transport statistics.

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS
TONNAGE OF PAYING GOODS (†) CARRIED

Freight Classification	Year ended 30th June—				
	1961	1962	1963	1964	1965
Wheat	1,661,117	1,945,756	1,480,307	1,473,981	1,187,758
Other Grain	334,137	300,229	218,877	198,065	155,917
Grain Products	100,501	83,424	64,291	77,430	71,337
Chaff	6,716	6,363	6,472	6,271	5,977
Fertilizers	443,411	482,495	500,407	521,910	539,718
Fruit and Vegetables	114,566	96,584	112,300	96,838	112,154
Wool	76,973	79,041	75,517	89,871	86,018
Timber	340,649	328,309	311,908	363,069	359,387
Firewood	2,814	2,328	2,811	1,621	1,914
Coal, Coke, Shale and Charcoal (a)	483,426	648,178	681,793	704,244	757,836
Ores and Minerals	304,914	405,155	345,691	626,560	868,019
Oil in Tank Wagons	165,664	168,636	179,140	183,781	198,046
Other Classifications	657,623	669,694	687,931	728,922	784,308
Livestock (‡)	140,717	125,619	124,308	114,905	100,341
Total	4,833,228	5,342,311	4,792,753	5,187,468	5,229,230
(‡) Number of Livestock Carried—					
Sheep	2,215,355	1,948,117	1,800,264	1,374,837	1,429,584
Cattle	107,260	94,197	105,571	120,043	88,292
Pigs	126,940	146,038	131,530	101,235	94,044
Horses	2,474	1,953	1,384	1,542	1,285

(†) Including livestock.

(a) Predominantly local coal.

Timber Railways

At the 30th June, 1965, there were four railways owned and operated by private companies for the haulage of timber. The following table gives details of timber railways during the period from 1960-61 to 1964-65. The figures shown for 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—				
	1961	1962	1963	1964	1965
Number of—					
Lines Open at 30th June	13	13	12	9	4
Route Miles Operated	316	281	275	136	21
Locomotives at 30th June	23	20	15	11	4
Train Miles Run	137,459	121,010	95,724	46,565	11,027
Employees at 30th June	119	100	97	33	17
Tonnage of Timber and Other Goods Carried	256,326	267,467	226,226	154,117	61,605

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, 1965 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 *Railway Gauges*, which is compiled according to the State or Territory in which the several lengths of line are situated. The Victorian system includes lines extending into New South Wales, the aggregate length of such lines in New South Wales being 204 miles. 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, 1964-65

Railway System of—	Route Mileage at 30th June	Revenue Train Miles Run ('000)	Passenger Journeys ('000)	Goods and Livestock Carried ('000 tons)	Gross Earnings (\$'000)	Average Number of Employees (a)
New South Wales	6,055	40,194	238,732	27,889	213,258	46,638
Victoria	4,211	20,489	149,753	12,596	100,225	27,912
Queensland	5,785	17,605	25,215	10,031	81,321	25,609
South Australia	2,497	6,582	15,196	5,089	29,764	8,075
Western Australia	3,733	7,562	10,395	5,229	35,715	11,604
Tasmania	500	1,272	1,340	1,091	5,581	2,214
Commonwealth—						
Trans-Australian	1,108	2,018	238	581	11,566	1,664
Central Australia	822	803	26	2,103	5,319	978
North Australia	317	77	...	36	397	123
Australian Capital Territory	5	15	83	199	137	40
Australia	25,033	96,618	440,978	64,844	483,283	124,862

(a) Excluding construction staff.

Railway Gauges

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, 1965. 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, 1965

State or Territory	Route Miles of Gauge—					Total Route Miles
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft. 0 in.	
State Systems In—						
New South Wales	(a) 204	6,055	....	....	....	6,259
Victoria	(b) 3,796	202	....	9	....	4,007
Queensland	....	(c) 69	5,686	....	30	5,785
South Australia	1,650	....	847	....	....	2,497
Western Australia	....	....	3,733	....	....	3,733
Tasmania	....	....	500	....	....	500
Commonwealth Systems In—						
South Australia	....	871	432	....	....	1,303
Western Australia	....	454	....	....	....	454
Northern Territory	....	....	490	....	....	490
Australian Capital Territory	....	5	....	....	....	5
Total Route Miles	5,650	7,656	11,638	9	30	25,033

(a) Part of the Victorian railway system.

(b) Excludes 202 miles of 5 ft. 3 in. gauge line which roughly parallels the uniform gauge line between Melbourne and Albury.

(c) Operated as part of the New South Wales railway system.

Standardization of gauges on main trunk routes throughout Australia and on some other lines has been the subject of inquiries by the Commonwealth Government and of agreements between the Commonwealth and some States. The principle of 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 4 ft. 8½ in. gauge was recommended for adoption in a unification plan, one of the projects in which was to be the construction of a line from the port of Fremantle through Perth to Kalgoorlie. Approval was given to the making of a survey for a route, and field work began in October, 1945. The work was continued until December, 1947, when it was abandoned pending agreement between the Governments of the Commonwealth and the State on the provision of finance for the unification scheme. In the years immediately following the second World War it became apparent that considerable expenditure would be necessary on the rehabilitation of the Western Australian Government Railways. The urgency and the magnitude of this undertaking were such that all the Department's available resources of money, labour and materials were absorbed in the programme and, in these circumstances, works associated with the unification plan could not be contemplated but, where possible, works connected with the restoration of the 3 ft. 6 in. system were so designed as to make provision for later conversion to the standard gauge.

In March, 1956, a committee consisting of members of the Federal Parliament was appointed to re-examine the matter of standardization. Among its recommendations, submitted in October, 1956 was the provision of the standard gauge line between Fremantle and Kalgoorlie, but no immediate action was taken to carry out this work.

During the 1960 session, the Western Australian Parliament passed the Broken Hill Proprietary Company's Integrated Steel Works Agreement Act ratifying an agreement between the Government and the Company relating to the establishment of an integrated iron and steel industry at Kwinana on the coast south of Fremantle. The Act makes the operation of the agreement contingent upon the passage of legislation by the State and Commonwealth Parliaments to provide for the financing, construction and completion before the 31st December, 1968 of a standard gauge railway between the works site at Kwinana and the terminus of the Trans-Australian Railway at Kalgoorlie. Accordingly the Commonwealth Parliament passed the Railway Agreement (Western Australia) Act 1961 extending to the State financial assistance for the project. The State Parliament approved this agreement by the Railway Standardisation Agreement Act, 1961 and gave authority for the construction of the railway by means of the Railways (Standard Gauge) Construction Act, 1961. Work on route surveys was begun in 1961 and the construction of earthworks commenced on the 5th November, 1962. Basic planning and all major surveys required for the project were completed during 1965. Activities on earthworks, bridging, and the construction of trackwork, signalling and telecommunications are proceeding on various sections of the route. The 3 ft. 6 in. portion of the dual gauge route between Midland and Northam along the Avon River valley was commissioned for general and passenger traffic on the 13th February, 1966. In October of the same year, haulage of grain on the standard gauge railway commenced between Merredin and the Port of Fremantle.

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, 1930-1966 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 connexions located at points which are considered to serve best the traffic for which the controlled-access road was designed. Developmental roads are those which serve to develop an area or to increase its development. Important secondary roads are those which, though originally classified as developmental, have come to be used consistently by through traffic and therefore warrant a special allocation of funds by the Main Roads Department. The Act provides that, on the recommendation of the Commissioner, any road may be proclaimed a main road and any main road may cease to be a main road.

The construction and maintenance of main roads and controlled-access roads are the responsibility of the Main Roads Department. The Department also makes substantial financial provision for the construction and maintenance of important secondary roads and for the construction of developmental roads. The construction and maintenance of strategic roads and roads of access to Commonwealth property is undertaken by the Department for the Commonwealth Government.

Within its own district, each local government authority is responsible for the provision and upkeep of roads other than those provided by the Main Roads Department. In addition, the local authority is required by the Main Roads Act to maintain any developmental road situated in its district.

The following table shows the length of public roads of each type of surface, and of unsurfaced public roads, at the 30th June, 1965, classified according to Statistical Division (see map of Western Australia following Index). Included in the total are 3,458 miles of main roads, 5 miles of controlled-access road, 7,989 miles of important secondary roads and 42,004 miles of developmental roads.

ROADS OPEN FOR GENERAL TRAFFIC AT 30th JUNE, 1965
MILEAGE CLASSIFIED ACCORDING TO STATISTICAL DIVISION

Statistical Division	Surfaced			Unsurfaced			Grand Total
	Bitumen (a)	Gravel and Other Surfaces	Total	Formed (b)	Unformed (c)	Total	
Metropolitan (d)	1,832	57	1,889	3	90	93	1,982
Swan (d)	1,342	677	2,019	149	500	649	2,668
South-West	1,895	3,760	5,655	4,310	5,697	10,007	15,662
Southern Agricultural	1,483	3,256	4,739	6,860	(e) 2,611	9,471	(f) 14,210
Central Agricultural	2,647	6,131	8,778	9,013	(e) 3,770	12,783	(f) 21,561
Northern Agricultural	1,396	4,265	5,661	6,208	3,368	9,576	15,237
Eastern Goldfields	1,002	2,132	3,134	4,609	5,253	9,862	12,996
Central	88	759	847	5,901	(e) 2,650	8,551	(f) 9,398
North-West	149	154	303	3,240	(e) 1,525	4,765	(f) 5,068
Pilbara	76	506	582	2,056	(e) 640	2,696	(f) 3,278
Kimberley	146	546	692	2,449	1,908	4,357	5,049
Total	12,056	22,243	34,299	44,798	(e) 28,012	72,810	(f) 107,109

(a) Includes short lengths of concrete surface aggregating 5 miles, 33 chains. (b) Comprises roads, mainly of natural surfaces, formed but not metalled 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 (e).

Vehicle Registration, Licences and Traffic Control

The Traffic Act, 1919-1966 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 Armadale-Kelmscott, Cockburn, Gosnells, Kwinana and Rockingham in their entirety and parts of the Shires of 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 used car dealers' licences throughout the State shall be the function of the Police Department.

The following table contains particulars of the number of motor vehicles, classified according to type, on the register at the 30th June in each of the years from 1961 to 1965. 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, 1965 there were in Western Australia 1,367 Commonwealth Government-owned vehicles (other than those of the defence services) listed with the Commonwealth Registry, Canberra. They comprised 302 motor cars and station wagons, 1,036 utilities, vans and trucks, 17 omnibuses and 12 motor cycles.

MOTOR VEHICLES ON REGISTER AND NET FEES RECEIVED

Particulars	Year ended 30th June—				
	1961	1962	1963	1964	1965
METROPOLITAN TRAFFIC AREA (a)					
Number on Register at end of Year (b)—					
Motor Cars and Station Wagons	92,370	101,850	114,459	127,393	136,719
Utilities, Vans, Trucks and Omnibuses	26,575	27,598	28,386	29,419	30,025
Motor Cycles (including Motor Scooters)	8,771	8,732	8,205	7,403	6,388
Total	127,716	138,180	151,050	164,215	173,132
Revenue from Registrations and Fees	\$ 2,934,322	3,168,938	3,705,198	4,212,928	4,590,502
REST OF STATE					
Number on Register at end of Year (b)—					
Motor Cars and Station Wagons	49,114	53,436	56,101	61,585	65,893
Utilities, Vans, Trucks and Omnibuses	43,391	45,578	46,359	47,701	48,238
Motor Cycles (including Motor Scooters)	3,816	3,654	3,437	3,041	2,844
Total	96,321	102,668	105,897	112,327	116,975
Revenue from Registrations and Fees	\$ 2,487,828	2,628,392	2,880,632	3,254,548	3,490,842
WHOLE STATE					
Number on Register at end of Year (b)—					
Motor Cars and Station Wagons	141,484	155,286	170,560	188,978	202,612
Utilities, Vans, Trucks and Omnibuses	69,966	73,176	74,745	77,120	78,263
Motor Cycles (including Motor Scooters)	12,587	12,386	11,642	10,444	9,232
Total	224,037	240,848	256,947	276,542	290,107
Revenue from—					
Motor Vehicle Registrations and Fees (c)	\$ 5,422,150	5,797,330	6,585,830	7,467,476	8,081,344
Drivers', Riders', etc., Licences and Fees	564,890	582,874	610,556	740,730	784,920

(a) Comprises the Metropolitan Statistical Division and part of the Swan Statistical Division (see letterpress *Vehicle Registration, Licences and Traffic Control*). (b) Excludes vehicles owned by the Commonwealth Government. Excludes also such vehicles as tractors, trailers and industrial (on site) equipment. (c) For further details see table on page 214.

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, 1956-1965. 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.

In June, 1965, a Departmental Committee was appointed by the State Government to investigate country traffic control, and to consider and report upon the necessity for the establishment of a single traffic authority throughout the State responsible for traffic control only; licensing of vehicles only; or both functions.

The majority of the committee, in a report which was presented in April, 1966, recommended that "the Police Department be established as the sole authority responsible for the enforcement of the Traffic Act throughout the State". A further majority recommendation was to the effect that "licensing of vehicles throughout the State be made the responsibility of a single authority and that the Commissioner of Police is the appropriate authority to assume this responsibility". Although the recommendations were not adopted by the Government, it was decided that a local authority exercising vehicle licensing and traffic control powers in any territory outside the Metropolitan Traffic Area might voluntarily transfer these powers to the Police Department. In October, 1966, at the request of the Shire Council the part of the Shire of Armadale-Kelmscott which formerly lay outside the Metropolitan Traffic Area passed to police control. Requests made by some other local authorities for a similar transfer of powers had not been finally accepted at the 31st December, 1966.

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 1954, 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 26th 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. This assistance takes the form of a basic grant aggregating \$660 million for the five-year period, with an additional grant of \$90 million. The basic grant increases uniformly each year from \$124 million in 1964-65 to \$140 million in 1968-69. After payment to Tasmania of 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 \$6 million in the first year to \$30 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 (\$5,373,834 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 principle as that used in allocating the basic grant.

The Act continues the requirement 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 plant for use in connexion with rural roads, which it defines 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, the Main Roads Trust Account, and the Roads Maintenance Trust Fund.

A Central Road Trust Fund account 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, 1919-1966 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

(\$2,187,790). 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, portion of the 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 to cover 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 allied 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.

Additional finance for roads has become available under the Road Maintenance (Contribution) Act, 1965, which came into operation on the 1st April, 1965. The Act provides that the owner of every vehicle carrying goods for hire or reward, or in connexion with a trade or business, and having a load capacity in excess of eight tons, shall submit a monthly return of mileage travelled and shall pay a charge to be applied to the maintenance of roads. The Act specifies the rate of the charge as one-third of a penny (five-eighteenth of a cent) per ton-mile, calculated on the basis of the tare weight plus two-fifths of the load capacity. Moneys received under the Act and paid into the Roads Maintenance Trust Fund to the 30th June, 1966, totalled \$391,389.

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 17 and 19 to Commonwealth financial assistance provided under the terms of the Western Australia Grant (Beef Cattle Roads) Acts of 1961 and 1962.

Amending legislation was passed by the Commonwealth Parliament in 1966 extending the scheme to the year 1966-67 and providing for a grant in that year of \$1.5 million. A total of \$8.4 million has been provided by the Commonwealth during the six years of the beef cattle roads scheme, with the State matching the Commonwealth allocations on a \$ for \$ basis.

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, 1957-1966. 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, 1960 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 25 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 373-4), 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 149 to the transport of children to and from school in country areas. In 1965 the cost to the Government of school transport services was \$2,349,886. The number of omnibuses engaged was 663. They travelled a daily total of 45,182 miles and carried 22,347 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—				
	1961	1962	1963	1964	1965
METROPOLITAN SERVICES (a)					
Number of—					
Route Miles Operated	(b)	557	579	611	602
Omnibuses at 30th June (c)	555	562	563	577	592
Miles Run	16,452,316	16,289,946	15,753,332	15,845,880	16,562,022
Passengers Carried	52,248,887	52,218,204	51,139,737	50,064,889	50,078,974
Employees at 30th June	1,886	1,539	1,545	1,631	1,688
Operating Revenue	\$ 4,821,744	\$ 4,812,762	\$ 4,767,374	\$ *4,715,088	\$ 4,616,088
Operating Expenses	\$ 5,710,048	\$ 5,131,986	\$ 5,061,792	\$ 5,163,576	\$ 5,399,058
Depreciation		\$ 364,234	\$ 380,680	\$ 486,434	\$ 583,836
Interest		\$ 335,864	\$ 369,906	\$ 365,374	\$ 385,546
OTHER SERVICES (d)					
Number of—					
Route Miles Operated	(b)	4,529	4,359	4,297	4,335
Omnibuses at 30th June	120	115	115	112	112
Miles Run	2,867,796	2,909,247	2,899,150	2,737,851	2,868,555
Passengers Carried	2,886,663	3,187,114	2,679,872	2,222,490	2,269,167
Employees at 30th June	259	264	252	250	288
Operating Revenue	\$ 634,824	\$ 666,362	\$ 659,026	\$ 854,630	\$ 657,404
Operating Expenses	\$ *757,300	\$ *705,058	\$ 702,484	\$ 731,454	\$ 697,316
Depreciation		\$ *56,888	\$ 77,694	\$ 92,048	\$ 73,928
Interest		\$ *11,318	\$ 15,462	\$ 20,138	\$ 25,066
TOTAL					
Number of—					
Route Miles Operated	(b)	5,086	4,938	4,908	4,937
Omnibuses at 30th June (c)	675	677	678	689	704
Miles Run	19,320,112	19,199,193	18,652,482	18,583,731	19,430,577
Passengers Carried	55,135,550	55,405,408	53,819,629	52,287,379	52,348,141
Employees at 30th June	1,845	1,803	1,797	1,881	1,976
Operating Revenue	\$ 5,456,568	\$ 5,479,124	\$ 5,427,300	\$ *5,569,718	\$ 5,273,492
Operating Expenses	\$ *6,467,348	\$ 5,837,044	\$ 5,764,276	\$ 5,895,030	\$ 6,096,374
Depreciation		\$ *421,122	\$ 458,674	\$ 578,482	\$ 657,764
Interest		\$ 347,182	\$ 385,368	\$ 385,512	\$ 410,612

(a) Services operating wholly within the Metropolitan Statistical Division and its environs. (b) Not available.
 (c) Includes trolley-buses. (d) Includes some services having a metropolitan terminus. * Revised.

PASSENGER FERRY SERVICE

The Metropolitan (Perth) Passenger Transport Trust operates a passenger ferry service across the Swan River from Perth to South Perth. Particulars of private charter excursions are excluded from the figures in the following table, other than those which relate to operating revenues and operating expenses.

PASSENGER FERRY SERVICE

Particulars	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of—					
Boats at 30th June	4	4	4	4	5
Miles Run (a)	21,500	22,293	22,144	22,262	34,697
Passengers Carried (a)	179,851	167,521	192,448	184,556	201,336
Employees at 30th June	7	8	8	8	8
	\$	\$	\$	\$	\$
Operating Revenues	18,422	19,778	22,442	23,896	30,636
Operating Expenses	22,606	23,392	25,230	27,274	30,480
Depreciation	2,008	1,448	1,458	1,652	1,796
Interest	(b)	(b)	(b)	330	660

(a) Excludes private charter operations.

(b) Not available.

STATISTICAL SUMMARY OF RAIL, ROAD 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 1964-65 and to provide some significant totals for the services as a whole.

RAIL, ROAD AND FERRY SERVICES—SUMMARY FOR 1964-65

Service	Route Miles at 30th June	Miles Run	Employees at 30th June	Operating Revenues	Operating Expenses (a)	Passengers Carried	
						Metropolitan	Other
Western Australian Government Railways—		'000		\$'000	\$'000	'000	'000
Railway Services	3,733	(b) 7,562	11,390	35,715	32,260	9,911	484
Road Services—							
Omnibus	3,732	1,949	233	971	660	....	260
Freighter	1,314	759					
Total	8,779	10,270	11,623	36,686	32,920	9,911	744
Metropolitan (Perth) Passenger Transport Trust—							
Omnibus Services (c)	575	16,519	1,685	4,612	5,389	49,967	....
Ferry Service	1	35	8	31	30	201	....
Total	576	16,554	1,693	4,643	5,419	50,168	....
Eastern Goldfields Transport Board (d)	14	171	13	48	58	....	675
Private Omnibus Services (e)	616	791	45	150	155	112	1,334
GRAND TOTAL	9,985	27,786	13,374	41,527	38,552	60,191	2,753

(a) Excludes depreciation and interest. (b) Revenue train miles. (c) Includes trolley-bus services. (d) Motor omnibus service. (e) Excludes tourist and school bus services.

ROAD TRAFFIC ACCIDENTS

Statistics of road traffic accidents are prepared from information concerning accidents in public thoroughfares, as reported to officers of the Police Department in the Metropolitan Traffic Area and, outside that Area, to traffic inspectors employed by local government authorities and/or police officers. Accidents involving casualties are those which result in the death of any person within a period of 30 days after the accident, or in which any person suffers bodily injury to an extent requiring surgical or medical treatment.

The following table shows, for each year during the period from 1961 to 1965, the number of accidents involving casualties which occurred in Western Australia and in Australia. The figures given for Australia for the years 1961 and 1962 do not include particulars for the Northern Territory,

which first became available in respect of the year 1962-63. The figures shown for 1963 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 1961 and 1962 was lower than that for Australia as a whole.

ROAD TRAFFIC ACCIDENTS AND CASUALTIES
WESTERN AUSTRALIA AND AUSTRALIA (a)

Particulars	Year ended 31st December—				
	1961	1962	1963	1964	1965
WESTERN AUSTRALIA					
Accidents involving Casualties	3,528	3,685	4,057	4,062	4,170
Number of Persons Killed—					
Total	172	177	198	222	252
Per 100,000 of Mean Population (b)	23	23	25	28	31
Number of Persons Injured—					
Total	4,779	5,077	5,399	5,450	5,638
Per 100,000 of Mean Population (b)	648	672	695	684	692
AUSTRALIA (a)					
Accidents involving Casualties	44,014	45,769	49,465	53,554	55,932
Number of Persons Killed—					
Total	2,479	2,527	2,598	2,966	3,164
Per 100,000 of Mean Population (b)	24	24	24	27	28
Number of Persons Injured—					
Total	59,121	62,006	67,880	74,258	77,723
Per 100,000 of Mean Population (b)	563	579	623	668	686

(a) For the years 1961 and 1962, excludes particulars for the Northern Territory; see letterpress preceding table. (b) Based on preliminary results of the 1966 Census.

In the next table road traffic accident casualties which occurred in Western Australia during the five years ended 31st December, 1965 are classified according to type of road user. The figures shown in the category "Other" refer to such persons as riders of horses and drivers of animal-drawn vehicles.

ROAD TRAFFIC ACCIDENTS—CASUALTIES ACCORDING TO TYPE OF ROAD USER

Type of Road User	Year ended 31st December—				
	1961	1962	1963	1964	1965
PERSONS KILLED					
Drivers of Motor Vehicles	64	61	71	91	97
Motor Cyclists	12	12	19	9	12
Pedal Cyclists	7	6	8	8	13
Passengers—					
Pillion	....	1	2	2	3
Other	44	62	48	69	76
Pedestrians	45	35	50	43	51
Other	....	....	....	....	....
Total	172	177	198	222	252
PERSONS INJURED					
Drivers of Motor Vehicles	1,424	1,592	1,853	1,968	2,092
Motor Cyclists	679	585	503	415	371
Pedal Cyclists	352	340	438	372	357
Passengers—					
Pillion	179	120	92	83	68
Other	1,639	1,877	1,862	1,927	1,996
Pedestrians	505	559	640	675	751
Other	1	4	11	10	3
Total	4,779	5,077	5,399	5,450	5,638

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 1961 to 1965.

ROAD TRAFFIC ACCIDENTS—CASUALTIES CLASSIFIED ACCORDING TO AGE

Year ended 31st December—	Age last birthday (years)										Total
	0-4	5-6	7-16	17-20	21-29	30-39	40-49	50-59	60 and over	Not stated	
PERSONS KILLED											
1961	6	3	13	24	22	15	27	20	42		172
1962	6	5	11	33	27	21	17	20	36	1	177
1963	10	2	12	28	41	20	18	26	40	1	198
1964	6	7	21	34	34	21	34	30	34	1	222
1965	17	5	13	35	41	31	24	32	54	....	252
PERSONS INJURED											
1961	203	108	644	1,092	883	562	408	353	323	203	4,779
1962	217	129	700	1,049	939	593	447	342	318	343	5,077
1963	181	130	724	1,082	1,027	632	521	421	354	327	5,399
1964	170	141	794	1,146	1,005	542	550	417	350	335	5,450
1965	248	119	751	1,182	1,016	612	486	415	389	420	5,638

Road traffic accidents during the years ended 31st December, 1964 and 1965 are classified in the next table according to nature of accident and type of vehicle involved. It should be noted that, as accidents (and casualties) may involve more than one type of vehicle and, in such cases, are classified to each type involved, it is not appropriate to derive totals by adding the figures shown in the second part of the table.

ROAD TRAFFIC ACCIDENTS
NATURE OF ACCIDENT AND TYPE OF VEHICLE INVOLVED

Nature of Accident and Type of Vehicle Involved	Year ended 31st December—					
	1964			1965		
	Accidents involving Casualties	Casualties		Accidents involving Casualties	Casualties	
		Persons Killed	Persons Injured		Persons Killed	Persons Injured
Vehicle Colliding with—						
Moving Vehicle	2,025	76	2,990	2,096	105	3,062
Pedestrian	672	42	657	741	50	744
Stationary Vehicle	114	4	141	125	5	180
Other Fixed Object	15	....	15	10	1	15
Animal	24	....	26	18	....	28
Vehicle Overturning or Leaving Road	1,138	98	1,542	1,094	84	1,512
Passenger Accident	42	1	41	57	4	56
Other Accidents	32	1	38	29	3	41
Total	4,062	222	5,450	4,170	252	5,638

NATURE OF ACCIDENT

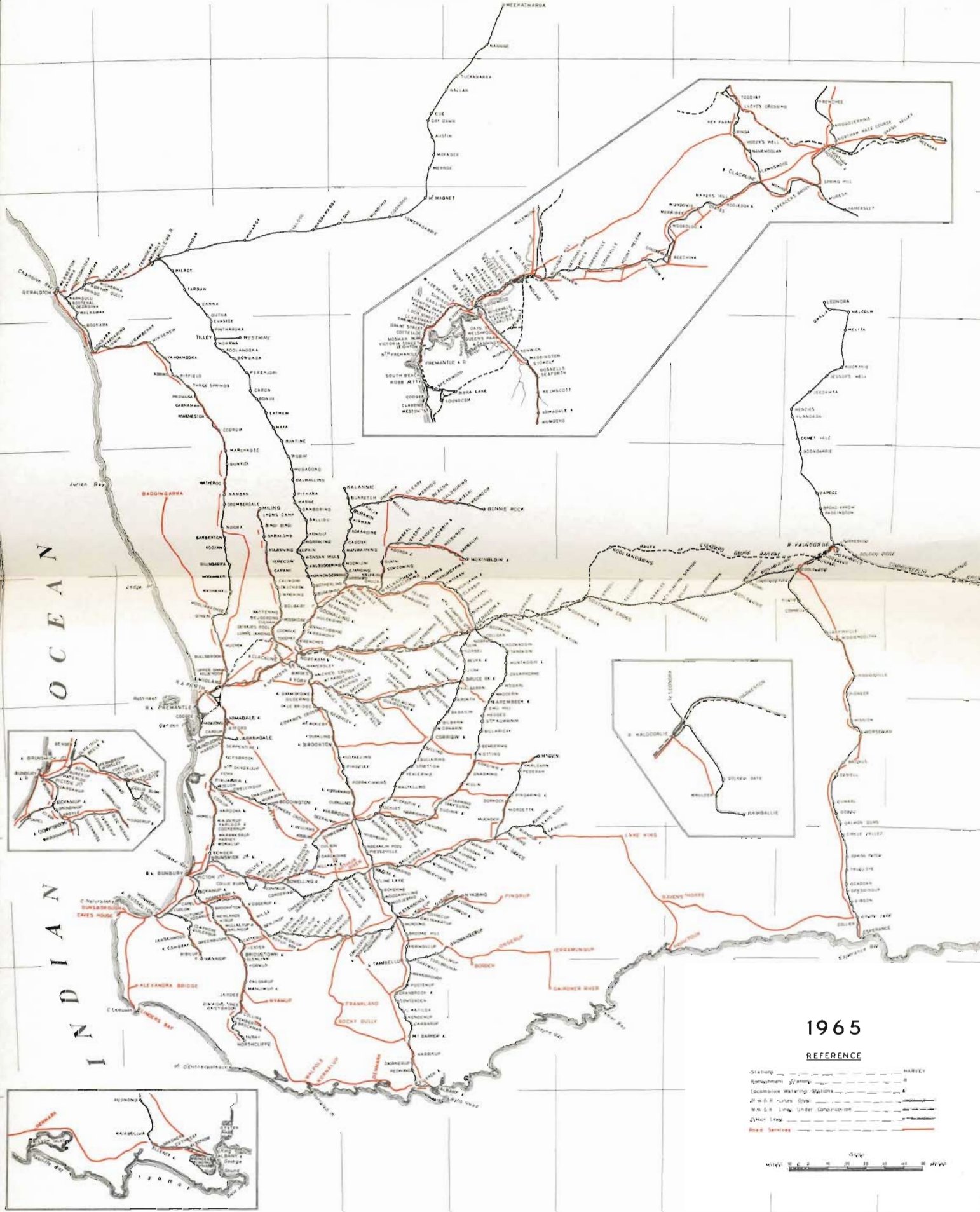
	1964	1965	1964	1965	1964	1965
Vehicle Colliding with—						
Moving Vehicle	2,025	2,990	76	105	2,096	3,062
Pedestrian	672	657	42	50	741	744
Stationary Vehicle	114	141	4	5	125	180
Other Fixed Object	15	15	....	1	10	15
Animal	24	26	....	....	18	28
Vehicle Overturning or Leaving Road	1,138	1,542	98	84	1,094	1,512
Passenger Accident	42	41	1	4	57	56
Other Accidents	32	38	1	3	29	41
Total	4,062	5,450	222	252	4,170	5,638

TYPE OF VEHICLE INVOLVED (a)

	1964	1965	1964	1965	1964	1965
Motor Vehicle—						
Car other than Taxi	3,249	4,501	175	203	3,389	4,790
Taxi	71	92	1	2	80	100
Van, Utility, Truck	1,034	1,438	68	81	1,031	1,378
Semi-trailer	40	61	9	10	47	50
Omnibus	92	112	2	4	78	117
Other	28	29	1	7	37	41
Motor Cycle, Motor Scooter	459	520	11	15	408	455
Pedal Cycle	375	380	8	13	372	370

(a) See letterpress immediately preceding table.

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS RAILWAY AND ROAD SERVICES MAP



1965

REFERENCE

- Station HARVEY
- Locomotive Watering Station B
- Locomotive Watering Station A
- Locomotive Watering Station C
- Other Lines
- Road Services



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*.

MOTOR VEHICLE USAGE

Some information on the usage of motor vehicles was obtained in a sample survey conducted throughout Australia by the Commonwealth Bureau of Census and Statistics in November, 1963. The sample comprised 19,676 vehicles, of which 2,742 were cars or station wagons. Because the survey results are based on a sample, they are subject to sampling variability and may therefore differ somewhat from the results that would have been obtained from a complete enumeration of all registered motor vehicles. The principal figures relating to cars and station wagons are shown in the following table. They are quoted from a preliminary report on the survey and are subject to revision. Further details, including particulars relating to goods-carrying vehicles, appear in *Survey of Motor Vehicle Usage, 1963—Preliminary Bulletin: States and Territories* published by the Commonwealth Statistician, Canberra.

SURVEY OF MOTOR VEHICLE USAGE, 1963
CARS AND STATION WAGONS: STATES AND TERRITORIES
(Preliminary estimates)

	N.S.W. (a)	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
All cars and station wagons on register (b)—								
Number on register (c)	880,600	707,200	304,400	246,700	170,800	78,400	6,000	2,394,100
Average annual mileage per vehicle miles	8,580	8,650	7,950	8,180	9,090	8,460	8,390	8,510
Business mileage—proportion of all mileage	32.5	29.8	28.1	25.0	26.6	31.4	24.4	29.9
Cars and station wagons, by business mileage (d)—								
Proportion with no business mileage	67.4	66.8	71.3	73.1	73.3	70.2	78.2	68.9
Proportion with business mileage per cent.	32.6	33.2	28.7	26.9	26.7	29.8	21.8	31.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cars and station wagons, by use for travel to and from work (d)—								
Proportion not used	25.6	28.0	31.5	28.6	24.3	23.0	28.9	27.2
Proportion used on most working days	58.8	57.0	52.8	53.3	62.2	62.4	55.6	57.3
Proportion used on occasional working days.....	15.6	15.0	15.7	18.1	13.5	14.6	15.5	15.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cars and station wagons in metropolitan and non-metropolitan areas (d) (e)—								
Proportions of totals—								
Metropolitan	54.8	67.0	45.3	61.0	71.5	38.8	61.9	58.5
Non-metropolitan	45.2	33.0	54.7	39.0	28.5	61.2	38.1	41.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Average annual mileage per vehicle—								
Metropolitan	9,070	8,600	9,050	7,760	9,150	8,930	9,130	8,770
Non-metropolitan	8,960	9,160	7,330	9,330	9,400	8,390	7,640	8,760
All vehicles	9,020	8,780	8,110	8,370	9,220	8,600	8,560	8,760
Business mileage, proportion of total—								
Metropolitan	30.4	27.9	34.6	25.5	25.6	38.3	23.9	29.2
Non-metropolitan	35.1	33.5	21.5	24.4	29.1	26.8	26.8	30.9
All vehicles	32.5	29.8	28.1	25.0	26.6	31.4	24.9	29.9

(a) Includes Australian Capital Territory.
numbers on the register in each month of 1963.
tribution.

(b) Includes vehicles in dealers' ownership.
(d) Excludes vehicles in dealers' ownership.

(c) Average of the
(e) Address at registration.

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 mem-

bers 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 oversea services between Australia and the United Kingdom via Singapore and between Australia and South Africa via 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 31st December, 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 380-82, 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, minerals 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 connexion with the Royal Flying Doctor Service or in the course of aerial spraying, crop dusting, seed sowing, fertilizer distribution, photography, geophysical surveying, dingo baiting 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, moneys required to be held in trust for the provision and maintenance of landing grounds, and the payment of subsidies. Subsidies are paid principally on the cartage of grain and 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.

During the 1966 session of the State Parliament, two important Statutes relating to transport administration were passed. The State Transport Co-ordination Act, 1966, which repeals the State Transport Co-ordination Act, 1933, and later amendments, is designed "to make better provision for the direction and co-ordination of transport". The Road and Air Transport Commission Act, 1966 provides for the establishment of a Commission "to control and license the transport of passengers and goods by road and by air". These Acts are to come into operation simultaneously on a date to be fixed by proclamation. At the 31st December, 1966 the Acts had not been proclaimed.

The Taxi-cars (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 taxi-cars 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 taxi-car 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 Fremantle, was inaugurated in 1869 by means of a private line, which was purchased by the Government in 1871. A telephone exchange system, installed and operated by the Government, was opened at Perth in 1887.

In 1901, following the federation of the Australian Colonies, the post, telegraph and telephone services of the State Governments were transferred to the Commonwealth Government. The Post and Telegraph Act of 1901 placed the services under the control of a Commonwealth Minister to be known as the Postmaster-General.

The following table shows the number of persons employed by the Postmaster-General's Department in Western Australia, and the number of post offices and telephone offices throughout the State at the 30th June in each year from 1961 to 1965. Full-time employees are those directly under the control of the Department. The remainder, shown as "Other Employees," provide services, which may or may not occupy their full time, under contract or in return for payments appropriate to work performed. "Non-official" post offices are conducted by persons who are not members of the Commonwealth Public Service, and are frequently operated in conjunction with some other business activity. "Telephone offices" are those where trunk-line calls and local calls may be made and telegrams lodged by members of the public, but which do not provide other postal facilities. Multi-coin public telephones are not included.

POSTMASTER-GENERAL'S DEPARTMENT—NUMBERS OF EMPLOYEES AND OFFICES
WESTERN AUSTRALIA

Particulars	At 30th June—				
	1961	1962	1963	1964	1965
Full-time Employees—					
Permanent Officers	4,501	4,654	4,743	4,842	4,966
Temporary and Exempt Officers (a)	1,143	1,163	1,143	1,281	1,251
Total	5,734	5,817	5,886	6,123	6,217
Other Employees—					
Non-official Postmasters and Staff	528	532	539	535	502
Telephone Office-keepers	323	318	304	*285	268
Mail Contractors (b)	290	298	315	316	389
Part-time Employees	175	226	242	*231	239
Total	1,316	1,374	1,400	*1,367	1,398
Total—Employees	7,050	7,191	7,286	*7,490	7,615
Post Offices—					
Official	148	148	147	148	149
Non-official	484	486	492	488	486
Telephone Offices	326	315	305	284	268
Total—Offices	958	949	944	920	903

(a) Exempt staff are persons exempt from the provisions of the Public Service Act. to drive vehicles.

(b) Includes persons employed

* Revised.

Figures relating to the revenue and expenditure of the Department in Western Australia during each of the financial years from 1960-61 to 1964-65 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—				
	1961	1962	1963	1964	1965
REVENUE (a)					
Postal	5,325	5,456	5,829	6,208	6,501
Telegraph	1,250	1,062	1,192	1,267	1,373
Telephone	9,238	9,759	10,852	12,490	15,061
Other	4	8	56	33	37
TOTAL	15,817	16,284	17,929	19,997	23,062
EXPENDITURE (b)					
From Ordinary Services Votes—					
Salaries and Payments in the nature of Salary	6,040	6,271	6,451	6,828	7,530
Administration	640	691	678	836	977
Stores and Material (c)	366	328	219	196	226
Mail Services	452	479	506	530	555
Engineering Services, other than New Works (c)	5,550	5,937	4,538	5,084	5,971
Total	13,054	13,706	12,392	13,473	15,259
Rent, Repairs and Maintenance	184	139	197	229	268
Capital Works and Services—					
Telegraph Services	50	76	106	103	170
Telephone Services	4,310	4,784	7,676	8,340	9,907
Other Plant and Equipment and Motor Vehicles (c)	200	210	777	1,086	807
New Buildings, Sites and Properties	768	594	588	828	1,383
Total	5,328	5,664	9,147	10,358	12,267
GRAND TOTAL	18,566	19,509	21,736	24,060	27,794

(a) Revenue actually collected during the year, as recorded for Treasury purposes. (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 included 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 service, for the three years ended 30th June, 1965 after providing for working expenses (including depreciation, superannuation and furlough 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 (†) OF SERVICES
AUSTRALIA
(\$'000)

Particulars	Year ended 30th June—								
	1963			1964			1965		
	Postal	Telecom- munications	All Services	Postal	Telecom- munications	All Services	Postal	Telecom- munications	All Services
Earnings	99,845	203,094	302,939	106,577	222,717	329,293	112,191	257,855	370,045
Working Expenses	97,259	164,849	262,108	103,981	178,578	282,559	112,889	200,037	312,926
Profit or Loss before deducting Interest	2,587	38,244	40,831	2,596	44,138	46,734	—698	57,818	57,119
Interest	1,537	40,820	42,357	1,639	45,688	47,328	1,920	50,987	52,907
Profit or Loss after deducting Interest	1,050	—2,575	—1,526	956	—1,550	—594	—2,618	6,831	4,212

(†) Minus sign (—) denotes loss.

Posts

In the following table, postal matter handled in Western Australia during each year from 1960-61 to 1964-65 is dissected according to the type of article dealt with, and whether received from overseas or posted for delivery in Australia or to an oversea destination.

POSTAL ARTICLES HANDLED
(Thousands)

Particulars	Year ended 30th June—				
	1961	1962	1963	1964	1965
Posted for Delivery within Australia—					
Ordinary Postal Articles—					
Letter-form	105,762	110,089	118,270	130,714	136,287
Other	9,741	9,562	9,857	11,262	11,873
Parcels (a)	915	915	954	1,016	1,001
Registered Articles (b)	538	525	533	533	575
Posted for Delivery Overseas—					
Ordinary Postal Articles—					
Letter-form	6,248	6,041	6,289	6,855	4,697
Other	1,182	1,238	1,228	1,216	721
Parcels (a)	21	21	22	29	28
Registered Articles (b)	51	49	53	55	62
Received from Overseas—					
Ordinary Postal Articles—					
Letter-form	3,045	2,739	3,036	3,454	3,970
Other	5,829	5,076	5,963	6,453	6,578
Parcels (a)	50	*52	57	64	70
Registered Articles (b)	30	29	29	44	46

(a) Includes registered, cash on delivery and duty parcels. (b) Excludes registered parcels; see note (a). * Revised.

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.

Oversea telegraph and telephone services are now the responsibility of the Overseas Telecommunications Commission (Australia), to which reference is made in the next section *Radiocommunication*.

The following table relates to telegraph and telephone services in Western Australia in each financial year from 1960-61 to 1964-65. 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—				
	1961	1962	1963	1964	1965
TELEGRAPHS					
Number of—					
Offices (a)	966	940	954	920	903
Telegrams—					
Within Australia—Dispatched	'000	'000	'000	'000	'000
Beyond Australia—Dispatched	1,746	1,736	1,850	1,940	2,004
Beyond Australia—Dispatched	74	77	85	84	98
Received	75	75	80	82	90
Total	149	152	165	*167	188
TELEPHONES (a)					
Number of—					
Exchanges	767	762	765	767	765
Services—					
Metropolitan (b)	61,640	66,008	71,396	77,312	81,404
Other	30,209	31,967	34,080	36,506	38,677
Total	91,849	97,975	105,476	113,818	120,081
Telephone Instruments in Service—					
Total	125,737	133,731	144,843	154,932	164,354
Per 100 of Population	17.1	17.7	* 18.6	* 19.4	20.2

(a) At 30th June. (b) Services connected to exchanges located within 10 miles of the General Post Office, Perth. * Revised.

The teleprinter exchange service was introduced in Perth in December, 1956. This service enables a subscriber's teleprinter to be connected with that of any other subscriber in the local network or networks in other States.

TELEPRINTER EXCHANGE NETWORK

Particulars	Year ended 30th June—				
	1961	1962	1963	1964	1965
Number of—					
Subscribers at 30th June	63	82	96	117	164
Local Calls	1,398	3,454	5,326	3,947	3,913
Trunk Calls	18,192	29,595	42,521	60,616	84,858

At the 30th June, 1965, the single wire mileage of telegraph and telephone cables in Western Australia was 908,110. The single wire mileage of aerial wires was 133,763 and the mileage of pole routes was 17,336. There were 577 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 Commission 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 thus 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 telecommunications 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 photo-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, air-sea rescue service and radio-medical service messages, meteorological messages and time signals, as well as naval traffic as required. It provides also, by 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, 1965 there were 71,652 civil radiocommunication stations authorized throughout Australia. They comprised 3,212 fixed stations, 5,726 land stations, 57,768 mobile stations and 4,946 amateur stations.

The numbers of each type of radiocommunication station authorized to operate in Western Australia at the 30th June, 1965 are given in the next table. The following definitions are relevant in considering the figures shown in the table. *Fixed Stations*—Stations established at fixed locations for communication with other stations similarly established. *Outposts*—Stations established in outback areas for communication with control stations such as those of the Royal Flying Doctor Service. *Land Stations*—Stations established at fixed locations for communication with mobile stations. *Coast Stations*—Land stations for communication with ocean-going vessels. *Mobile Stations*—Equipment installed in aircraft (aeronautical), motor vehicles (land mobile services), harbour vessels (harbour mobile services) and ocean-going vessels (ship), and mobile equipment of organizations such as the Royal Flying Doctor Service.

CIVIL RADIOCOMMUNICATION STATIONS AUTHORIZED AT 30th JUNE, 1965

Type of Station	Number	Type of Station	Number
TRANSMITTING AND RECEIVING—		TRANSMITTING AND RECEIVING—<i>contd.</i>	
Fixed Stations—		Mobile Stations—	
Aeronautical	14	Aeronautical	203
Services with Other Countries	12	Land Mobile Services	3,406
Outpost	410	Harbour Mobile Services	93
Other	119	Outpost	359
Land Stations—		Ship	349
Aeronautical	22	Amateur	383
Base Stations—		TOTAL—TRANSMITTING AND RE-	
Land Mobile Services	353	CEIVING	5,813
Harbour Mobile Services	27	RECEIVING ONLY (Fixed)	49
Coast	20	GRAND TOTAL	5,862
Special Experimental	53		

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 the fees to be charged for licences to operate commercial broadcasting and television stations are provided for in the Broadcasting Stations Licence Fees Act 1964 and the Television Stations Licence Fees 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 activities 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 and Television Stations

BROADCASTING STATIONS AT 30th JUNE, 1966

NATIONAL STATIONS					COMMERCIAL STATIONS				
Type and Location	Call Sign	Frequency (Kc/s)	Aerial Power (Watts)	Hours of Service per week (a)	Type and Location	Call Sign	Frequency (Kc/s)	Aerial Power (Watts)	Hours of Service per week (a)
Medium Frequency—					Perth	6IX	1,080	2,000	161½
Perth	6WF	690	50,000	125½	Perth	6KY	1,210	2,000	168
Albany	6WN	810	10,000	126½	Perth	6PM	1,000	2,000	125
Dalwallinu	6AL	650	400	126½	Perth	6PR	880	2,000	168
Carnarvon	6CA	720	200	126½	Northam	6AM	860	2,000	117
Esperance	6DL	530	10,000	126½	Bridgetown	6BY	900	2,000	113
Kalgoorlie	6ED	840	1,000	126½	Collie	6CI	1,130	2,000	104½
Geraldton	6GF	660	2,000	126½	Geraldton	6GE	1,010	2,000	114½
Northam	6GN	830	2,000	126½	Kalgoorlie	6KG	980	2,000	103
Wagin	6NM	600	200	126½	Merredin	6MD	1,100	2,000	113
High Frequency—	6WA	560	50,000	126½	Narrogin	6NA	920	2,000	122½
Perth	VLW	(b)	10,000	122½	Bunbury	6TZ	960	2,000	124½
Perth	VLX	(b)	50,000	122½	Albany	6VA	780	2,000	117
					Katanning	6WB	1,070	2,000	113

(a) To the nearest quarter hour.
optimum results.

(b) The frequencies on which these stations transmit are varied as required to obtain

TELEVISION STATIONS AT 30th JUNE, 1966 (a)

Call Sign and Channel	Area Served	Location of Transmitter	Authorized Frequencies Mc/s	Polarization	Hours of Service per week (b)	Date of Commencement of Operations (c)
NATIONAL STATIONS						
ABW-2	Perth	Bickley	Vision 63-70 Sound 64-25 69-75	Horizontal	68	7th May, 1960
ABAW-2	Southern Agricultural	Mount Barker	Vision 63-70 Sound 64-24 69-74	Vertical	68	6th June, 1966
ABCW-4	Central Agricultural	Mawson Trig	Vision 94-101 Sound 95-26 100-76	Horizontal	68	28th March, 1966
ABSW-5	Bunbury	Mount Lennard	Vision 101-108 Sound 102-25 107-75	Horizontal	68	10th May, 1965
COMMERCIAL STATIONS						
STW-9	Perth	Bickley	Vision 195-202 Sound 196-25 201-75	Horizontal	78	12th June, 1965
TVW-7	Perth	Bickley	Vision 181-188 Sound 182-25 187-75	Horizontal	78	16th October, 1959

(a) The operating power for all stations is: Vision, 100 kW e.r.p. (effective radiated power); Sound, 20 kW e.r.p. (b) To nearest quarter hour. (c) Date on which full-scale transmission began.

Receiving Licences

Receiving licences are granted to certain classes of pensioners at a reduced fee and are issued free of charge to blind persons and to schools. Revenue in Western Australia from fees for all receiving licences amounted to \$1,573,806 in 1961-62, \$1,737,096 in 1962-63, \$1,843,348 in 1963-64, \$2,124,246 in 1964-65 and \$2,285,076 in 1965-66.

RECEIVING LICENCES

Class of Licence	Number in Force at 30th June—				
	1962	1963	1964	1965	1966
BROADCAST LISTENERS' LICENCES (a)					
Ordinary	144,719	141,537	147,873	122,503	43,724
Hirers'	.....	13	1	14	12
Lodging House	10	10	9	48	94
Pensioners'	23,236	23,277	25,492	22,208	11,236
Blind Persons'	370	421	392	.....	.....
Schools'	341	379	354	.....	.....
Total	168,676	165,637	174,121	144,773	55,116
TELEVISION VIEWERS' LICENCES (a)					
Ordinary	69,705	78,892	91,923	71,605	10,771
Hirers'	6,881	7,300	10,769	11,204	15,687
Lodging House	.....	54	140	236	296
Pensioners'	7,250	9,470	12,250	10,026	1,534
Blind Persons'	105	142	165	.....	.....
Schools'	10	49	25	.....	.....
Total	83,951	95,907	115,272	93,071	28,288
COMBINED RECEIVING LICENCES (a)					
Ordinary	} (b)	(b)	(b)	25,660	97,965
Pensioners'				4,228	14,975
Blind Persons'				416	890
Schools'				366	763
Total	(b)	(b)	(b)	30,670	114,593

(a) The combined receiving licence came into effect on the 1st April, 1965. From that date, a person having both broadcast and television receivers at the one address has been required to take out a combined receiving licence. (b) See note (a).

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 VIII, Part 1—*Primary Production* gives male employment on rural holdings, at mines and in fishing, and Part 2—*Secondary Production* includes tables relating wholly, or in part, to employment in factories. Chapter IX, Part 2—*Transport* shows numbers engaged in various types of transport undertakings.

All tables in this Part which contain information compiled from census schedules exclude particulars of full-blood aborigines.

The most detailed and comprehensive statistics of employment of the population are those which are derived from the periodic Population Census. Among the most useful of the tabulations based on these enumerations are those which classify the population according to occupational status and industry.

THE WORK FORCE

It is customary in modern census practice to distinguish between the economically active and inactive sectors of the community on the basis of those "In the Work Force" and those "Not in the Work Force."

The *work force* comprises all persons 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* comprise 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 in 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 comprehensive tables resulting from the census include detailed analyses of the work force according to such characteristics as age, conjugal 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 1848, 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 57.67 per cent.

In 1901 there were 13,068 females in the work force, representing 18.34 per cent. of the female population. In 1961 the number was 63,266, or 17.52 per cent. of the female population. Of this total, 23,487, 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 396-7 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						Total in Work Force	Not in Work Force	Total Popu- lation
	At Work					Not at Work			
	Em- ployers	Self- employed	Employees (on wage or salary)	Helpers (not on wage or salary)	Total				
1901	7,792	10,322	61,848	1,920	81,882	3,195	85,077	27,798	112,875
1911	13,734	12,484	81,206	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	94,139	258,076
1954	16,871	26,165	158,413	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	1,920	81,882	3,195	85,077	27,798	112,875
1911	13,734	12,484	81,206	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	94,139	258,076
1954	16,871	26,165	158,413	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	72.54	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	100,864	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	46,291	798	52,619	741	53,360	256,053	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	12.65	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	12.56	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	17.25	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	28,760	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	6,634	206,400	296,080	502,480
1954	19,117	29,539	204,614	2,313	255,583	2,818	258,401	381,370	639,771
1961	20,521	29,784	217,692	1,624	269,621	10,163	279,784	456,845	736,629

Proportion of Total Population (per cent.)

1901	4.59	6.59	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	1.32	41.08	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	1.38	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	25-34	35-44	45-54	55-64	65 and over	
Employers—								
Never married	84	326	444	225	188	121	40	1,430
Married	3	196	2,724	4,373	4,747	2,662	711	15,416
Married but permanently separated .....	.....	2	20	38	50	37	14	161
Widowed .....	.....	.....	5	16	63	83	85	252
Divorced .....	.....	.....	8	32	53	30	13	136
Total	87	524	3,201	4,684	5,101	2,933	863	17,395
Self-employed—								
Never married	447	1,061	1,134	650	601	464	176	4,537
Married	8	558	4,331	5,343	5,905	3,744	1,126	20,415
Married but permanently separated .....	.....	3	35	59	97	96	37	327
Widowed .....	.....	1	5	23	64	128	169	390
Divorced .....	.....	.....	21	60	83	75	16	255
Total	455	1,623	5,526	6,135	6,150	4,507	1,524	25,924
Employees (on wage or salary)—								
Never married	19,253	14,024	8,386	3,764	2,806	2,024	336	51,391
Married	177	5,580	28,234	29,765	25,261	15,584	1,401	106,062
Married but permanently separated	1	65	521	818	864	535	70	2,874
Widowed	1	7	58	193	519	832	250	1,800
Divorced	1	13	235	583	696	465	61	2,054
Total	19,433	19,689	37,434	35,123	30,146	19,440	2,178	164,241
Helpers (not on wage or salary)—								
Never married	506	172	52	17	15	24	23	878
Married .....	.....	8	19	14	13	30	20	104
Married but permanently separated .....	.....	.....	2	2	.....	2	5	13
Widowed .....	.....	.....	1	.....	1	11	23	36
Divorced .....	.....	.....	1	.....	2	4	1	8
Total	506	180	75	33	33	71	72	1,039
Total at work—								
Never married	20,290	15,583	10,016	4,656	3,610	2,633	575	58,236
Married	188	6,342	35,308	39,495	35,326	22,020	3,318	141,907
Married but permanently separated	1	70	578	917	1,013	670	126	3,375
Widowed	1	8	69	232	647	1,054	527	2,538
Divorced	1	13	265	675	834	574	91	2,453
TOTAL AT WORK	20,481	22,016	46,236	45,975	41,430	26,951	4,637	208,509
Not at work—								
Never married	878	764	533	313	307	280	17	3,179
Married	17	236	811	986	1,003	901	72	4,026
Married but permanently separated .....	.....	6	59	30	94	82	9	330
Widowed .....	.....	.....	3	15	34	85	16	153
Divorced .....	.....	.....	19	57	84	65	6	231
Total Not at Work	895	1,006	1,425	1,451	1,522	1,413	120	7,919
Total in work force—								
Never married	21,168	16,347	10,549	4,969	3,917	2,913	592	61,415
Married	205	6,578	36,119	40,481	36,329	22,921	3,390	146,023
Married but permanently separated	1	76	637	997	1,107	752	135	3,705
Widowed	1	8	72	247	681	1,139	543	2,691
Divorced	1	13	284	732	918	639	97	2,684
TOTAL IN WORK FORCE	21,376	23,022	47,661	47,426	42,952	28,364	4,757	216,518
Not in work force—								
Never married	8,222	1,481	560	416	575	1,006	2,227	(b) 136,138
Married	11	59	186	291	735	2,924	12,609	16,815
Married but permanently separated .....	.....	3	19	33	76	202	591	924
Widowed .....	.....	.....	2	17	33	316	4,078	4,446
Divorced .....	.....	.....	13	23	69	170	331	611
Total Not in Work Force	8,233	1,543	780	785	1,438	4,618	19,836	(b) 158,934
Total Males—								
Never married	29,390	17,828	11,109	5,385	4,492	3,919	2,819	(c) 197,553
Married	216	6,637	36,305	40,772	37,064	25,845	15,999	162,838
Married but permanently separated	1	79	656	1,030	1,183	954	726	4,629
Widowed	1	8	74	264	714	1,455	4,621	7,137
Divorced	1	13	297	760	987	809	428	3,295
GRAND TOTAL	29,609	24,565	48,441	48,211	44,440	32,982	24,593	(c) 375,452

(a) Includes the following numbers *Never married and aged 10-14 years*: Employers, 2; Self-employed, 4; Employees (on wage or salary), 793; Helpers (not on wage or salary), 69; Total at work, 873; Not at work, 87; Total in work force, 960. (b) Includes 41,965 aged 0-4 years, 41,225 aged 5-9 years and 33,461 aged 10-14 years. (c) Includes 41,965 aged 0-4 years; 41,225 aged 5-9 years and 39,421 aged 10-14 years.

OCCUPATIONAL STATUS, CONJUGAL CONDITION AND AGE—FEMALES
CENSUS, 30th JUNE, 1961

Occupational status and conjugal condition	Age last birthday (years)							Total (a)
	15-19	20-24	25-34	35-44	45-54	55-64	65 and over	
Employers—								
Never married	8	10	24	36	52	46	17	193
Married	1	60	439	882	759	287	42	2,470
Married but permanently separated .....	....	1	8	12	19	12	1	53
Widowed .....	....	....	6	29	102	123	95	355
Divorced .....	....	....	2	19	22	8	4	55
Total	9	71	479	978	954	476	159	3,126
Self-employed—								
Never married	20	31	43	55	99	86	58	392
Married	4	93	574	776	820	401	70	2,738
Married but permanently separated .....	....	3	10	25	46	31	10	125
Widowed .....	....	....	7	32	108	188	165	500
Divorced .....	....	1	10	26	36	21	11	105
Total	24	128	644	914	1,109	727	314	3,860
Employees (on wage or salary)—								
Never married	17,099	7,594	2,790	1,581	1,676	1,083	277	32,460
Married	281	2,247	3,544	4,836	3,400	950	66	15,324
Married but permanently separated	4	90	477	633	533	224	22	1,983
Widowed	1	10	68	323	881	809	180	2,277
Divorced .....	....	18	241	483	458	197	10	1,407
Total	17,385	9,959	7,120	7,861	6,948	3,263	555	53,451
Helpers (not on wage or salary)—								
Never married	115	31	15	10	18	13	13	228
Married	5	17	52	80	89	44	8	295
Married but permanently separated .....	....	....	2	2	7	3	1	15
Widowed .....	....	....	....	3	6	7	10	26
Divorced .....	....	....	3	1	7	5	5	21
Total	120	48	72	96	127	72	37	585
Total at work—								
Never married	17,242	7,666	2,872	1,682	1,845	1,228	365	33,273
Married	291	2,417	4,609	6,574	5,068	1,682	186	20,827
Married but permanently separated	4	94	497	672	605	270	34	2,176
Widowed	1	10	81	392	1,097	1,127	450	3,158
Divorced .....	....	19	256	529	523	231	30	1,588
TOTAL AT WORK	17,538	10,206	8,315	9,849	9,138	4,538	1,065	61,022
Not at work—								
Never married	848	374	139	50	64	38	2	1,564
Married	8	57	60	82	43	24	1	275
Married but permanently separated	3	13	55	64	51	22	1	209
Widowed .....	....	....	5	16	50	23	1	95
Divorced .....	....	3	18	39	30	11	....	101
Total Not at Work	859	447	277	251	238	118	5	2,244
Total in work force—								
Never married	18,090	8,040	3,011	1,732	1,909	1,266	367	34,837
Married	299	2,474	4,669	6,656	5,111	1,706	187	21,102
Married but permanently separated	7	107	552	736	656	292	35	2,385
Widowed	1	10	86	408	1,147	1,150	451	3,253
Divorced .....	....	22	274	568	553	242	30	1,689
TOTAL IN WORK FORCE	18,397	10,653	8,592	10,100	9,376	4,656	1,070	63,266
Not in work force—								
Never married	8,141	990	695	604	745	1,168	2,113	(b)131,134
Married	1,576	11,503	35,382	33,969	28,529	17,764	10,631	139,354
Married but permanently separated	9	119	519	572	559	561	477	2,816
Widowed	5	24	183	579	1,642	4,750	15,884	23,067
Divorced	1	23	156	264	360	407	329	1,540
Total Not in Work Force	9,732	12,659	36,935	35,988	31,835	24,650	29,434	(b)297,911
Total Females—								
Never married	26,231	9,030	3,706	2,336	2,654	2,434	2,480	(c)165,971
Married	1,875	13,977	40,051	40,625	33,640	19,470	10,818	160,456
Married but permanently separated	16	226	1,071	1,308	1,215	853	512	5,201
Widowed	6	34	269	987	2,789	5,900	16,335	26,320
Divorced	1	45	430	832	913	649	359	3,229
GRAND TOTAL	28,129	23,312	45,527	48,088	41,211	29,306	30,504	(c)361,177

(a) Includes the following numbers *Never married and aged 10-14 years*: Employees (on wage or salary), 360; Helpers (not on wage or salary), 13; Total at work, 373; Not at work, 49; Total in work force, 422. (b) Includes 39,951 aged 0-4 years, 39,529 aged 5-9 years and 37,198 aged 10-14 years. (c) Includes 39,951 aged 0-4 years, 39,529 aged 5-9 years and 37,620 aged 10-14 years.

INDUSTRY OF THE POPULATION

The Census

For census purposes, industry may be defined as any single *branch of productive activity, trade or service*. It is concerned with the activities of persons, firms or businesses *considered as a group* producing the same commodity, performing the same process or providing the same service. All persons engaged in any such branch of economic activity are classified industrially as belonging to that particular branch irrespective of their personal occupation within the industry. Examples are :—Mining, which includes, in addition to miners and prospectors, such persons as laboratory technicians, transport workers and office staff employed by mining companies ; Shipping, which covers staff members of shipping companies and agencies, as well as ships' crews ; professional activities such as Medicine, Law and Architecture which include not only qualified practitioners but also persons employed by them as, for example, receptionists, law clerks and draftsmen.

In the following table, the population at the 30th June, 1961 is classified according to the main 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 Mixed Farming.

It should be noted that the particulars shown under Public Authority Activities (N.E.I.) are residual figures comprising those persons in the administrative sphere of general government, local government and foreign consular services who have not been classified elsewhere. They do not, therefore, represent the total numbers of persons engaged in or attached to all fields of government service, Commonwealth, State or Local. For example, employees of the Railways Commission have been assigned, in accordance with evidence contained in their census schedules, to Railway workshops in the sub-group Manufacture, Assembly and Repair of Ships, Vehicles, Parts and Accessories ; to Motor bus services in the sub-group Road Transport ; to Construction and maintenance of permanent way in the sub-group Construction Works and Maintenance (other than Buildings) or to Rail services under Rail and Air Transport. Further examples of this allocation of government workers to industries other than Public Authority Activities (N.E.I.) are provided by Departments such as Education, Public Works, Postmaster-General's, Repatriation, and local government authorities.

At the 1961 Census, there were 4,254 persons in the work force who failed to state their industry or gave an inadequate description. Of the 275,530 persons (or 98·5 per cent. of the work force) who could be allocated to an industry, 18·49 per cent. were classified to Manufacturing, 18·43 per cent. to Commerce, 14·94 per cent. to Primary Production, 11·25 per cent. to Community and Business Services (including Professional), 9·22 per cent. to Building and Construction, 7·60 per cent. to Transport and Storage, 6·05 per cent. to Amusement, Hotels and other Accommodation, Cafes, Personal Service, etc., 4·14 per cent. to Public Authority (not elsewhere included) and Defence Services, 3·06 per cent. to Finance and Property, 2·86 per cent. to Mining and Quarrying, 2·23 per cent. to Communication, and 1·71 per cent. to Electricity, Gas, Water and Sanitary Services.

The total of 456,845 persons not in the work force at the 30th June, 1961 comprised 91,431 children not attending school, 162,246 full-time students and children attending school, 7,553 persons of independent means, 138,564 engaged in home duties, 49,163 pensioners and annuitants, 5,412 inmates of institutions and 2,476 others not engaged in industry.

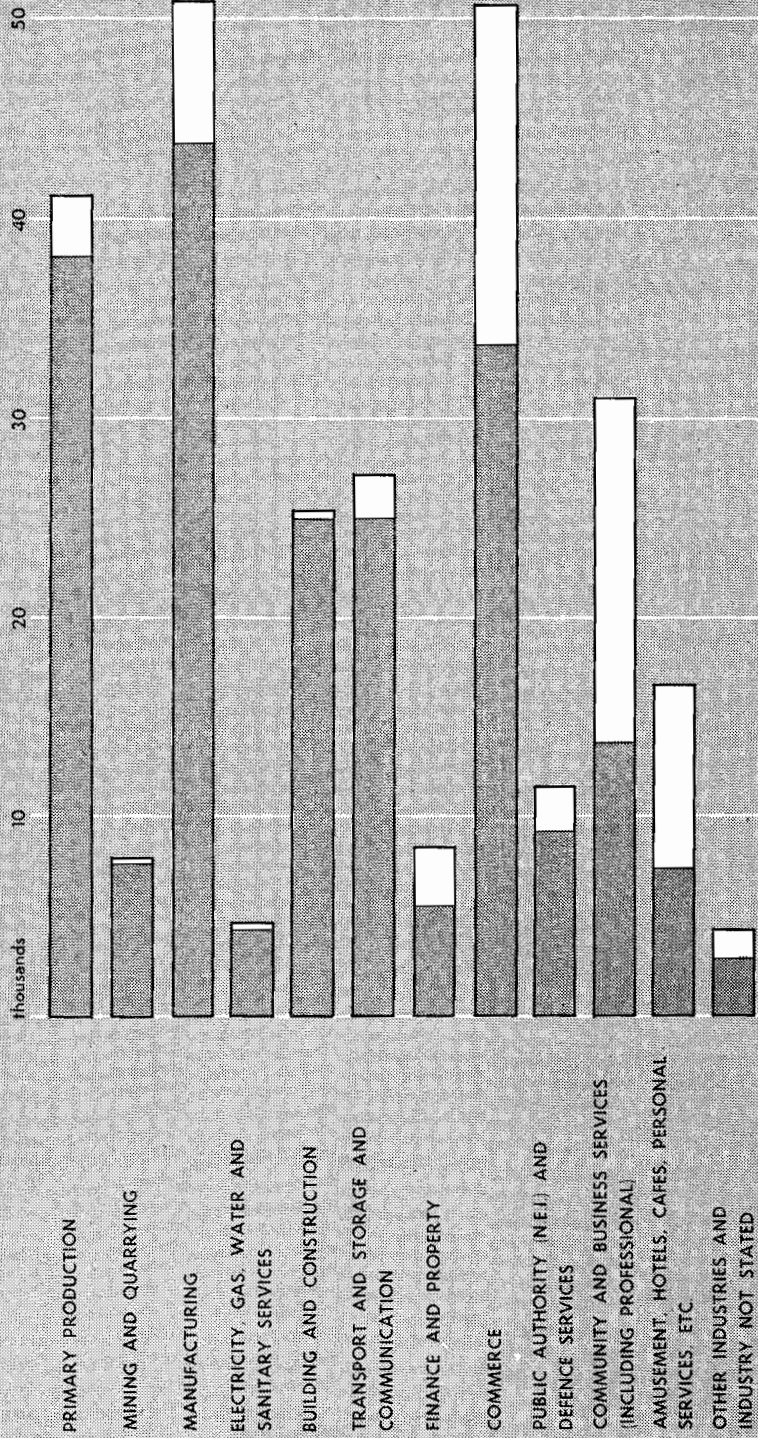
The table on pages 402 and 403 shows the geographical distribution of the work force according to industry. It provides a useful summary of the industrial structure within each of the eleven Statistical Divisions of the State as well as indicating the relative importance of the several Divisions in a particular industry. The migratory population comprises those who, at midnight between the 29th and the 30th June, 1961, were on board ships or were travelling on long-distance trains or aircraft and had not been enumerated elsewhere. Of the total of 2,453 migratory persons in the work force, 1,889 gave their industry as Shipping, 61 were naval personnel, and 61 were engaged in Rail and Air Transport.

Classification of the components of the work force according to industry, as in the table on page 404, furnishes much useful information. It is interesting to note, for example, the preponderance of employers and 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 these 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, 6,651 were unable to secure employment, 1,567 were absent from work on account of sickness or accident, 861 were changing jobs, 670 were temporarily laid off, and 414 were not at work for other reasons or for a reason which was not stated.

Industry of the Work Force | CENSUS, 30th JUNE, 1961
MALES AND FEMALES

MALES FEMALES



POPULATION CLASSIFIED ACCORDING TO INDUSTRY GROUP AND SUB-GROUP
CENSUS, 30th JUNE, 1961

Industry Group and Sub-Group	Metropolitan Statistical Division						Rest of State (a)						Whole State						
	Males			Females			Persons			Males			Females			Persons			
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons				
Primary Production—																			
Fishing	606	12	618	1,038	5	1,043	1,644	17	1,661	1,043	5	1,048	1,644	17	1,661	1,043	5	1,048	
Hunting and Trapping	7	1	8	90	8	98	97	1	98	90	8	98	97	1	98	90	8	98	
Agriculture and Mixed Farming	1,389	155	1,544	21,190	1,796	22,986	22,579	1,961	24,540	7,120	664	7,784	6,990	595	7,585	7,120	664	7,784	
Grazing	434	31	465	6,556	368	6,924	4,224	383	4,607	4,111	319	4,430	4,224	383	4,607	4,111	319	4,430	
Dairying	113	15	128	319	82	401	488	137	625	401	4	405	488	137	625	401	4	405	
Poultry Farming	169	55	224	110	4	114	1,148	8	1,156	1,046	4	1,050	1,148	8	1,156	1,046	4	1,050	
Forestry	106	4	110	689	203	892	879	25	904	701	12	713	879	25	904	701	12	713	
Other	190	13	203																
Total—Primary Production	3,014	286	3,300	35,035	2,831	37,866	38,049	3,117	41,166	37,866	2,831	40,697	38,049	3,117	41,166	37,866	2,831	40,697	
Mining (including Open-cut Mining)																			
Mining	243	25	268	7,153	113	7,266	7,396	138	7,534	7,266	113	7,379	7,396	138	7,534	7,266	113	7,379	
Quarrying	139	13	152	197	2	199	336	15	351	199	2	201	336	15	351	199	2	201	
Total—Mining and Quarrying	382	38	420	7,350	115	7,465	7,732	153	7,885	7,465	115	7,580	7,732	153	7,885	7,465	115	7,580	
Manufacturing—																			
Cement, Bricks, Glass and Stone	2,306	191	2,497	932	36	968	3,298	227	3,465	968	36	1,004	3,298	227	3,465	968	36	1,004	
Petroleum and Coal (excluding Chemical and Gas Works)	256	20	276	620	44	664	876	64	940	664	44	708	876	64	940	664	44	708	
Founding, Engineering and Metal Working	8,845	796	9,641	2,133	105	2,238	10,778	901	11,679	2,238	105	2,343	10,778	901	11,679	2,238	105	2,343	
Manufacture, Assembly and Repair of Ships, Vehicles, Parts and Accessories	5,375	132	5,507	1,664	30	1,694	7,039	162	7,201	1,694	30	1,724	7,039	162	7,201	1,694	30	1,724	
Yarns, Textiles and Articles thereof (excluding Clothing and Furnishing Drapery)	454	153	607	265	179	444	719	332	1,051	444	179	623	719	332	1,051	444	179	623	
Clothing and Knitted Goods (including Needleworking)	361	1,454	1,815	58	251	309	419	1,647	2,066	309	251	560	419	1,647	2,066	309	251	560	
Boots, Shoes and Accessories (other than Rubber)	501	218	719	80	92	172	561	230	791	172	92	264	561	230	791	172	92	264	
Food, Drink and Tobacco	4,030	1,118	5,148	2,313	438	2,751	6,343	1,556	7,899	2,751	438	3,189	6,343	1,556	7,899	2,751	438	3,189	
Sawmilling, Wood Products (other than Furniture)	1,773	80	1,853	3,748	34	3,782	5,621	114	5,735	3,782	34	3,816	5,621	114	5,735	3,782	34	3,816	
Furniture and Fittings (other than Metal), Bedding and Furnishing Drapery	1,484	200	1,684	154	15	169	1,638	215	1,853	169	15	184	1,638	215	1,853	169	15	184	
Paper and Paper Products, Printing, Packaging, Book-binding and Photography	2,738	910	3,698	402	127	529	3,190	1,037	4,227	529	127	656	3,190	1,037	4,227	529	127	656	
Chemicals, Dyes, Explosives, Paints and Non-Mineral Oils	1,306	253	1,559	556	24	580	1,862	277	2,139	580	24	604	1,862	277	2,139	580	24	604	
Other and Undefined	1,302	323	1,625	313	52	365	1,615	375	1,990	365	52	417	1,615	375	1,990	365	52	417	
Total—Manufacturing	30,561	5,848	36,429	13,238	1,239	14,527	43,819	7,137	50,956	14,527	1,239	15,766	43,819	7,137	50,956	14,527	1,239	15,766	
Electricity, Gas, Water and Sanitary Services (Production, Supply and Maintenance)—																			
Electricity	1,533	134	1,717	838	27	865	2,421	161	2,582	865	27	892	2,421	161	2,582	865	27	892	
Gas and Electricity	1,311	86	1,397	715	12	727	2,026	98	2,124	727	12	739	2,026	98	2,124	727	12	739	
Water Supply, Sewerage, etc.	2,594	220	3,114	1,553	39	1,592	4,447	259	4,706	1,592	39	1,631	4,447	259	4,706	1,592	39	1,631	
Total—Electricity, Gas, Water and Sanitary Services																			
Building and Construction—																			
Construction and Repair of Buildings	10,198	276	10,474	4,486	65	4,551	14,684	341	15,025	4,551	65	4,616	14,684	341	15,025	4,551	65	4,616	
Construction Works (other than Buildings)	3,262	39	3,301	7,041	50	7,091	10,503	89	10,592	7,091	50	7,141	10,503	89	10,592	7,091	50	7,141	
Total—Building and Construction	13,460	315	13,775	11,527	115	11,642	24,987	430	25,417	11,642	115	11,757	24,987	430	25,417	11,642	115	11,757	

INDUSTRY OF THE POPULATION IN STATISTICAL DIVISIONS
CENSUS, 30th JUNE, 1961

Statistical Division	Primary and Production	Mining and Quarrying	Manufacturing	Electricity, Gas, Water, and Sanitary Services	Building and Construction	Transport and Storage	Communication	Finance and Property	Commerce	Public Authority (N.E.I.) and Defence Services	Community and Business Services (including Professional)	Amusement, Hotels, Cafes, etc.	Other In-definite	Total in Work Force	Not in the Work Force	Grand Total
Metropolitan	3,014	382	30,581	2,894	13,460	10,925	3,886	4,207	23,141	6,846	9,519	4,954	1,855	115,164	89,943	205,107
Swan	3,013	135	4,513	298	1,431	1,077	258	213	1,894	884	901	391	253	15,211	13,266	28,477
South-West	6,745	886	4,403	432	2,286	1,551	315	307	2,303	374	772	527	149	21,050	16,284	37,314
Southern Agricultural	5,894	20	1,055	114	1,822	819	247	195	1,648	197	472	315	138	12,966	9,033	21,999
Central Agricultural	9,123	48	1,354	247	2,130	1,473	322	233	2,106	272	664	402	102	18,536	12,428	30,964
Northern Agricultural	6,186	78	638	110	1,363	793	282	134	1,271	168	456	291	95	11,865	7,713	19,578
Eastern Goldfields	1,323	4,800	592	291	1,016	770	144	128	1,012	235	488	363	92	11,254	7,176	18,430
Central	638	368	30	14	173	96	54	6	68	27	53	56	2	1,585	780	2,365
North-West	1,105	20	84	11	269	122	32	13	104	68	66	39	24	1,957	797	2,754
Pilbara	347	561	37	20	204	160	43	4	67	33	50	45	17	1,588	531	2,119
Kimberley	634	423	435	13	767	172	36	9	86	127	162	54	68	2,986	830	3,816
Migratory (a)	27	11	67	3	66	1,950	3	17	29	97	32	14	40	2,356	173	2,529
TOTAL, WESTERN AUSTRALIA	38,049	7,732	43,819	4,447	24,987	19,908	5,122	5,466	33,729	9,278	13,635	7,451	2,895	216,513	158,934	375,452

MALES

FEMALES

Metropolitan	286	38	5,848	220	315	796	471	2,528	11,972	1,714	12,332	5,513	871	42,954	172,072	215,026
Swan	266	5	571	8	26	61	44	140	990	126	851	403	94	3,585	23,203	26,788
South-West	508	9	205	10	20	34	140	90	1,172	78	1,034	758	97	4,155	30,168	34,323

Southern Agricultural ...	489	1	251	1	13	27	89	61	687	46	569	513	55	2,802	16,822	19,624
Central Agricultural ...	795	...	81	5	19	24	127	57	896	56	890	664	72	3,686	22,944	26,630
Northern Agricultural ...	431	...	77	9	11	29	88	40	546	40	587	510	65	2,433	13,774	16,207
Eastern Goldfields ...	77	73	64	5	10	15	35	58	608	51	639	438	51	2,114	13,598	15,712
Central ...	77	3	1	...	3	5	11	1	31	6	88	122	3	346	1,248	1,594
North-West ...	121	1	12	...	2	5	7	2	62	9	76	93	6	396	1,413	1,809
Pilbara ...	34	15	...	...	3	6	7	...	38	4	51	91	10	259	805	1,124
Kimberley ...	33	8	18	1	8	13	11	1	54	11	173	90	18	439	1,413	1,852
Migratory (a) ...	...	...	9	...	...	17	...	3	13	...	20	13	22	97	391	488
TOTAL, WESTERN AUSTRALIA ...	3,117	153	7,137	259	430	1,032	1,030	2,976	17,064	2,141	17,355	9,208	1,364	63,266	297,911	361,177

PERSONS

Metropolitan ...	3,300	420	36,429	3,114	13,775	11,721	3,857	6,735	35,113	8,560	21,901	10,467	2,726	158,118	262,015	420,133
Swan ...	3,279	140	5,084	306	1,457	1,138	302	353	2,884	960	1,752	794	347	18,796	36,469	55,265
South-West ...	7,253	895	4,608	442	2,306	1,585	455	397	3,475	452	1,806	1,285	246	25,205	46,432	71,637
Southern Agricultural ...	6,383	21	1,336	115	1,835	846	336	256	2,335	243	1,041	828	193	15,768	25,855	41,623
Central Agricultural ...	9,918	48	1,435	252	2,149	1,497	449	290	3,002	328	1,554	1,066	234	22,222	36,372	57,594
Northern Agricultural ...	6,617	78	715	119	1,374	822	370	174	1,817	208	1,043	801	180	14,298	21,437	35,785
Eastern Goldfields ...	1,400	4,873	656	296	1,026	785	179	181	1,615	286	1,127	801	143	13,868	20,774	34,142
Central ...	715	371	31	14	176	101	65	7	99	33	136	178	5	1,931	2,028	3,959
North-West ...	1,226	21	96	11	271	127	39	15	166	77	142	132	30	2,353	2,210	4,563
Pilbara ...	381	576	37	20	207	166	50	4	105	37	101	136	27	1,847	1,396	3,243
Kimberley ...	667	431	453	14	775	185	47	10	140	138	335	144	86	3,425	2,243	5,668
Migratory (a) ...	27	11	76	3	66	1,967	3	20	42	97	52	27	62	2,453	564	3,017
TOTAL, WESTERN AUSTRALIA ...	41,166	7,885	50,956	4,706	25,417	20,940	6,152	8,442	50,793	11,419	30,990	16,659	4,259	279,784	456,845	736,629

(a) Comprises persons (both passengers and crew) not enumerated elsewhere who, at midnight between the 29th and the 30th June, 1961, were on board ships or were travelling on long-distance trains, motor coaches or aircraft.

INDUSTRY AND OCCUPATIONAL STATUS OF THE POPULATION
CENSUS, 30th JUNE, 1961

Industry Group	In Work Force						Proportion in each Industry Group (per cent.)
	At Work				Not at Work	Total in Work Force	
	Employer	Self-employed	Employee (on Wage or Salary)	Helper (not on Wage or Salary)			
MALES							
Primary Production	6,175	16,253	13,731	873	1,017	38,049	17.57
Mining and Quarrying	65	311	7,103	9	244	7,732	3.57
Manufacturing	1,810	1,326	39,328	19	1,336	43,819	20.24
Electricity, Gas, Water and Sanitary Services	18	34	4,345	.....	50	4,447	2.05
Building and Construction	1,994	1,933	19,756	18	1,286	24,987	11.54
Transport and Storage	548	1,590	17,253	10	507	19,908	9.19
Communication	4	16	5,069	.....	33	5,122	2.37
Finance and Property	245	192	4,978	1	50	5,466	2.52
Commerce	3,929	2,713	26,230	44	813	33,729	15.58
Public Authority (N.E.I.) and Defence Services .....	.....	.....	9,184	.....	94	9,278	4.29
Community and Business Services (including Professional)	1,318	376	11,791	23	127	13,635	6.30
Amusement, Hotels, Cafes, Personal Service, etc.	1,267	1,090	4,694	30	370	7,451	3.44
Other (a)	22	90	779	12	1,992	2,895	1.34
Total Males in Work Force	17,395	25,924	164,241	1,039	7,919	216,518	100.00
FEMALES							
Primary Production	883	1,429	582	210	13	3,117	4.93
Mining and Quarrying	4	1	148	.....	.....	153	0.24
Manufacturing	243	175	6,426	26	267	7,137	11.28
Electricity, Gas, Water and Sanitary Services	2	1	254	.....	2	259	0.41
Building and Construction	74	16	331	4	5	430	0.68
Transport and Storage	64	46	911	4	7	1,032	1.63
Communication	1	15	997	3	14	1,030	1.63
Finance and Property	22	21	2,914	3	16	2,976	4.70
Commerce	1,045	979	14,477	143	420	17,064	26.97
Public Authority (N.E.I.) and Defence Services .....	.....	.....	2,129	.....	12	2,141	3.39
Community and Business Services (including Professional)	143	216	16,650	71	275	17,355	27.43
Amusement, Hotels, Cafes, Personal Service, etc.	632	949	7,143	115	369	9,208	14.55
Other (a)	13	12	489	6	844	1,364	2.16
Total Females in Work Force	3,126	3,860	53,451	585	2,244	63,266	100.00
PERSONS							
Primary Production	7,058	17,682	14,313	1,083	1,030	41,166	14.72
Mining and Quarrying	69	312	7,251	9	244	7,885	2.82
Manufacturing	2,053	1,501	45,754	45	1,603	50,956	18.21
Electricity, Gas, Water and Sanitary Services	20	35	4,599	.....	52	4,706	1.68
Building and Construction	2,068	1,949	20,087	22	1,291	25,417	9.09
Transport and Storage	612	1,636	18,164	14	514	20,940	7.48
Communication	5	31	6,066	3	47	6,152	2.20
Finance and Property	267	213	7,892	4	66	8,442	3.02
Commerce	4,974	3,692	40,707	187	1,233	50,793	18.15
Public Authority (N.E.I.) and Defence Services .....	.....	.....	11,313	.....	106	11,419	4.08
Community and Business Services (including Professional)	1,461	592	28,441	94	402	30,990	11.08
Amusement, Hotels, Cafes, Personal Service, etc.	1,899	2,039	11,837	145	739	16,659	5.95
Other (a)	35	102	1,268	18	2,836	4,259	1.52
Total in Work Force	20,521	29,784	217,692	1,624	10,163	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 dairying) and private domestic service.

The prime purpose of the series is to measure currently, and as nearly as possible with available data, *monthly trends* in employment in the defined field.

The employment estimates are based on comprehensive "benchmark" data derived for the purpose from the Population Censuses 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 \$400 per week in wages, other than those specifically exempted under the Pay-roll Tax Assessment Act 1941-1966, (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 changes 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 VIII, 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 dissections 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	144·3	145·5	144·3	144·5	144·2	144·3	145·2	144·7	145·4	146·0	143·1	144·6
1961	149·1	149·6	149·4	149·4	149·2	148·5	148·6	149·0	149·7	149·6	150·8	150·8	149·4	149·5
1962	151·8	152·2	154·1	153·6	154·6	154·7	154·8	155·3	156·1	156·4	157·1	157·5	151·6	154·9
1963	158·1	158·4	159·0	159·1	159·8	159·4	159·4	159·7	160·7	161·6	162·9	163·8	157·6	160·2
1964	164·1	164·6	164·6	164·0	164·8	164·3	164·2	164·4	165·5	165·9	166·8	168·3	162·9	165·1
1965	169·1	170·1	170·5	171·1	171·5	171·5	172·1	173·2	174·1	174·6	175·9	177·6	168·2	172·6
1966	178·4	179·9	180·5	180·4	180·5	180·4	180·3	180·2	180·2	180·3	181·4	182·4	177·3	180·4
FEMALES														
1955	43·8	44·9	45·2	45·0	44·9	45·1	45·3	45·1	45·2	45·2	45·8	45·9	44·4	45·1
1961	51·3	51·7	52·1	52·2	51·8	51·2	51·1	51·2	51·4	51·7	52·3	51·9	51·5	51·7
1962	51·7	52·1	53·2	53·2	53·2	53·4	53·4	53·5	54·1	54·2	54·9	54·4	52·2	53·4
1963	54·0	54·1	55·0	55·5	55·6	55·5	55·6	55·7	56·0	56·3	57·1	56·9	54·5	55·6
1964	56·8	57·7	58·3	58·4	58·5	58·5	58·5	58·5	59·3	59·5	59·9	59·4	57·2	58·6
1965	59·2	61·2	62·3	62·7	62·6	62·7	63·1	63·4	64·1	64·7	65·4	64·9	60·5	63·1
1966	64·7	66·4	67·6	67·8	67·9	68·0	68·0	68·4	68·7	68·9	69·9	68·6	65·7	67·9
PERSONS (a)														
1955	186·9	188·0	189·5	190·5	189·2	189·6	189·5	189·4	190·4	189·9	191·2	191·9	187·5	189·7
1961	200·4	201·3	201·5	201·6	201·0	199·7	199·7	200·2	201·1	201·3	203·1	202·7	200·9	201·1
1962	203·5	204·3	207·3	206·8	207·8	208·1	208·2	208·8	210·2	210·6	212·0	211·9	203·8	208·3
1963	212·1	212·5	214·0	214·6	215·4	214·0	215·0	215·4	216·7	217·9	219·9	220·6	212·1	215·8
1964	220·9	222·3	222·9	222·4	223·3	222·0	222·7	222·0	224·8	225·4	226·7	227·7	220·0	223·7
1965	228·3	231·3	232·8	233·8	234·1	234·2	235·2	236·6	238·2	238·3	241·3	242·5	228·7	235·6
1966	243·1	246·3	248·1	248·2	248·4	248·4	248·3	248·6	248·9	249·2	251·3	251·0	243·0	248·3

(a) The figures shown for *Persons* may not in all cases be equal to the sum of the numbers of *Males* and *Females*. Any such discrepancies are due to rounding to thousands.

WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT(†)—INDUSTRY GROUPS
 Excluding Employees in Rural Industry and Private Domestic Service, and Defence Forces
 (Thousands)

Industry Group and Sub-group	June, 1955	June, 1961	June, 1962	June, 1963	June, 1964	June, 1965
MALES						
Forestry, Fishing and Trapping	1.8	1.8	1.6	1.6	1.3	1.3
Mining and Quarrying	8.6	7.0	7.3	7.1	7.1	6.9
Manufacturing	41.3	40.3	42.4	44.4	46.0	48.0
Electricity, Gas, Water and Sanitary Services	4.1	4.6	4.8	4.9	5.0	5.2
Building and Construction	20.2	18.6	20.0	20.6	21.2	23.3
Transport and Storage—						
Road transport and storage	3.8	4.2	4.7	4.9	5.1	5.6
Shipping and stevedoring	4.1	4.1	3.9	4.0	4.1	4.1
Rail and air transport	8.8	7.8	7.8	7.6	7.6	7.5
Communication	4.4	5.2	5.3	5.4	5.5	5.6
Finance and Property—						
Banking	2.3	2.7	2.7	2.9	3.1	3.4
Other	1.7	2.4	2.4	2.7	2.9	3.0
Commerce—						
Retail trade	12.3	14.6	16.0	16.1	16.8	17.0
Wholesale and other commerce	10.7	11.6	11.3	11.8	12.0	12.3
Public Authority Activities, not elsewhere included	7.1	7.0	7.2	7.6	7.9	8.3
Other Industries—						
Health, hospitals, etc.	2.2	2.8	3.0	3.1	3.4	3.5
Education	3.0	4.7	5.2	5.4	5.6	6.0
Other (a)	7.9	8.9	9.1	9.4	9.7	10.5
Total	144.5	148.5	154.7	159.4	164.3	171.5
FEMALES						
Forestry, Fishing and Trapping	0.2	0.2	0.2	0.2	0.2	0.2
Mining and Quarrying	6.7	6.4	6.7	7.3	7.6	8.1
Manufacturing	0.2	0.3	0.3	0.3	0.3	0.3
Electricity, Gas, Water and Sanitary Services	0.2	0.2	0.3	0.3	0.3	0.4
Building and Construction	0.3	0.4	0.4	0.4	0.5	0.5
Transport and Storage—						
Road transport and storage	0.2	0.2	0.2	0.2	0.2	0.2
Shipping and stevedoring	0.4	0.3	0.3	0.4	0.4	0.4
Rail and air transport	0.9	1.0	1.0	1.0	1.1	1.2
Communication	0.8	1.1	1.2	1.3	1.4	1.5
Finance and Property—						
Banking	1.4	1.8	1.8	2.1	2.2	2.3
Other						
Commerce—						
Retail trade	10.3	11.5	12.3	12.2	12.9	13.6
Wholesale and other commerce	3.5	3.3	3.3	3.4	3.5	3.7
Public Authority Activities, not elsewhere included	2.0	2.2	2.3	2.3	2.5	2.7
Other Industries—						
Health, hospitals, etc.	6.3	8.8	9.3	9.6	10.4	11.0
Education	3.9	5.3	5.7	5.7	5.9	6.3
Other (a)	7.9	8.2	8.1	8.7	9.2	10.2
Total	45.1	51.2	53.4	55.5	58.5	62.7
PERSONS						
Forestry, Fishing and Trapping	1.8	1.8	1.6	1.6	1.3	1.3
Mining and Quarrying	8.8	7.2	7.5	7.3	7.3	7.1
Manufacturing	48.0	46.7	49.1	51.7	53.6	56.1
Electricity, Gas, Water and Sanitary Services	4.3	4.9	5.1	5.2	5.3	5.5
Building and Construction	20.4	18.8	20.3	20.9	21.5	23.7
Transport and Storage—						
Road transport and storage	4.1	4.6	5.1	5.3	5.6	6.1
Shipping and stevedoring	4.3	4.3	4.1	4.2	4.3	4.3
Rail and air transport	9.2	8.1	8.1	8.0	8.0	7.9
Communication	5.3	6.2	6.3	6.4	6.6	6.8
Finance and Property—						
Banking	3.1	3.8	3.9	4.2	4.5	4.9
Other	3.1	4.2	4.2	4.8	5.1	5.3
Commerce—						
Retail trade	22.6	26.1	28.3	28.3	29.7	30.6
Wholesale and other commerce	14.2	14.9	14.6	15.2	15.5	16.0
Public Authority Activities, not elsewhere included	9.1	9.2	9.5	9.9	10.4	11.0
Other Industries—						
Health, hospitals, etc.	8.5	11.6	12.3	12.7	13.8	14.5
Education	6.9	10.0	10.9	11.1	11.5	12.2
Other (a)	15.8	17.1	17.2	18.1	18.9	20.7
Total	189.6	199.7	208.1	214.9	222.9	234.2

(†) Figures do not in all cases add to the totals shown owing to rounding to thousands.

(a) See letterpress on page 407.

In the previous table the figures appearing against the item "Other" under the heading "Other Industries" comprise employees in the Industry Sub-groups *Law, Order and Public Safety; Religion and Social Welfare; Other Community and Business Services; Amusement, Sport and Recreation; Hotels, Boarding Houses and other Accommodation, and Restaurants; and Other Personal Services.*

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, banks, post office, broadcasting and television, police, factories, electricity generation and supply, water conservation, irrigation, road and bridge construction, harbour works and other public works. In the following table, government employment so defined is shown for June in each of the years from 1954 to 1965.

GOVERNMENT AUTHORITIES—CIVILIAN EMPLOYEES IN WESTERN AUSTRALIA

(Thousands)

Date	Commonwealth (a)			State (a) (b)			Local Government (b)			Total		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
June— 1954	8.4	2.1	10.5	35.1	5.9	41.0	3.1	0.2	3.3	46.6	8.2	54.8
1955	8.9	2.2	11.1	37.4	6.2	43.6	3.4	0.2	3.6	49.7	8.6	58.3
1956	9.0	2.2	11.2	38.1	6.2	44.3	3.4	0.3	3.7	50.5	8.7	59.2
1957	9.0	2.2	11.2	37.9	6.4	44.3	3.3	0.3	3.6	50.2	8.9	59.1
1958	9.3	2.2	11.5	39.6	6.8	46.4	3.5	0.3	3.8	52.4	9.3	61.7
1959	9.6	2.3	11.9	40.4	7.3	47.7	3.7	0.3	4.0	53.7	9.9	63.6
1960	9.8	2.3	12.1	38.7	7.8	46.5	3.7	0.4	4.1	52.2	10.5	62.7
1961	9.8	2.4	12.2	39.0	8.2	47.2	3.7	0.4	4.1	52.5	11.0	63.5
1962	10.0	2.4	12.4	38.4	8.8	47.2	3.8	0.4	4.2	52.2	11.6	63.8
1963	10.3	2.5	12.8	39.1	9.0	48.1	4.1	0.4	4.5	53.5	11.9	65.4
1964	10.6	2.6	13.2	39.6	9.5	49.1	4.3	0.4	4.7	54.5	12.5	67.0
1965	11.0	2.8	13.7	40.7	10.2	50.9	4.6	0.5	5.1	56.3	13.5	69.8
1966	11.6	3.0	14.6	42.1	11.0	53.1	4.7	0.6	5.3	58.4	14.6	73.0

(a) Includes employees of semi-governmental authorities.
rural industry.

(b) Excludes a small number of employees engaged in

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, trade or 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—PROPORTION OF THE WORK FORCE IN EACH MAJOR GROUP
CENSUS, 30th JUNE, 1961

Major Occupation Group	Proportion of Total (per cent.)		
	Males	Females	Persons
Professional, Technical and Related Workers	6.1	16.1	8.3
Administrative, Executive and Managerial Workers	7.3	4.2	6.6
Clerical Workers	7.8	28.6	12.5
Sales Workers	5.7	15.5	7.9
Farmers, Fishermen, Hunters, Timber Getters and Related Workers	18.0	4.6	15.0
Miners, Quarrymen and Related Workers	2.3	.....	1.8
Workers in Transport and Communication Occupations	8.5	2.2	7.1
Craftsmen, Production-Process Workers and Labourers, n.e.c.	38.5	7.1	31.4
Service, Sport and Recreation Workers	4.1	20.1	7.7
Members of Armed Services, Enlisted Personnel	1.0	0.1	0.8
Occupation Inadequately Described or Not Stated	0.7	1.5	0.9
Total in Work Force	100.0	100.0	100.0

n.e.c. denotes "not elsewhere classified."

The Classification of Occupations used in the tabulation of the 1961 Census data has been adapted from and closely adheres to the principles embodied in the International Standard Classification of Occupations issued by the International Labour Office, Geneva, 1958. The International Standard Classification of Occupations was prepared after extensive discussions and research by world experts in this field, to provide an adequate classification framework for countries interested in occupational classification, and, at the same time, provide a basis for international comparison of occupational data obtained mainly from Censuses of Population.

The Australian Classification of Occupations contains 12 Major Groups, 73 Minor Groups and 348 Occupation Categories. In accordance with the International Standard Classification, occupations have been grouped by the general similarity of the characteristics of the work they entail. The most important feature of each minor group is that the occupations included are more closely related to each other than to occupations outside the minor group as regards the functions involved and the skills, knowledge and abilities required for satisfactory performance. Other factors taken into consideration in forming these groups have been material worked on, workplace environment, use of specialized equipment, and so on.

In the following table the population of Western Australia at the Census of 30th June, 1961 is classified according to occupation. The figures have been revised in accordance with final census tabulations. The data appearing in the table are restricted to the 12 Major Groups and the 73 Minor Groups of the Australian Classification of Occupations. Detailed particulars of the numbers in each of the 348 Occupation Categories are given in *Census of the Commonwealth, 30th June, 1961—Volume V—Western Australia, Part II—Cross-classifications of the Characteristics of the Population* published by the Commonwealth Statistician.

OCCUPATIONS OF THE POPULATION (a)

CENSUS, 30th JUNE, 1961

Major and Minor Group	Males	Females	Persons
Professional, Technical and Related Workers—			
Architects, Engineers and Surveyors	1,427	6	1,433
Chemists, Physicists, Geologists and other Physical Scientists	389	22	411
Biologists, Veterinarians, Agronomists and Related Scientists	321	14	335
Medical Practitioners and Dentists	979	84	1,063
Nurses	271	4,574	4,845
Professional Medical Workers, n.e.c., and Medical Technicians	637	227	864
Teachers	3,527	3,892	7,419
Clergy and Related Members of Religious Orders	847	301	1,148
Law Professionals	277	10	287
Artists, Entertainers, Writers and Related Workers	910	381	1,291
Draftsmen and Technicians, n.e.c.	2,127	401	2,528
Other Professional, Technical and Related Workers	1,479	270	1,749
Total	13,191	10,182	23,373
Administrative, Executive and Managerial Workers—			
Administrators and Executive Officials, Government, n.e.c.	1,008	14	1,022
Employers, Workers on Own Account, Directors and Managers, n.e.c.	14,332	2,622	17,454
Total	15,840	2,636	18,476
Clerical Workers—			
Book-keepers and Cashiers	1,808	1,214	3,022
Stenographers and Typists .....	.....	8,376	8,376
Other Clerical Workers	15,033	8,518	23,551
Total	16,841	18,108	34,949
Sales Workers—			
Insurance, Real Estate Salesmen, Auctioneers and Valuers	726	40	766
Commercial Travellers and Manufacturers' Agents	2,277	34	2,311
Proprietors and Shopkeepers Working on Own Account, n.e.c., Retail and Wholesale Trade, Salesmen, Shop Assistants and Related Workers	9,319	9,748	19,067
Total	12,322	9,822	22,144
Farmers, Fishermen, Hunters, Timber Getters and Related Workers—			
Farmers and Farm Managers	22,171	2,352	24,523
Farm Workers, n.e.c.	13,816	529	14,345
Wool Classers	186	.....	186
Hunters and Trappers	141	.....	141
Fishermen and Related Workers	1,411	8	1,419
Timber Getters and Other Forestry Workers	1,229	.....	1,229
Total	38,954	2,889	41,843

OCCUPATIONS OF THE POPULATION (a)
CENSUS, 30th JUNE, 1961—continued

Major and Minor Group	Males	Females	Persons
Miners, Quarrymen and Related Workers—			
Miners and Quarrymen	4,570	1	4,571
Well Drillers and Related Workers	122	....	122
Mineral Treaters	280	....	280
Total	4,972	1	4,973
Workers in Transport and Communication Occupations—			
Deck Officers, Engineer Officers and Pilots, Ship	591	....	591
Deck and Engine Room Hands, Ship; Barge Crews and Boatmen	1,403	....	1,403
Aircraft Pilots, Navigators and Flight Engineers	139	1	140
Drivers and Firemen, Railway	1,668	....	1,668
Drivers, Road Transport	9,733	37	9,770
Guards and Conductors, Railway	480	....	480
Inspectors, Supervisors, Traffic Controllers and Despatchers, Transport	1,500	....	1,500
Telephone, Telegraph and Related Telecommunication Operators	286	1,083	1,369
Postmasters, Postmen and Messengers	1,504	148	1,652
Workers in Transport and Communication Occupations, n.e.c.	1,033	130	1,163
Total	18,337	1,399	19,736
Craftsmen, Production-Process Workers and Labourers, n.e.c.—			
Spinners, Weavers, Knitters, Dyers and Related Workers	347	249	596
Tailors, Cutters, Furriers and Related Workers	896	1,925	2,821
Leather Cutters, Lasters and Sewers (except Gloves and Garments) and Related Workers	600	218	818
Furnacemen, Rollers, Drawers, Moulders and Related Metal Making and Treating Workers	1,145	....	1,145
Precision Instrument Makers, Watchmakers, Jewellers and Related Workers	662	17	679
Toolmakers, Machinists, Plumbers, Welders, Platers and Related Workers	17,896	58	17,954
Electricians and Related Electric and Electronics Workers	8,076	17	8,093
Metal Makers, Metal Workers and Electrical Production-Process Workers, n.e.c.	2,355	85	2,440
Carpenters, Joiners, Cabinetmakers and Related Workers	10,268	29	10,295
Painters and Decorators	2,305	9	2,314
Bricklayers, Plasterers and Construction Workers, n.e.c.	6,096	....	6,096
Compositors, Pressmen, Engravers, Bookbinders and Related Workers	1,656	281	1,937
Potters, Kilnmen, Glass and Clay Formers and Related Workers	616	57	673
Millers, Bakers, Brewmasters and Related Food and Beverage Workers	5,365	817	6,182
Chemical and Related Process Workers	762	57	819
Tobacco Preparers and Tobacco Product Makers	7	5	12
Craftsmen and Production-Process Workers, n.e.c.	1,122	282	1,404
Packers, Labellers and Related Workers	377	329	706
Stationary Engine, Excavating, Lifting Equipment Operators and Related Workers	4,210	....	4,210
Waterside Workers and Related Freight Handlers	6,928	44	6,972
Labourers, n.e.c.	13,431	....	13,431
Total	83,418	4,479	87,897
Service, Sport and Recreation Workers—			
Fire Brigade Men, Policemen, Protective Service and Related Workers	2,083	26	2,109
Housekeepers, Cooks, Maids and Related Workers	1,369	6,446	7,815
Waiters, Waitresses, Bartenders	943	1,774	2,717
Building Caretakers, Cleaners	1,504	1,160	2,664
Barbers, Hairdressers, Beauticians and Related Workers	619	954	1,573
Launderers, Dry Cleaners and Pressers	315	803	1,118
Athletes, Sportsmen and Related Workers	224	11	235
Photographers and Related Camera Operators	163	59	222
Embalmers and Undertakers	50	....	50
Service, Sport, Recreation Workers, n.e.c.	1,560	1,488	3,048
Total	8,830	12,721	21,551
Members of Armed Services, Enlisted Personnel	2,230	53	2,283
Occupation Inadequately Described or Not Stated	1,583	976	2,559
Total—Persons in the Work Force	216,518	63,266	279,784
Persons not in the Work Force	158,934	297,911	456,845
GRAND TOTAL	375,452	361,177	736,629

n.e.c. denotes "not elsewhere classified."

(a) Figures have been revised in accordance with final census tabulations.

CHAPTER X—*continued*

PART 2—WAGES

THE BASIC WAGE¹

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.

The Conciliation and Arbitration Act 1904–1966 (Commonwealth) defines the basic wage for an adult male worker 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 circumstance, and not by way of "margin for skill."

The Commonwealth Conciliation and Arbitration Commission, which is constituted under the provisions of the Conciliation and Arbitration Act, has the power to declare basic wage rates. The rates applying in the several State capital cities are shown in the table on page 416, together with the weighted average rate for the six capital cities.

The Western Australian Industrial Commission is established under the provisions of the Industrial Arbitration Act, 1912–1966 (State). Prior to the 23rd December, 1966, when amending legislation became operative, the Commission had authority to declare basic wage rates applicable in Western Australia. The amending Act, the Industrial Arbitration Act Amendment Act, 1966, provides that the rates which were current immediately prior to the date of commencement of the Act shall remain unaltered until exceeded by the basic wage for the six capital cities as declared by the Commonwealth Conciliation and Arbitration Commission, and that subsequent alterations shall be made in accordance with variations of that wage. (At the 22nd December, 1966 the State basic wage rate for adult male workers was \$33.50 per week, and the Commonwealth rate for the six capital cities was \$32.80 per week.)

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 1956 the Commonwealth arbitration system was reorganized by the creation of two separate authorities to deal with matters formerly within the sole jurisdiction of the Court. The amendment had the effect of allocating to a Commonwealth Industrial Court the judicial functions, and to a Commonwealth Conciliation and Arbitration Commission the arbitral functions, previously carried out by the Commonwealth Court of Conciliation and Arbitration.

The *Commonwealth Industrial Court*, as constituted at the 31st December, 1965, comprised 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 constituted by not less than two Judges. Although, in general, decisions of the Court are final, an appeal may be made to the High Court of Australia, but only when the High Court grants leave to appeal.

The *Commonwealth Conciliation and Arbitration Commission*, according to the provisions of the Conciliation and Arbitration Act 1904–1965, 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, 1965 there were, in addition to the President and the Senior Commissioner, five Deputy Presidents, ten Commissioners and three Conciliators. Generally, the Commission's jurisdiction is limited to the prevention or settlement, by conciliation or arbitration, of industrial disputes which extend beyond the limits of any one State, but the Commission is authorized to conciliate or arbitrate in respect of any dispute or industrial matter associated with Commonwealth Government undertakings

⁽¹⁾ See *Appendix*.

or projects. The power to make awards or certify agreements concerning standard hours, basic wages and long service leave is reserved to the Commission in Presidential Session, which is constituted by not less than three presidential members nominated by the President. The Principal Registry of the Commission is in Melbourne, Victoria, and there is a Deputy Industrial Registrar in each State.

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, powers and jurisdiction conferred on the Court may be exercised by any member, on the nomination of the President, sitting or acting alone. An appeal lies to the Court from any decision of The Western Australian Industrial Commission or the Commission in Court Session, but only on the ground that such decision is erroneous in law or is in excess of jurisdiction.

The *Western Australian Industrial Commission* 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.

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. (\$4.20) 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 insert provisions in awards for the automatic adjustment of wages according to quarterly movements in the "A" Series index, and a loading of 3s. (30c) was added to the "Harvester" equivalent by Mr. Justice Powers to ensure that during a period of rapidly rising prices the worker would suffer no loss of real wages in the interval between the adjustment 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 existing 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, 1933, the Court concluded that the method of adjusting wages to conform to variations in the "A" Series index numbers 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, 1934, the Court introduced an entirely new basis for the fixation of the basic wage. The "Harvester" standard supplemented by the Powers loading of 3s. (30c) was discarded and a fresh starting point selected. The new wage was largely founded upon a declaration of £4 4s. (\$8.40) per week made by the New South Wales Board of Trade in August, 1925. As this amount took into consideration the upward tendency of prices, the Court regarded the rate as applicable to the year 1926. The "C" Series index number for Sydney for that year was 1033, and for the December quarter of 1933 stood at 829. Thus the 1933 equivalent in purchasing power of an amount of £4 4s. (\$8.40) in 1926 was £3 7s. (\$5.70), to the nearest shilling ($84s. \times 829 \div 1,033$), which became the rate applicable in Sydney from the 1st May, 1934. The equating of this wage to the index number 829 established the relationship '1,000 in the "C" Series Index = £4 1s. (\$8.10) in the wage' ($67s. \times 1,000 \div 829$, to the nearest shilling) and by applying the multiplier 0.081 to the "C" Series index number for any town or group of towns at any time, the wage in shillings could be readily computed. Owing to adverse industrial conditions in South Australia and Tasmania, 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 1939. Thereafter they took effect from the beginning of the first pay-period commencing in the months of February, May, August or November, until their abolition by the Court in its judgment of the 12th September, 1953.

The hearing of a claim by the combined unions for an increase in the basic wage was concluded 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 "Court" 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 0.081. The Court's judgment further provided for the addition of "prosperity loadings" to 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. (60c), for Adelaide, Perth and Hobart, 4s. (40c) and for the six capital cities as a whole, 5s. (50c).

In general, the method of the 1937 judgment was retained by the Court until its "interim" decision of the 13th December, 1946 when, in granting an increase of 7s. (70c) per week in the "needs" portion of the wage, it inaugurated a Court Index (Second Series). In fixing the base of this new series, the "C" Series index number (1146) for the six capital cities as a whole in the September quarter, 1946 was equated to the "needs" portion (£5 *i.e.*, \$10) of the new Six Capitals wage. This established the base, 1000 in the "C" Series index = £4 7s. (\$8.70) in the wage. The immediate monetary effect was to increase by 7s. (70c) per week the "needs" wage in each of the capital cities with the exception of Hobart, where the increase was 6s. (60c). The prosperity 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, declared a general increase of £1 (\$2) per week. Judgment was delivered on the 12th October, 1950, the new rates to be operative from the first pay-period in December. The Court also introduced a Court Index (Third Series), derived

by equating 1572 (the "C" Series index number for the six capital cities as a whole in the September quarter, 1950) to £8 2s. (\$16.20), the increased weighted average wage for the six capitals (made up of the "needs" portion £6 17s. (\$13.70), plus a uniform prosperity loading of 5s. (50c), plus the additional £1 (\$2) awarded by the Court). In this way, 1000 in the "C" Series index became equal to £5 3s. (\$10.30) in the wage. In determining the new rate of payment, a uniform amount of £1 5s. (\$2.50) 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. (\$1.90), in Adelaide, Perth and Hobart by £1 1s. (\$2.10), and for the six capital cities as a whole by £1 (\$2). 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 Court 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 decisions, 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 (assessed 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, 1953, continued to operate.

In November, 1955, 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 (\$2), 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. (\$1) 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 13th November, 1956. The unions' claims were substantially the same as in the previous case except that the clause relating to an increase of £1 (\$2) 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. (\$1) 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. (\$1) per week, and that the resultant wage be subsequently varied by quarterly adjustment. The claims were opposed by the State 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. (50c) 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 1959 inquiry, which opened on the 24th February, the unions' claims were the same as those submitted in the previous year. 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. (\$1.50) 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. (\$2.50) 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. (\$2.20) per week, representing an addition of 5s. (50c) to restore the real value of the wage to its 1953 level, and a further amount of 17s. (\$1.70) 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. (\$4.90) 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. (\$2.20) representing the increase in productivity since 1953 and the other of £1 7s. (\$2.70) which was amended in the course of the hearing to £1 10s. (\$3), 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. (\$1.20) 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 a date after the 18th February, 1964.

(†) See letterpress *The Consumer Price Index* in Chapter X, Part 3—*Retail Prices*.

On the 25th February, 1964, the Commission began hearing an application by the unions for a variation in the Metal Trades Award and the Pastoral Industry Award, and an application by the employers for a variation in the Metal Trades Award.

The unions sought an increase of 52s. (\$5.20) per week in the basic wage portion of the Metal Trades Award and the Pastoral Industry Award and the reintroduction of automatic quarterly adjustments based on the Consumer Price Index. The employers sought an alteration to the present wage structure, involving the abolition of the "basic wage" and "margins" components of the award and the substitution of a total wage, with increases ranging from 5s. (50c) to 8s. (80c) per week.

It was decided to hear the claims by the unions first but to reserve the decisions until the employers' Total Wage Case was heard immediately afterwards.

On the 9th June, 1964 the Commission gave judgment granting an increase of £1 (\$2) 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 Commission was unanimous in the opinion "that the application of the employers for the deletion from the Commission's Awards generally of the basic wage provision and for the insertion in those Awards of a wage expressed as a total wage should be rejected."

Hearing of the 1965 basic wage case commenced on the 2nd March, 1965 and claims by the employers and the trade unions were heard concurrently.

The employers' claim (Part A) was for the abolition of the concepts of the basic wage and margins, and the introduction into the Metal Trades Award of an obligation to pay a total wage made up of the sum of the amounts expressed in terms of the basic wage and a margin, plus an amount equivalent to one per cent. of such sum. The employers also asked (Part B) that, in respect of the ensuing twelve months, the level of the basic wage and the level of margins, in so far as the latter is determined upon general economic grounds, should be decided simultaneously. It was open to the Commission under Part B of these claims to decide whether there should be an increase in the basic wage element alone; the marginal element alone; or both the basic wage and marginal elements, to whatever extent in respect of each element the Commission deemed proper.

The trade unions sought new basic wage rates incorporating increases proportionate to the rises in the Consumer Price Index. For the Six Capital Cities basic wage the increase claimed was 12s. (\$1.20) per week for adult males.

The Commission announced its decision on the 29th June, 1965. Part A of the employers' application was refused. With regard to Part B, the Commission decided that there would be no alteration in the basic wage but, with effect from the first pay-period commencing on or after the 1st July, 1965, each margin in Clause 4 of the Metal Trades Award should be increased by an amount equal to $1\frac{1}{2}$ per cent. of the sum of the Six Capital Cities basic wage and that margin. The application of the unions for an increase in the basic wage was refused.

On the 1st March, 1966 the Commonwealth Conciliation and Arbitration Commission began hearing applications by employer and employee organizations. The unions claimed an increase of \$4.30 in the basic wage, restoration of the system of automatic quarterly adjustments based upon movements in the Consumer Price Index, and an increase of \$5.90 in the marginal rate for tradesmen under the Metal Trades Award, with proportionate increases to all other classifications of employees. The employers sought the aggregation of existing basic wage rates and marginal rates into total wage rates to which should be added $1\frac{1}{2}$ per cent. of such total rates or, alternatively, that the existing basic wage rates be increased by 30 cents, marginal rates by one per cent. and the resultant figure by $\frac{1}{2}$ per cent.

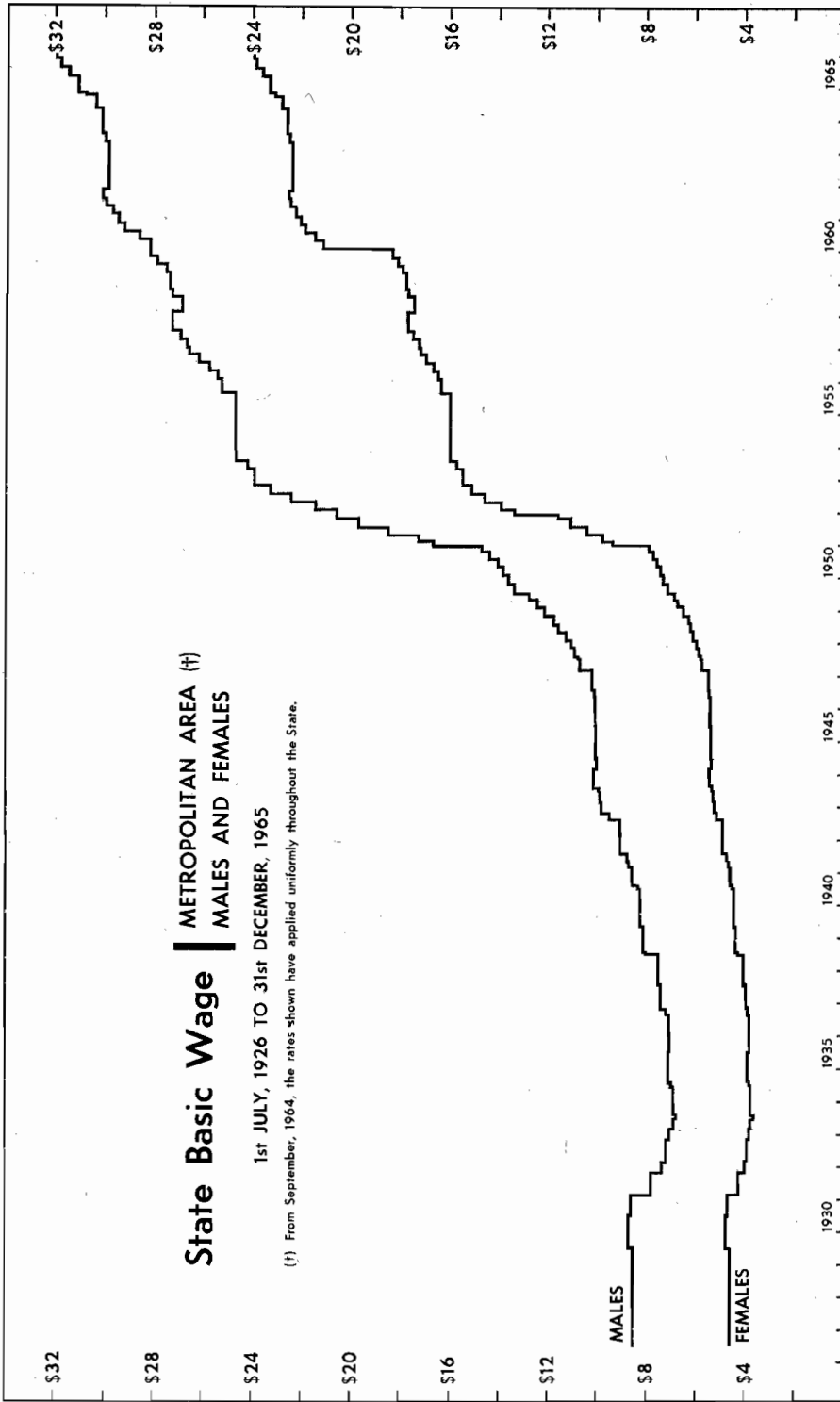
Judgment was given by the Commission on the 8th July, 1966. An increase of \$2 per week in the basic wage payable to adult males was granted, to operate as from the beginning of the first pay-period commencing on or after the 11th July, 1966 and to remain in force until the 31st December, 1966. The claim by the unions for restoration of automatic quarterly adjustments to the basic wage was refused. No variation was made in marginal rates but the Commission instructed one of its members to investigate and report on this matter. As an interim provision, however, to grant some immediate relief to low-wage earners, minimum weekly wage rates were prescribed for adult male employees in the metal trades. With regard to the employers' proposal for conversion of the wage structure to the basis of a total wage it was decided to defer the question of implementation pending further consideration.

The table on page 416 shows variations, during the period from 1942 to 1966, in the Commonwealth basic wage rates payable to adult male workers who are employed under Federal awards in each capital city. The rates based on the weighted average for the six capital cities are also shown.

COMMONWEALTH BASIC WAGE—VARIATIONS IN RATES (†) FROM 1942

Date of Operation (a)	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Weighted Average Six Capital Cities
	\$	\$	\$	\$	\$	\$	\$
1942—							
February	9.10	8.90	8.60	8.60	8.60	8.70	8.80
May	9.30	9.20	8.80	8.80	8.70	8.80	9.00
August	9.50	9.40	8.90	8.90	8.90	9.10	9.30
November	9.70	9.70	9.10	9.30	9.10	9.20	9.50
1943—							
February	9.80	9.80	"	"	9.20	9.40	9.60
May	"	"	9.20	"	"	"	"
August	10.00	9.90	9.40	9.40	9.40	9.50	9.80
November	9.90	9.80	9.30	"	"	"	9.70
1944—							
February	"	9.70	"	9.30	9.30	9.40	9.60
May	"	"	"	"	"	"	"
August	"	9.80	"	"	"	9.30	"
November	"	"	"	"	9.40	9.40	"
1945—							
February	"	"	"	"	9.30	"	"
May	9.80	"	"	"	"	9.30	"
August	"	"	"	"	9.40	"	"
November	9.90	"	"	"	"	9.40	"
1946—							
February	"	"	"	9.40	"	9.50	"
May	"	"	9.40	"	"	"	9.70
August	10.00	9.90	"	9.50	9.50	9.60	9.80
November	10.10	"	"	"	"	9.70	"
December	10.80	10.60	10.10	10.20	10.20	10.30	10.50
1947—							
February	"	10.70	10.30	"	10.30	10.40	10.60
May	11.00	"	10.40	10.30	"	"	"
August	"	10.80	"	10.40	10.40	10.50	10.70
November	11.20	10.90	10.50	10.60	10.60	10.70	10.90
1948—							
February	11.40	11.30	10.70	10.80	10.70	11.00	11.10
May	11.60	11.50	11.00	11.10	11.00	11.20	11.40
August	12.00	11.70	11.30	11.40	11.20	11.50	11.60
November	12.20	12.00	11.50	11.60	11.60	11.80	11.90
1949—							
February	12.40	12.30	11.80	11.90	11.80	12.10	12.20
May	12.70	12.50	11.90	12.10	12.00	12.40	12.40
August	13.00	12.80	12.20	12.40	12.60	12.70	12.70
November	13.20	13.00	12.50	12.60	12.90	12.80	12.90
1950—							
February	13.50	13.40	12.70	12.90	13.10	13.10	13.30
May	13.80	13.70	12.90	13.10	13.30	"	13.50
August	14.20	14.00	13.20	13.40	13.60	13.50	13.80
November	14.60	14.30	13.50	13.70	13.90	13.90	14.20
December	16.50	16.20	15.40	15.80	16.00	16.00	16.20
1951—							
February	17.30	17.00	15.90	16.60	16.60	16.50	16.90
May	18.00	17.70	16.60	17.10	17.60	17.30	17.60
August	19.30	18.90	17.50	18.40	18.80	18.70	18.90
November	20.70	19.90	18.50	19.50	19.70	19.90	20.00
1952—							
February	21.60	20.90	19.90	20.50	20.50	20.80	21.00
May	22.30	21.20	20.70	21.10	21.40	21.40	21.60
August	23.50	22.40	21.30	22.40	22.20	22.20	22.70
November	23.70	22.80	21.60	22.90	22.80	23.00	23.10
1953—							
February	23.80	22.90	21.50	22.50	22.90	23.20	"
May	24.10	23.20	21.70	22.80	23.10	23.90	23.40
August	24.30	23.50	21.80	23.10	23.60	24.20	23.60
1956—							
June	25.30	24.50	22.80	24.10	24.60	25.20	24.60
1957—							
15th May	26.30	25.50	23.80	25.10	25.60	26.20	25.60
1958—							
21st May	26.80	26.00	24.30	25.60	26.10	26.70	26.10
1959—							
11th June	28.30	27.50	25.80	27.10	27.60	28.20	27.60
1961—							
7th July	29.50	28.70	27.00	28.30	28.80	29.40	28.80
1964—							
19th June	31.50	30.70	29.00	30.30	30.80	31.40	30.80
1966—							
11th July	33.50	32.70	31.00	32.30	32.80	33.40	32.80

(†) The rates shown apply to adult male workers employed under Federal awards. From December, 1950 the basic wage for adult females has been fixed at 75 per cent. of the male rate; previously it had ranged from 54 per cent. up to 75 per cent. of the male rate. (a) Prior to 1957 rates operative from beginning of first pay-period commencing in the month shown; from 1957, operative from beginning of first pay-period commencing on or after the date shown.



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 annually, 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 (if any) in the cost of living." A further amendment in 1950 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.

The first decision of the Court took effect on the 1st July, 1926, and prescribed a rate of £4 5s. (\$8.50) for males and £2 5s. 11d. (\$4.59), or 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, 1929, when the amounts were increased to £4 7s. (\$8.70) and £2 7s. (\$4.70) 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. (\$8.60) for males and £2 6s. 5d. (\$4.64) for females. In this connexion, the metropolitan area was 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. (\$8.50) and £2 5s. 11d. (\$4.59) 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 rates fixed by the annual declaration and, on the 3rd March, 1931, rates of £3 18s. (\$7.80) for males and £2 2s. 2d. (\$4.22) for females were prescribed for the metropolitan area, and of £3 17s. (\$7.70) and £2 1s. 8d. (\$4.17) for all other parts of the State. Such quarterly adjustments were to be made only when a rise of one shilling (10 cents) or more per week was 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 were 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 in 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. (10c).

Subsequent annual declarations until 1942 maintained in purchasing power the standard of the 1938 judgment.

At a sitting of the Court held on the 26th 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, adopted as its new base the rates which had operated since the 28th July, 1941, and these remained in force until the 8th 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 Organization) Regulations. The rates established under this Order were substantially the current equivalents of the standards adopted by the Court in its annual declarations from 1938 to 1941.

On the 30th October, 1942, these standards were readopted 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 Organization) Regulations, the basic wage was increased by a loading of 5s. (50c). 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, enabled 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 required 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 (\$2) for males and 15s. (\$1.50) for females and consolidating 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 abandoned. It also decided in January, 1951, that any quarterly adjustments should be based on variations in the "C" Series Retail Price 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 and determined that no change should be made in the basic wage, although there had been an appreciable increase in the "C" Series Retail Price 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, 1960 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 required that such determinations should be made by the Commission in Court Session. The Commission so constituted made its first adjustment to the basic wage on the 27th April, 1964, when it prescribed increased rates to apply on and from that date. As a result of this decision, the weekly rates payable to adult males became £15 4s. 2d. (\$30.42) in the Metropolitan Area, £15 2s. 7d. (\$30.26) in the South-West Land Division, and £14 16s. 8d. (\$29.67) in Goldfields Areas and other parts of the State.

On the 15th 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 68 of the Industrial Arbitration Act, 1912-1963. Judgment was given on the 22nd September. The Commission was unanimous in its conclusion that one basic wage should apply to the whole State, but was divided as to the amount of the wage. The majority view was that a weekly wage of £15 8s. (\$30.80) should be declared as appropriate to adult male workers, and an order was issued accordingly prescribing this amount for males and an amount of £11 11s. (\$23.10) for females, the rates to operate on and from the 22nd September, 1964 and to apply uniformly throughout the State. Subsequent variations continued to be made on this basis.

The Industrial Arbitration Act Amendment Act, 1966, which came into operation on the 23rd December, 1966, provides that the rates which were current immediately prior to the date of commencement of the Act shall remain unaltered until exceeded by the basic wage for the six capital cities as declared by the Commonwealth Conciliation and Arbitration Commission, and that subsequent alterations shall be made in accordance with variations of that wage.

The table on page 420 shows variations, during the period from 1950 to 1966, in the State basic wage rates payable to adult male and female workers employed under State industrial awards or registered agreements, or who come within the provisions of the Factories and Shops Act.

STATE BASIC WAGE—VARIATIONS IN RATES FROM 1950 (a)

Date of Operation	Metropolitan Area (b)		South-West Land Division (b)		Goldfields Areas and other parts of State	
	Males	Females	Males	Females	Males	Females
	\$	\$	\$	\$	\$	\$
1950—						
31st January	13.81	7.46	13.73	7.42	14.47	7.81
1st May	14.00	7.56	13.98	7.55	14.72	7.95
31st July	14.35	7.75	14.32	7.73	15.15	8.18
23rd October	14.65	7.91	14.66	7.92	15.47	8.35
18th December (c)	16.65	9.41	16.66	9.42	17.47	9.85
1951—						
29th January	17.29	9.78	17.29	9.78	18.04	10.18
30th April	18.42	10.41	18.41	10.41	18.84	10.62
23rd July	19.67	11.11	19.58	11.07	20.15	11.37
22nd October	20.57	11.62	20.46	11.57	21.09	11.89
1st December (d)	....	13.37	....	13.30	....	13.71
1952—						
29th January	21.41	13.92	21.37	13.89	21.97	14.28
28th April	22.38	14.55	22.24	14.46	22.88	14.88
28th July	23.22	15.10	23.24	15.11	23.80	15.47
27th October	23.85	15.50	23.92	15.55	24.42	15.88
1953—						
27th January	"	"	24.05	15.63	24.58	15.98
27th April	24.18	15.72	24.30	15.79	24.78	16.10
27th July	24.65	16.02	24.60	15.99	24.93	16.21
1955—						
9th August	25.24	16.41	25.17	16.36	25.41	16.52
1956—						
31st January	25.37	16.49	25.39	16.50	25.59	16.63
23rd April	25.71	16.71	"	"	"	"
23rd July	26.15	17.00	25.88	16.82	25.88	16.82
29th October	26.52	17.23	26.29	17.09	26.27	17.08
1957—						
25th January	26.62	17.31	26.64	17.32	26.66	17.32
26th April	26.88	17.48	"	"	"	"
19th July	27.28	17.72	26.99	17.54	26.78	17.41
28th October	"	"	27.14	17.64	26.66	17.32
1958—						
7th February	26.85	17.45	27.01	17.56	"	"
28th April	"	"	27.12	17.62	26.80	17.42
4th August	27.22	17.70	27.33	17.77	26.98	17.53
27th October	27.34	17.78	"	"	27.15	17.65
1959—						
27th April	27.51	17.88	27.45	17.84	"	"
27th July	27.86	18.11	27.74	18.03	27.35	17.78
26th October	28.15	18.30	28.12	18.28	27.74	18.02
1960—						
30th January (e)	....	21.12	....	21.09	....	20.80
2nd May	28.63	21.48	28.31	21.23	27.88	20.92
25th July	29.22	21.92	28.92	21.69	28.59	21.45
24th October	29.46	22.09	29.20	21.90	28.71	21.54
1961—						
31st January	29.66	22.24	29.50	22.12	28.94	21.71
1st May	29.92	22.44	29.77	22.32	29.20	21.90
31st July	30.05	22.54	29.89	22.42	29.32	21.99
30th October	29.88	22.41	29.72	22.29	29.15	21.87
1963—						
22nd April	30.02	22.52	29.87	22.40	29.29	21.97
29th July	30.15	22.61	29.99	22.49	29.41	22.06
1964—						
27th April	30.42	22.82	30.26	22.69	29.67	22.25
	WHOLE STATE (f)					
1964—						
22nd September			30.80	23.10		
26th October			31.12	23.34		
1965—						
26th April			31.47	23.60		
26th July			31.78	23.84		
16th November			31.96	23.97		
1966—						
25th January			32.38	24.28		
2nd May			32.65	24.49		
2nd August			33.26	24.95		
24th October			33.50	25.13		

(a) A table showing variations from inception in 1926 to the end of 1958 appears on pages 362-3 of the *Official Year Book of Western Australia, 1960, No. 2—New Series*. (b) See letterpress on page 418. (c) Special determination incorporating increase of £1 (\$2) for males and 15s. (\$1.50) for females. (d) Female rate increased to 65 per cent. of male rate. (e) Female rate increased to 75 per cent. of male rate from beginning of next succeeding pay-period. (f) See letterpress on page 419.

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 uncongenial climates 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 gold-mining 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, 1965, to adult workers in a selection of industries and occupations. The data have been extracted from a much more comprehensive list appearing in Part VI of the *Statistical Register of Western Australia*. 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, 1965

Rates relate generally to the metropolitan area and are shown to the nearest cent

Industry and Occupation	Wages	Industry and Occupation	Wages
AGRICULTURAL, PASTORAL AND DAIRY-ING—	\$	CLERICAL—	\$
Farming—	Per week	Wholesale and Retail Trading—	Per week
Farm worker	32.56	Senior clerk	43.16
Pastoral Workers—		Clerk (male)	35.71
Machine shearer	Per 100	to	41.06
Flock sheep	17.25	Clerk (female)	28.37
Rams	34.50	to	29.37
Wool presser	Per week	HAIRDRESSING—	
Wool shed hand	59.82	Hairdresser (male)	40.96
BUILDING—		Hairdresser (female)	31.17
Carpenter, Joiner	49.05	HOSPITALS (GOVERNMENT)—	
Bricklayer, Rubble waller	48.75	Matron—	
Stonemason	48.30	Less than 5 beds	47.67
Painter, Signwriter	48.48	5 and less than 10 beds	50.67
Plasterer	48.78	10 and less than 20 beds	53.77
Plumber	48.90	20 and less than 50 beds	56.77
CARTING AND CARRYING—		50 and less than 100 beds	61.87
Motor wagon driver		to	42.57
Vehicle 25 cwt. or less	39.76	Sister in charge	52.27
Vehicle over 25 cwt. and up to		to	39.60
3 tons	41.26	to	41.07
Vehicle over 3 and up to 6 tons	42.76	Sister	37.22
CLEANING, CARETAKING, ETC. (BUILD-INGS)—		to	37.97
Caretaker (male)	41.16	to	26.97
Cleaner (male)	35.93	Wardmaid, Kitchenmaid	35.76
to	26.37	to	36.46
Cleaner (female)	26.77	Orderly	
Lift attendant (male)	34.71		
Window cleaner (male)	36.91		

MINIMUM RATES OF WAGES AT 31st DECEMBER, 1965—*continued*

Industry and Occupation	Wages	Industry and Occupation	Wages
HOTELS, HOSTELS—	\$ Per week	MANUFACTURING—<i>continued</i>	\$ Per week
Barman, Barmaid	39.56	Industrial Metals, Machines, Implements, and Conveyances—<i>continued</i>	
Cook (male)	37.46 to 41.26 29.47	COACHBUILDING—<i>continued</i>	
Cook (female)	33.27	Wheelwright, Wheelmaker, Painter, Spray painter, Trimmer, Grainer, Seatmaker, Sign- writer	42.11
Waiter	35.31	ENGINEERING:	
Waitress	27.22	Blacksmith, Fitter, Turner	43.16
MANUFACTURING—		Patternmaker	46.46
Treatment of Non-metalliferous Mine and Quarry Products—		Toolmaker	45.36
ASBESTOS-CEMENT GOODS:		Motor mechanic	43.16
Sheet machine driver, Magnani machine operator	38.21 36.06 36.71	Electrical fitter, Armature winder	43.16
Moulder		Electrical installer	42.11
CEMENT GOODS:		SHEET METAL WORKING:	
Block making		Bench hand, first class	43.16
Mixer, Block machine operator	37.57	Canister maker	36.71
Pipe making		WIRE MAKING:	
Moulder	37.51	Galvaniser	33.96
Wiredrawer	37.16	Barbed wire maker	33.01
Tile making		Annealer	32.96
Hand presser, Ridge maker	37.16	Precious Metals, Jewellery, Plate—	
CEMENT WORKS:		JEWELLERS, WATCHMAKERS:	
Miller	37.46	Jeweller, Engraver, Setter	43.16
Burner	40.66	Watchmaker, Clockmaker	43.56
FIBROUS PLASTER AND		Textiles and Textile Goods (including Knitted Goods)—	
PLASTER GOODS:		BAG AND SACK MAKING:	
Bench hand	43.61	Floor hand (female)	25.23
Fixer	44.51	Machinist, Hand cutter (female)	26.83
LIMEWORKS:		Machinist (male)	35.76
Dayfrier, Lime bagger, Crusher	33.46	KNITTING:	
Bricks, Pottery, Glass, etc.—		Mechanic	37.96
BRICKWORKS:		Machine attendant, Presser (male)	34.76
Burner	37.81 to 38.86 39.56	Female worker	24.77
Moulder and presser		TEXTILES MAKING:	
GLASS WORKERS:		Combing	
Glass beveller and silverer	43.16	Assistant foreman	40.70
Leadlight glazer	43.16	Other male worker	36.00 to 37.25 23.90
PIPE AND TILE WORKS:		Female worker	26.15
Burner	38.16	Drawing, Spinning, Twisting and Winding	
Moulder, Presser, Trap maker	37.31	Assistant foreman	40.70
Chemicals, Dyes, Explosives, Paints, Oils, Grease—		Other male worker	34.15 to 37.25 23.90
OIL REFINING:		Female worker	25.90
Plant attendant, leading hand	48.46	Warping	
Plant attendant, first class	45.96	Assistant foreman	40.70
Plant attendant, second class	43.26	Other male worker	34.75 to 37.50 23.90
Storeman	38.16	Female worker	26.90
SOAP FACTORIES:		Weaving	
Soap crutcher	36.06	Assistant foreman	42.20
General hand	35.76	Other male worker	34.15 to 41.45 23.90
Industrial Metals, Machines, Implements and Conveyances—		Female worker	28.15
AGRICULTURAL IMPLEMENT MAKING:		Skins and Leather (not Clothing or Foot- wear)—	
Assembler	35.96 37.36 38.91 39.56	SADDLERY AND LEATHER WORKING:	
Fitter		Journeyman	38.06 to 40.91
AIRCRAFT WORKERS:		Journeywoman	26.81
Repair, Maintenance and Servicing Section—		TANNING:	
Ground engineer, Aircraft mech- anic	45.05 to 47.50 42.00	Currier	40.95
Holding prescribed certifi- cates		Table hand	36.85 to 37.85
Holding no certificate		WOOLSCOURING:	
COACHBUILDING:		Woolscourer in charge of machine	40.16
Coachsmith, General smith, Far- rier, Wheelwright smith, Spring maker, Bodymaker, Panel beater	43.16 35.96 43.16	Other worker	38.51
Welder			

MINIMUM RATES OF WAGES AT 31st DECEMBER, 1965—continued

Industry and Occupation	Wages	Industry and Occupation	Wages
MANUFACTURING—continued		MANUFACTURING—continued	
Clothing (excluding Knitted)—	\$	Food, Drink and Tobacco—continued	\$
BOOT AND SHOE MAKING :	Per week	MILK PROCESSING :	Per week
Pattern cutter	46.00	Tester, Grader	39.11
Pattern grader	39.70	Pasteurizer	36.46
Repairer	39.56	Man in charge of bottling machine	35.96
CLOTHING, MEN'S (READY-MADE) :		PASTRY COOKING :	
Cutter	42.55	Pastrycook (male)	41.76
Tailor	41.80	to	43.36
Trimmer, Fitter-up (female)	40.15	Pastrycook (female)	29.87
Journeywoman	24.30	SUGAR REFINING :	
to	40.15	Raw Sugar	
DRESSMAKING (ORDER) :		Mechanical equipment operator	41.56
Cutter (male)	44.50	Melting house	
Cutter (female)	36.70	Fugal washer	36.66
Head of a table (male)	42.70	Refined Sugar	
Machinist (male)	40.15	Drier, Grader	36.66
Journeywoman	24.30	Sawmilling, Woodworking and Basketware	
to	29.20	BOX AND CASE MAKING :	
DRESSMAKING (READY-MADE) :		Sawyer	36.36
Cutter (male)	42.55	to	39.86
Cutter (female)	29.20	Machinist	35.76
Tailor	41.80	Case maker	35.76
Machinist (male)	40.15	SAWMILLING :	
Journeywoman	24.30	Faller	40.61
to	29.20	Saw doctor	45.36
TAILORING, MEN'S (ORDER) :		Sawyer, Benchman	35.46
Cutter	46.00	to	43.16
Trimmer, Fitter-up, Presser	40.15	Tractor driver	42.11
Journeywoman	24.30	TIMBER YARDS :	
to	40.15	Buzzer	35.46
Food, Drink and Tobacco—		to	42.06
AERATED WATER AND		to	36.56
CORDIAL MAKING :		Moulding machinist	42.06
Cordial maker	39.56	to	35.46
Bottler	37.46	Sawyer, Benchman	43.16
BAKING :		to	35.46
Foreman in charge	47.21	Tenoner	42.06
to	48.16	Furniture, Bedding, etc.—	
Single hand baker, Doughmaker	46.26	Cabinetmaker, Chairmaker	43.81
Bread carter	36.61	Wood carver, Upholsterer, French	
Bread carter in charge of motor		polisher	43.16
vehicle	38.56	Paper, Stationery, Printing, Bookbinding,	
BREWING :		etc.	
Leading hand	42.44	PRINTING (JOBGING) :	
Bottle washer, Cask washer,		Machine compositor	45.30
Packer, Sorter, Corker, Wrler,		Proof reader and reviser	43.05
Labourer	39.63	PRINTING (NEWSPAPERS) :	
BUTTER MAKING :		Machine Compositor	
Butter maker	40.81	Night	60.98
Cream grader	41.06	Day	56.23
Factory hand	35.26	General hand	
CHEESE MAKING :		Night	47.73
Cheese maker	40.81	Day	42.98
Factory hand	35.26	Miscellaneous Products—	
FLOUR MILLING :		DENTAL :	
Foreman miller	50.60	Dental technician (male)	43.16
to	44.30	Dental technician (female)	27.97
to	50.60	OPTICAL :	
Shift miller, Roller man	40.00	Optical mechanic	41.36
Wheat sampler	40.00	to	43.36
HAM AND BACON CURING :		Leading hand	47.81
Leading man	43.66	RADIO AND TELEVISION :	
to	39.36	General serviceman	43.16
Trimmer	41.36	to	46.66
ICE MAKING AND COLD STORAGE :		Antenna and television installer	39.16
Engine driver	41.11	Heat, Light and Power—	
Fireman	36.36	ELECTRIC LIGHT WORKS :	
ICE-CREAM MAKING :		Turbine driver	47.96
Freezing machine operator	36.01	Auxiliary plant attendant	42.96
to	37.51	GAS WORKS :	
Cone and wafer machine hand	37.01	Retort operator in charge	43.46
JAM MAKING, FRUIT AND VEGETABLE CANNING :		Service layer, Main layer	38.96
Leading hand	39.16		
Syrup maker, Jam boiler, Retort attendant	36.96		

MINIMUM RATES OF WAGES AT 31st DECEMBER, 1965—*continued*

Industry and Occupation	Wages	Industry and Occupation	Wages
MINING—	\$		\$
Coal—	Per shift (a)	RETAIL TRADE—	Per week
Miner	7.84	Shop assistant (male)	38.36
Loaderman (mechanical units)	8.93	Shop assistant (female)	27.97
Faceman, Shiftman (mechanical units)	8.46	Storeman	37.56
Gold—	Per shift (b)		
Rock-drill man	8.10	STEVEDORING—	Per hour
	to	Lumper handling general cargo	1.30
	8.72		
Hand miner	7.65	TRANSPORT (PASSENGER) (d)—	Per week
	to	Omnibus driver	43.96
	8.26	Linesman	40.61
Shaft-timber man	8.72	Conductor	35.66
	Per week		to
QUARRYING—		Body builder	38.96
Spaller, Man barring down, Machine man	36.51	Painter	44.66
Crusher feeder	37.46	Greaser	44.66
Powder monkey	38.71	Fare collector (female)	37.76
RAILWAYS (GOVERNMENT)—	Per shift (c)		30.97
Engine driver	8.67	WOOL STORES—	
	to	Head classer, Man in charge of store	43.56
	10.77	Assistant classer	41.16
Fireman	7.17	Wool sorter	39.96
	to		
	7.93		
Trainee engineman	6.89		
	8.19		
Guard	to		
	8.85		
Porter	6.89		
	to		
	7.43		

(a) Eleven shifts each fortnight; ten of 7 hours and one of 5 hours. (b) Five shifts per week; 7½ hours per shift underground, 8 hours surface. (c) Five 8-hour shifts per week. (d) Metropolitan (Perth) Passenger Transport Trust.

Components of Total Wage Rates

The Commonwealth Statistician publishes regularly, for each State and for Australia as a whole, statistics of variations in the components of minimum wage rates as shown in the following tables relating to Western Australia and Australia. For the purposes of these tables the Commonwealth jurisdiction embraces awards of, or agreements registered with, the Commonwealth Conciliation and Arbitration Commission and determinations of the Commonwealth Public Service Arbitrator. State jurisdictions embrace awards or determinations of, or agreements registered with, State industrial authorities, together with certain unregistered agreements, where these are dominant in the particular industries to which they refer.

A more detailed description of this dissection of weekly wage rates into components, and tables for each State and Australia according to jurisdiction, extending back to 1939, are published in the mimeographed statement *Minimum Wage Rates, March, 1939 to June, 1965*, issued by the Commonwealth Statistician, Canberra.

The *basic wage* rates shown are weighted averages of the rates prescribed in awards, etc., for a selected range of representative occupations. For industries other than mining, metropolitan basic wage rates have generally been used. There are, however, a number of occupations for which basic wage rates other than the metropolitan rate are prescribed. Also, in some States at various times, State Government employees under Commonwealth awards have been paid State basic wage rates, and the basic wage rates of some employees have been subject to automatic quarterly adjustments while those of other employees within the same jurisdiction have remained unchanged. In all such cases the basic wage rate actually paid has been used in preparing the tables. For these and other reasons the weighted average basic wage rates shown in the tables differ from the basic wage rates appearing on pages 416, and 420.

Margins are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for features attaching to their work, such as skill, experience, arduousness and other like factors.

Loadings are minimum amounts, in addition to the basic wage and margin (if any), awarded for various kinds of disabilities associated with the performance of work, or to meet particular circumstances. They include payments such as industry loadings and other general loadings prescribed in awards, etc., for the selected occupations.

The wage rates shown in the following tables should not be regarded as actual current averages, but as indexes expressed in money terms indicative of trends. They do not measure the relative level of minimum wages as between Western Australia and Australia as a whole.

**WEEKLY WAGE RATES (a)—ADULT MALES, COMPONENTS OF TOTAL WAGE RATE :
WESTERN AUSTRALIA, 1939 TO 1965**
Weighted Averages of Minimum Weekly Rates(b) Payable for a Full Week's Work (Excluding Overtime)
(\$)

Jurisdiction and component of total wage (c)	End of December—					
	1939	1945	1950	1955	1960	1965
Commonwealth awards, etc.—						
Basic wage	7.88	9.78	16.15	23.69	27.65	30.83
Margin	1.63	1.96	4.19	6.14	8.61	11.92
Loading	0.05	0.24	0.26	0.15	0.28	0.34
Total wage	9.56	11.98	20.60	29.98	36.54	43.09
State awards, etc.—						
Basic wage	8.32	10.04	16.68	25.25	29.38	31.96
Margin	1.69	1.77	2.90	4.42	6.02	7.62
Loading	0.10	0.23	0.40	0.35	0.32	0.57
Total wage	10.11	12.04	19.98	30.02	35.72	40.15
All awards, etc.—						
Basic wage	8.27	10.02	16.61	25.07	29.18	31.83
Margin	1.68	1.79	3.06	4.62	6.31	8.12
Loading	0.10	0.22	0.39	0.32	0.32	0.54
Total wage	10.05	12.03	20.06	30.01	35.81	40.49

(a) Excludes rural. The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (b) As prescribed in awards, determinations and agreements. (c) See letter-press preceding table.

**WEEKLY WAGE RATES(a)—ADULT MALES, COMPONENTS OF TOTAL WAGE RATE :
AUSTRALIA, 1939 TO 1965**
Weighted Averages of Minimum Weekly Rates(b) Payable for a Full Week's Work (Excluding Overtime)
(\$)

Jurisdiction and component of total wage (c)	End of December—					
	1939	1945	1950	1955	1960	1965
Commonwealth awards, etc.—						
Basic wage	7.94	9.72	16.22	23.90	27.82	30.92
Margin	1.72	1.93	3.57	5.27	7.01	8.94
Loading	0.04	0.42	0.39	0.23	0.31	0.55
Total wage	9.70	12.07	20.18	29.40	35.14	40.41
State awards, etc.—						
Basic wage	8.19	9.81	16.17	24.47	28.52	31.34
Margin	1.73	2.00	3.52	5.05	6.84	8.77
Loading	0.06	0.24	0.54	0.50	0.52	0.90
Total wage	9.98	12.05	20.23	30.02	35.88	41.01
All awards, etc.—						
Basic wage	8.07	9.77	16.19	24.18	28.16	31.12
Margin	1.72	1.97	3.55	5.16	6.92	8.86
Loading	0.04	0.32	0.46	0.36	0.42	0.72
Total wage	9.83	12.06	20.20	29.70	35.50	40.70

For footnotes, see previous table.

WAGE AND SALARY PAYMENTS

The following table includes details, for each of the years 1960-61 to 1964-65, of the total amount paid in Western Australia in the form of wages, salaries and supplements, and of average weekly earnings per employed male unit. Particulars of Commonwealth and State basic wage rates applying to adult male workers in the metropolitan area are also shown in order to provide a summary of trend in those rates during the period.

The figures shown in the table under the heading "Wages, Salaries and Supplements" comprise payments in the nature of wages and salaries as defined for Pay-roll Tax purposes, including allowances for income in kind (board and quarters, etc.), together with supplements to wages and pay and allowances of members of the forces. In addition to wages and salaries paid by employers subject to Pay-roll Tax, they include wages and salaries paid by employers not subject to Pay-roll Tax, based on estimates of employment and average earnings. Supplements consist of employers' contributions to pension and superannuation funds, direct payments of pensions 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, normal 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 Tax returns, from other direct collections and from estimates of the unrecorded balance. 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 earner field and comprise 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, over-award and bonus payments are included, as well as payments made in advance or retrospectively during the years shown.

WAGES, SALARIES AND SUPPLEMENTS; AVERAGE WEEKLY EARNINGS
AND BASIC WAGE RATES

Period	Wages, Salaries and Supplements	Average Weekly Earnings per Employed Male Unit	Basic Wage Rates per Week Metropolitan Area—Adult Male Workers			
			Commonwealth Basic Wage		State Basic Wage	
			At End of Period	Average for Period	At End of Period	Average for Period
Year ended 30th June—	\$ million	\$	\$	\$	\$	\$
1961	443	41.60	27.60	27.60	29.92	29.48
1962	464	43.00	28.80	(a) 28.78	29.88	29.92
1963	492	44.20	28.80	28.80	30.02	29.90
1964	*541	47.20	30.80	(b) 28.86	30.42	30.18
1965	589	49.50	30.80	30.80	31.47	30.99

(a) Variation (increase of \$1.20) assumed to have operated on and from 7th July, 1961.
of \$2) assumed to have operated on and from 19th June, 1964.

(b) Variation (increase
* Revised.

CHAPTER X — *continued*

PART 3—RETAIL PRICES

Prices of a limited range of commodities are recorded in 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 statistics, 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 in a selection of Western Australian towns became available. As well as providing data for each of five principal towns for the year 1911, the published information contained particulars for the capital city for each year from 1901 to 1910, the scope of the investigation having been specially extended for this purpose. The 46 commodities included in the collection, in addition to house rent, 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 for each class of commodity and each service. These informants furnish 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 vendors at retail selling outlets. The prices are those actually being charged for normal cash purchases of new articles. "Bargain" or "sale" prices of imperfect 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 sales 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 annual average retail prices of 37 items of groceries, dairy produce and meat in the metropolitan area for each of the five years from 1961 to 1965.

AVERAGE RETAIL PRICES OF GROCERIES—METROPOLITAN AREA

(Cents)

Commodity	Unit	1961	1962	1963	1964	1965
Bread (a)	2 lb.	15-00	15-00	15-35	15-56	16-01
Flour, plain, pre-packed	"	(b)	13-02	12-83	12-62	12-69
" self-raising	"	18-70	18-50	17-61	16-96	17-13
Tea	lb.	63-57	61-95	61-30	60-78	60-98
Sugar	"	9-16	9-11	9-17	8-93	8-77
Honey	1 lb. jar	(b)	22-40	23-82	23-92	23-35
Jam, plum	1½ lb tin.	27-92	27-36	27-38	26-52	26-65
Oats, rolled	2 lb. pkt.	28-11	28-16	27-77	27-05	24-19
Peaches, canned	29 oz.	32-21	32-30	29-36	28-12	29-33
Pears, canned	"	32-58	31-98	29-40	28-18	29-36
Potatoes	7 lb.	33-59	33-54	32-75	32-74	42-27
Onions, brown	lb.	9-51	7-24	7-33	8-37	8-32
Soap, laundry	"	15-98	16-02	16-80	20-28	22-55

(a) Cash price delivered.

(b) Data not collected in this year.

AVERAGE RETAIL PRICES OF DAIRY PRODUCE AND MEAT—METROPOLITAN AREA
(Cents)

Commodity	Unit	1961	1962	1963	1964	1965
<i>Dairy Produce</i>						
Butter	lb.	47-58	47-58	47-58	48-79	50-00
Cheese, processed	½ lb.	(a)	21-46	21-54	21-77	22-31
Eggs, grade 1a	doz.	58-17	58-36	58-98	57-66	59-49
Bacon rashers	lb.	65-43	63-52	67-79	74-15	75-63
Milk, condensed	14 oz. tin	19-87	19-46	19-04	19-10	19-61
„ fresh, bottled (b)	quart	17-50	17-50	17-50	17-50	18-54
<i>Meat</i>						
Beef (fresh):						
Sirloin	lb.	42-14	42-21	42-03	45-32	48-49
Rib (without bone)	„	42-37	41-08	40-23	42-15	44-44
Steak, rump	„	61-87	61-66	62-22	66-07	71-11
„ chuck	„	38-76	38-62	38-35	40-61	43-04
Sausages	„	19-10	19-64	20-05	21-18	22-27
Beef (corned):						
Silverside	„	41-29	40-75	40-82	42-99	45-49
Brisket, rolled	„	30-57	29-31	28-72	30-75	33-11
Mutton (fresh):						
Leg	„	24-73	25-23	25-30	28-57	29-57
Forequarter	„	15-47	15-20	15-22	18-77	18-69
Chops, loin	„	23-54	22-74	23-23	27-32	28-12
„ leg	„	23-74	23-84	23-77	27-46	28-25
Lamb (fresh):						
Leg	„	37-81	40-19	40-12	44-06	45-12
Forequarter	„	24-35	26-20	25-57	29-00	30-01
Chops, loin	„	38-48	41-02	40-84	45-77	47-24
„ leg	„	38-48	41-07	41-01	45-77	47-24
Pork (fresh):						
Leg	„	48-20	44-48	49-66	55-27	56-06
Loin	„	48-54	44-62	49-89	55-44	56-17
Chops	„	48-71	44-84	50-11	55-71	56-50

(a) Data not collected in this year.

(b) Cash price 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 expenditure 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 1914, 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, fares, 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 1960. From the outbreak of war in 1939 to late in 1948, periodic policy changes in regard to various war-time 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 done to facilitate review of the component items 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, there supervened, in the next few years, conditions which caused wide price dispersion coupled with a very rapid rise in prices and a new sequence of changes in consumption and the pattern of wage-earner expenditure. Under these conditions it was not possible to devise 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 change in procedures.

An Interim Retail Price Index, with the year 1952-53 as its base, was introduced in 1954 and continued until the March quarter of 1960. This Interim Index was a transitional index designed to measure retail price variations on the "C" Series model in terms of post-war consumption weights, as emerging in the early 1950's. It embraced 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 modes of living that began to occur early in 1950 and through to 1960. These changes could not, in fact, be detected and measured promptly, and incorporated into an index, concurrently with their happening in those years. Nor was it envisaged as desirable to adopt fundamentally new procedures in price index construction until it was fully evident that far-reaching procedural changes were necessary to meet the situation that had developed between about 1950 and 1960.

During this period home-owning 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 came into 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 1948. 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 estimated 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 some households and not to others.

Investigations revealed that the incidence and frequency of changes in the pattern of household expenditure since 1950 were such as to render it necessary to construct not one but a series of new indexes introducing additional items and changes in weighting patterns at short intervals. Five series for short periods (September quarter, 1948 to June quarter, 1952; June quarter, 1952 to June quarter, 1956; June quarter, 1956 to March quarter, 1960; March quarter, 1960 to December quarter, 1963; and from December quarter, 1963) have therefore been constructed and linked to form a continuous series, with reference base year 1952-53 = 100.0. In each period between links the items and weighting have remained unchanged. It is envisaged that future links will be made in the index when 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 arranged 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 prices 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 preserved 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 piecegoods and knitting wool.

Housing—Costs (house 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 (from December quarter, 1963), 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 motoring 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 Censuses of 1947, 1954 and 1961, the Censuses of Retail Establishments of 1948-49, 1952-53, 1956-57 and 1961-62 and the continuing Survey of Retail Establishments ; from information supplied by manufacturing, commercial, and other relevant 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 has been compiled for each quarter from the September quarter of 1948, and for each financial year from 1948-49. (A selection of Consumer Price Index numbers *ab initio* appears in the tables on pages 380-82 of the *Official Year Book of Western Australia*, No. 3—1962, and in the *Statistical Summary from 1829* 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 1952-53 = 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 occur 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 1952-53. 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 cost 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 relative influence of the several cities on the combined index is determined by their populations at the 1954 Census. From the link 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 each Index Series : Year 1952-53 = 100)

Period	Group Index Numbers					Combined Index (All Groups)
	Food	Clothing and Drapery	Housing	Household Supplies and Equipment	Miscellaneous	
Year—						
1952-53	100.0	100.0	100.0	100.0	100.0	100.0
1955-56	111.1	101.4	123.8	102.0	105.5	107.9
1956-57	116.0	103.1	123.6	104.5	117.0	112.9
1957-58	114.4	105.7	126.0	105.7	118.3	113.6
1958-59	115.2	107.2	130.3	105.9	118.7	114.7
1959-60	118.4	108.2	133.5	107.1	120.9	116.9
1960-61	124.4	110.8	141.7	107.3	125.2	121.2
1961-62	123.5	111.7	146.4	107.3	125.3	121.6
1962-63	123.9	112.0	150.9	107.0	125.5	122.2
1963-64	125.4	112.8	155.9	105.2	128.5	123.8
1964-65	130.5	114.1	160.0	106.4	134.2	127.6
Quarter—						
1952—						
September	98.4	99.4	96.1	99.2	98.8	98.6
December	98.2	100.3	99.3	99.0	99.6	99.2
1953—						
March	100.2	100.0	101.5	100.6	100.8	100.5
June	103.1	100.3	103.1	101.1	100.8	101.7
1955—						
September	109.5	101.3	122.5	101.4	102.4	106.4
December	109.5	101.5	123.8	101.6	103.1	106.8
1956—						
March	111.6	101.5	124.5	102.1	104.1	107.9
June	113.6	101.4	124.5	102.9	112.4	110.5
September	115.6	101.9	124.1	103.5	113.9	111.7
December	114.6	102.4	123.5	104.4	117.3	112.3
1957—						
March	115.9	103.4	123.4	104.8	118.2	113.2
June	117.8	104.6	123.2	105.3	118.4	114.2
September	116.5	105.0	123.9	105.9	118.4	114.0
December	113.0	105.3	125.3	106.2	118.4	113.0
1958—						
March	113.4	105.4	126.8	105.2	118.2	113.2
June	114.8	106.9	127.9	105.3	118.2	114.1
September	115.1	107.0	128.8	105.4	118.4	114.4
December	113.8	107.5	130.4	105.7	118.7	114.3
1959—						
March	114.8	107.2	130.5	106.1	118.9	114.7
June	117.1	106.9	131.4	106.4	118.9	115.5
September	117.8	107.3	131.5	106.8	118.8	115.9
December	115.7	107.7	132.6	107.0	120.4	115.7
1960—						
March	118.4	108.0	134.2	107.4	121.2	117.1
June	121.6	109.6	135.6	107.0	123.3	119.0
September	122.9	109.8	137.0	107.4	123.7	119.8
December	122.9	110.8	141.6	107.3	125.6	120.8
1961—						
March	125.3	110.9	148.5	107.4	125.8	121.9
June	126.4	111.6	144.8	107.0	125.6	122.4
September	123.8	111.6	145.1	107.5	125.7	121.7
December	122.5	111.9	145.5	107.4	125.5	121.3
1962—						
March	123.4	111.8	147.1	107.1	124.9	121.5
June	124.2	111.5	147.8	107.2	124.9	121.8
September	124.7	111.7	148.8	107.2	124.8	122.1
December	122.8	111.8	150.9	106.9	124.9	121.7
1963—						
March	123.7	112.0	151.2	106.9	126.0	122.3
June	124.4	112.4	152.6	107.0	126.1	122.8
September	124.6	112.6	153.3	105.0	126.2	122.7
December	123.7	112.6	155.7	104.9	128.2	123.1
1964—						
March	125.0	112.8	156.8	105.2	130.3	124.2
June	128.3	113.2	157.8	105.7	129.3	125.3
September	130.3	113.6	158.1	105.8	131.5	126.6
December	128.4	113.9	159.9	106.2	133.2	126.6
1965—						
March	130.1	114.3	160.4	106.6	136.0	128.0
June	133.3	114.7	161.5	106.9	136.2	129.3
September	134.4	114.7	162.9	107.9	136.4	130.0
December	133.9	115.0	165.5	108.0	142.8	131.7

CONSUMER PRICE INDEX—SIX CAPITAL CITIES COMBINED

(Base of each Index Series : Year 1952-53 = 100)

Period	Group Index Numbers					Combined Index (All Groups)
	Food	Clothing and Drapery	Housing	Household Supplies and Equipment	Miscellaneous	
Year—						
1952-53	100.0	100.0	100.0	100.0	100.0	100.0
1955-56	110.2	102.0	115.1	101.6	105.9	106.9
1956-57	115.3	103.9	122.1	105.8	118.0	113.1
1957-58	113.3	107.0	127.3	107.5	119.7	114.2
1958-59	115.4	108.2	130.6	108.7	121.2	116.0
1959-60	119.8	109.4	135.2	109.8	123.9	118.9
1960-61	127.7	111.6	144.8	111.2	127.3	123.8
1961-62	125.5	112.8	150.7	112.7	128.1	124.3
1962-63	124.3	113.2	155.0	112.4	128.8	124.5
1963-64	126.0	114.0	159.6	111.0	129.9	125.7
1964-65	133.0	115.6	165.0	111.9	136.1	130.4
Quarter—						
1952						
September	99.8	98.4	96.3	99.3	99.1	98.9
December	98.5	99.8	99.2	99.4	100.1	99.4
1953						
March	100.1	100.3	101.3	100.4	100.4	100.4
June	101.7	101.5	103.1	100.9	100.4	101.4
1955						
September	107.9	101.9	111.3	100.7	101.3	104.5
December	108.6	102.1	113.7	100.8	104.8	105.9
1956						
March	110.3	102.0	116.8	101.6	105.1	106.9
June	114.0	102.0	118.5	103.2	112.4	110.2
September	119.0	102.3	119.7	103.6	116.0	112.9
December	115.6	103.3	121.7	105.5	118.0	113.0
1957						
March	112.9	104.2	122.3	107.0	118.6	112.6
June	113.8	105.6	124.5	107.1	119.3	113.7
September	113.4	106.2	125.6	107.6	119.6	113.9
December	112.1	106.7	127.0	108.0	119.6	113.7
1958						
March	113.9	106.7	127.6	107.1	119.6	114.3
June	113.9	108.2	128.8	107.3	119.8	114.8
September	113.7	108.2	129.2	107.9	120.1	114.9
December	114.6	108.4	130.4	108.7	121.3	115.8
1959						
March	116.3	108.1	130.9	108.9	121.5	116.3
June	117.1	107.9	131.9	109.1	121.9	116.8
September	117.9	108.3	132.5	109.4	122.3	117.3
December	118.4	109.2	133.9	109.6	123.0	118.0
1960						
March	120.3	109.5	134.8	110.0	123.8	119.0
June	122.6	110.5	139.4	110.2	126.4	121.1
September	126.0	110.7	141.4	110.6	126.7	122.5
December	126.7	111.5	144.1	111.0	127.2	123.3
1961						
March	128.6	111.7	145.7	111.3	127.5	124.2
June	129.4	112.4	148.0	111.9	127.7	125.0
September	128.1	112.4	148.5	112.6	127.0	124.8
December	125.3	112.9	150.5	112.7	128.3	124.3
1962						
March	124.7	112.9	151.0	112.7	128.0	124.1
June	123.7	112.9	152.6	112.8	128.2	124.0
September	124.2	113.0	153.3	112.8	128.4	124.3
December	124.3	113.2	154.7	112.4	128.7	124.4
1963						
March	124.1	113.2	155.3	112.1	129.0	124.5
June	124.5	113.4	156.8	112.4	129.2	124.9
September	125.0	113.7	157.9	110.6	129.7	125.1
December	124.5	113.7	159.0	110.8	129.5	125.0
1964						
March	126.0	113.8	159.9	111.1	130.1	125.8
June	128.5	114.6	161.7	111.4	130.3	127.0
September	130.7	115.0	163.0	110.7	133.1	128.5
December	132.1	115.4	164.4	111.3	136.5	130.0
1965						
March	133.1	115.8	165.3	112.5	137.3	130.9
June	135.9	116.3	167.2	112.9	137.3	132.1
September	139.3	116.3	168.6	113.4	137.8	133.5
December	139.5	116.6	171.4	113.7	142.7	135.2

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
1955-56	105.7	108.1	106.3	106.9	107.9	110.2	106.9
1956-57	112.9	114.0	112.0	111.1	112.9	116.9	113.1
1957-58	114.5	114.4	114.4	111.9	113.6	117.0	114.2
1958-59	115.3	116.6	118.2	114.5	114.7	118.7	116.0
1959-60	117.8	120.0	121.2	118.0	116.9	120.8	118.9
1960-61	122.1	125.9	125.4	122.9	121.2	127.5	123.8
1961-62	122.6	126.3	127.3	122.5	121.6	128.1	124.3
1962-63	123.2	126.2	127.7	122.1	122.2	128.0	124.5
1963-64	124.5	127.1	129.0	123.5	123.8	129.4	125.7
1964-65	128.8	132.2	133.9	128.6	127.6	133.6	130.4
Quarter—							
1952—							
September	98.8	98.8	99.4	99.4	98.6	98.1	98.9
December	99.5	99.3	99.6	99.0	99.2	98.8	99.4
1953—							
March	100.4	100.3	100.1	100.2	100.5	100.8	100.4
June	101.2	101.6	100.9	101.4	101.7	102.3	101.4
1955—							
September	103.7	104.7	104.4	105.2	106.4	107.4	104.5
December	104.7	107.3	104.9	106.0	106.8	109.1	105.9
1956—							
March	105.5	108.4	106.4	106.5	107.9	110.5	106.9
June	108.8	112.0	109.5	109.9	110.5	113.6	110.2
September	112.7	114.1	111.9	111.6	111.7	116.2	112.9
December	112.6	114.2	111.7	111.4	112.3	117.2	113.0
1957—							
March	112.6	113.3	111.7	110.2	113.2	116.7	112.6
June	113.7	114.2	112.6	111.3	114.2	117.5	113.7
September	114.0	114.4	112.8	111.9	114.0	116.7	113.9
December	113.9	114.2	113.7	111.6	113.0	116.9	113.7
1958—							
March	115.0	114.2	115.0	111.5	113.2	117.1	114.3
June	115.1	114.6	115.9	112.7	114.1	117.3	114.8
September	114.8	114.9	116.7	113.5	114.4	117.7	114.9
December	115.2	116.4	117.9	114.2	114.3	118.7	115.8
1959—							
March	115.5	117.1	119.0	115.0	114.7	119.1	116.3
June	115.8	117.9	119.1	115.3	115.5	119.3	116.8
September	116.3	118.2	120.2	116.3	115.9	119.7	117.3
December	117.2	118.8	120.8	116.9	115.7	120.1	118.0
1960—							
March	118.2	119.8	121.6	118.3	117.1	120.8	119.0
June	119.6	123.0	122.3	120.6	119.0	122.6	121.1
September	120.8	124.9	123.6	121.5	119.8	125.8	122.5
December	121.6	125.5	125.1	122.4	120.8	127.1	123.3
1961—							
March	122.5	126.1	126.7	123.4	121.9	128.3	124.2
June	123.4	127.1	126.1	124.3	122.4	128.9	125.0
September	123.1	126.8	127.0	123.5	121.7	129.1	124.8
December	122.5	126.5	127.1	122.5	121.3	128.3	124.3
1962—							
March	122.4	125.9	127.7	122.1	121.5	127.5	124.1
June	122.3	125.9	127.3	121.9	121.8	127.5	124.0
September	122.7	126.2	127.5	121.9	122.1	127.6	124.3
December	123.2	126.2	127.6	121.9	121.7	128.2	124.4
1963—							
March	123.3	126.0	127.8	121.9	122.3	128.0	124.5
June	123.7	126.4	127.9	122.5	122.8	128.2	124.9
September	123.7	126.7	128.4	122.8	122.7	128.8	125.1
December	123.9	126.4	128.2	122.7	123.1	129.0	125.0
1964—							
March	124.6	127.1	129.2	123.5	124.2	129.8	125.8
June	125.8	128.3	130.2	125.1	125.3	130.1	127.0
September	127.3	129.6	131.9	126.9	126.6	131.7	128.5
December	128.4	131.8	133.4	128.6	126.6	133.4	130.0
1965—							
March	129.1	132.9	134.6	128.9	128.0	134.0	130.9
June	130.3	134.4	135.7	129.9	129.3	135.2	132.1
September	131.8	135.6	138.3	130.7	130.0	137.0	133.5
December	133.3	137.2	140.0	132.7	131.7	138.8	135.2

RETAIL PRICE INDEX NUMBERS, 1901 TO 1965

The index numbers shown in the following table are presented as a continuous series, but they give only a broad indication of long-term trends in retail price levels. They are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are : from 1901 to 1914, the " A " Series Retail Price Index ; from 1914 to 1946-47, the " C " Series Retail Price Index ; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and " C " Series Index excluding Rent ; from 1948-49 to 1965, the Consumer Price Index.

RETAIL PRICE INDEX NUMBERS, 1901 TO 1965

SIX STATE CAPITAL CITIES COMBINED

(Base : Year 1911 = 100)

Year	Index Number	Year	Index Number
1901	88	1934	136
1902	93	1935	138
1903	91	1936	141
1904	86	1937	145
1905	90	1938	149
1906	90	1939	153
1907	90	1940	159
1908	95	1941	167
1909	95	1942	181
1910	97	1943	188
1911	100	1944	187
1912	110	1945	187
1913	110	1946	190
1914 (a)	114	1947	198
1915 (a)	130	1948	218
1916 (a)	132	1949	240
1917 (a)	141	1950	262
1918 (a)	150	1951	313
1919 (a)	170	1952	367
1920 (a)	193	1953	383
1921 (a)	168	1954	386
1922 (a)	162	1955	394
1923	166	1956	419
1924	164	1957	429
1925	165	1958	435
1926	168	1959	443
1927	166	1960	459
1928	167	1961	471
1929	171	1962	469
1930	162	1963	472
1931	145	1964	483
1932	138	1965	502
1933	133		

(a) November.

STATISTICAL SUMMARY FROM 1829

VITAL STATISTICS (a)

Year	Number				Rate per 1,000 of Mean Population (b)				Infant Mortality (c)	
	Marriages	Births	Deaths (d)	Natural Increase (e)	Marriages	Births	Deaths (d)	Natural Increase (e)	Number	Rate (f)
1840	25	54	20	34	(g)	(g)	(g)	(g)	(g)	(g)
1850	37	186	54	132	(g)	(g)	(g)	(g)	(g)	(g)
1860	151	588	209	379	10.01	38.96	13.85	25.11	(g)	(g)
1870	153	853	378	475	6.15	34.27	15.18	19.08	100	117.23
1880	214	933	382	551	7.29	31.79	13.02	18.77	72	77.17
1890	278	1,561	540	1,021	5.90	33.16	11.47	21.69	149	89.69
1900	1,781	5,454	2,240	3,214	10.17	31.15	12.79	18.35	688	126.15
1901	1,821	5,718	2,519	3,199	9.68	30.39	13.39	17.00	737	128.89
1902	2,024	6,232	2,823	3,409	9.89	30.44	13.79	16.65	885	142.01
1903	2,064	6,699	2,788	3,911	9.40	30.50	12.69	17.81	946	141.22
1904	2,088	7,176	2,817	4,359	8.92	30.67	12.04	18.63	811	113.02
1905	2,123	7,582	2,709	4,873	8.61	30.74	10.98	19.75	790	104.19
1906	2,261	7,800	3,084	4,716	8.89	30.66	12.12	18.54	858	110.00
1907	2,114	7,712	2,931	4,781	8.27	30.18	11.47	18.71	752	97.51
1908	2,012	7,755	2,879	4,876	7.80	30.08	11.17	18.91	657	84.72
1909	1,997	7,602	2,704	4,898	7.59	28.87	10.27	18.60	593	78.01
1910	2,107	7,585	2,740	4,845	7.77	27.99	10.11	17.88	593	78.18
1911	2,421	8,091	2,923	5,168	8.44	28.22	10.19	18.03	615	76.01
1912	2,524	8,689	3,335	5,354	8.38	28.86	11.08	17.78	713	82.06
1913	2,572	9,218	2,934	6,284	8.21	29.41	9.36	20.05	648	70.30
1914	2,660	9,204	3,043	6,161	8.24	28.52	9.43	19.09	627	68.12
1915	2,581	9,017	2,992	6,025	8.03	28.07	9.31	18.76	600	66.54
1916	2,365	8,563	3,085	5,478	7.55	27.35	9.85	17.50	567	66.22
1917	1,621	7,882	2,769	5,113	5.29	25.73	9.04	16.69	450	57.09
1918	1,612	7,106	2,833	4,273	5.23	23.06	9.19	13.87	406	57.13
1919	2,194	6,937	3,590	3,347	6.86	21.68	11.22	10.46	424	61.12
1920	2,932	8,149	3,388	4,761	8.88	24.69	10.27	14.42	538	66.02
1921	2,656	7,807	3,480	4,327	7.95	23.37	10.42	12.95	611	78.26
1922	2,446	8,131	3,167	4,964	7.17	23.82	9.28	14.54	452	55.59
1923	2,376	7,854	2,930	4,924	6.77	22.39	8.35	14.04	442	56.28
1924	2,596	8,301	3,263	5,038	7.15	22.86	8.99	13.87	414	49.87
1925	2,746	8,185	3,315	4,870	7.36	21.95	8.89	13.06	463	56.57
1926	2,844	8,301	3,350	4,951	7.47	21.79	8.79	13.00	409	49.27
1927	3,108	8,482	3,393	5,089	7.93	21.63	8.65	12.98	389	45.86
1928	3,309	8,704	3,640	5,064	8.12	21.36	8.93	12.43	419	48.14
1929	3,367	9,051	3,930	5,121	8.00	21.51	9.34	12.17	508	56.13
1930	3,205	9,200	3,774	5,426	7.47	21.44	8.80	12.64	430	46.74
1931	2,741	8,549	3,681	4,868	6.34	19.77	8.51	11.26	355	41.53
1932	2,904	7,965	3,715	4,250	6.68	18.31	8.54	9.77	355	44.57
1933	3,374	7,874	3,790	4,084	7.69	17.95	8.64	9.31	290	36.83
1934	3,682	7,801	4,076	3,725	8.32	17.64	9.21	8.42	319	40.89
1935	3,940	8,119	4,118	4,001	8.82	18.17	9.22	8.95	326	40.15
1936	4,242	8,479	4,230	4,249	9.38	18.75	9.35	9.39	358	42.22
1937	4,169	8,609	4,065	4,544	9.12	18.82	8.89	9.94	323	37.52
1938	4,153	9,141	4,234	4,907	8.95	19.71	9.13	10.58	309	33.80
1939	4,195	9,036	4,336	4,700	8.93	19.23	9.23	10.00	369	40.84
1940	5,234	9,121	4,486	4,635	11.06	19.27	9.48	9.79	403	44.18
1941	5,077	10,118	4,769	5,349	10.71	21.35	10.06	11.29	357	35.28
1942	5,441	9,901	5,076	4,825	11.42	20.77	10.65	10.12	365	36.86
1943	4,528	10,481	4,587	5,894	9.50	21.98	9.62	12.36	342	32.63
1944	4,506	10,870	4,478	6,392	9.36	22.58	9.30	13.28	354	32.57
1945	3,788	10,672	4,712	5,960	7.77	21.89	9.67	12.23	315	29.52
1946	5,171	12,105	4,753	7,352	10.49	24.57	9.65	14.92	376	31.06
1947	5,282	12,874	4,723	8,151	10.50	25.60	9.39	16.21	398	30.92
1948	5,186	12,931	4,685	8,246	10.08	25.13	9.10	16.02	331	25.60
1949	4,951	13,511	4,790	8,721	9.30	25.37	8.99	16.37	357	26.42
1950	5,434	14,228	5,058	9,170	9.74	25.50	9.07	16.44	386	27.13
1951	5,390	14,794	5,288	9,506	9.29	25.49	9.11	16.38	425	28.73
1952	5,389	15,413	5,209	10,204	8.97	25.66	8.67	16.99	384	24.91
1953	5,032	15,862	5,072	10,790	8.10	25.54	8.17	17.37	378	23.83
1954	5,204	15,928	5,364	10,564	8.13	24.89	8.38	16.51	359	22.54
1955	5,145	16,623	5,379	11,244	7.83	25.29	8.18	17.11	373	22.44
1956	5,080	16,916	5,572	11,344	7.53	25.08	8.26	16.82	384	22.70
1957	4,897	16,924	5,297	11,627	7.12	24.62	7.71	16.91	357	21.09
1958	5,038	16,731	5,554	11,177	7.20	23.90	7.94	15.97	360	21.52
1959	5,387	17,111	5,497	11,614	7.57	24.04	7.72	16.32	345	20.16
1960	5,323	16,926	5,697	11,229	7.36	23.41	7.88	15.53	366	21.62
1961	5,150	17,078	5,729	11,349	6.98	23.15	7.77	15.39	336	19.67
1962	5,466	17,064	5,810	11,254	7.23	22.58	7.69	14.89	380	22.27
1963	5,755	17,290	5,976	11,314	7.40	22.24	7.69	14.55	353	20.42
1964	6,023	16,685	6,429	10,256	7.56	20.94	8.07	12.87	328	19.66
1965	6,448	16,186	6,274	9,912	7.92	19.87	7.70	12.17	351	21.69

(a) Excluding full-blood aborigines. (b) Rates for 1961 and later years have been revised in accordance with the preliminary results of the 1966 Census. (c) Deaths under one year of age. (d) Excludes deaths of defence personnel from September, 1939 to June, 1947. (e) Excess of births over deaths. (f) Per 1,000 live births. (g) Not available.

PUBLIC REVENUE AND EXPENDITURE

Year (a)	Consolidated Revenue Fund								
	Revenue from—			Total Revenue	Expenditure on—				Total Expendi- ture
	Land (including Land Tax)	Mining	Timber		Lands and Surveys	Agricul- ture Generally	Mining	Woods and Forests (b)	
\$	\$	\$	\$	\$	\$	\$	\$	\$	
1840	5,278	.....	.....	33,654	1,538	.....	.....	.....	30,196
1850	3,988	.....	164	38,276	4,210	.....	.....	.....	33,314
1860	33,424	.....	1,262	139,726	4,388	.....	.....	.....	123,490
1870	38,856	52	1,298	196,264	11,606	.....	.....	.....	226,092
1880	69,386	414	1,704	360,098	15,340	.....	.....	.....	408,674
1890	206,488	8,058	2,280	828,628	31,404	.....	7,044	.....	803,474
1900	236,924	213,178	22,128	5,750,792	90,614	12,608	126,138	5,142	5,231,350
1901	277,308	189,264	36,012	6,161,160	112,632	22,186	132,374	5,448	6,328,294
1902	257,492	227,288	33,984	7,381,170	117,972	24,208	124,462	6,726	6,982,032
1903	260,246	95,064	42,888	7,992,940	138,882	90,884	128,864	8,306	7,773,604
1904	295,446	88,052	40,304	7,956,936	228,168	98,174	313,294	7,876	8,255,946
1905	320,084	72,224	37,176	8,038,132	262,518	79,192	337,398	9,728	8,291,250
1906	340,768	69,348	42,244	7,946,100	225,586	98,620	126,008	11,570	8,094,922
1907	395,596	68,134	42,964	7,675,208	205,550	85,292	139,734	12,542	7,863,430
1908	444,572	62,868	46,998	7,787,726	204,294	92,154	143,144	17,604	7,796,006
1909	526,504	64,048	53,032	7,632,542	225,518	100,612	129,310	18,062	7,813,358
1910	597,980	64,454	55,410	8,548,848	144,594	94,962	121,196	17,062	8,121,220
1911	732,276	76,378	69,336	7,700,880	160,764	108,056	136,322	17,722	7,468,896
1912	721,748	58,588	81,966	7,933,346	181,584	126,410	141,106	20,938	8,202,164
1913	729,386	52,840	86,878	9,193,318	166,300	174,244	136,380	22,926	9,574,126
1914	753,668	52,000	89,858	10,410,686	143,808	119,784	132,666	24,186	10,681,508
1915	732,610	47,338	86,006	10,281,450	124,186	97,726	119,880	20,916	11,413,084
1916	740,774	40,816	70,732	10,713,956	91,130	92,550	125,388	17,130	11,410,402
1917	649,308	41,092	54,758	9,154,014	92,572	115,200	129,396	20,174	10,553,528
1918	641,512	38,582	78,496	9,245,072	92,652	108,876	120,060	22,440	10,656,558
1919	669,572	35,286	53,636	9,889,700	89,406	124,910	114,604	21,746	11,193,730
1920	754,310	48,100	108,020	11,727,002	119,632	136,820	139,916	72,238	13,063,450
1921	800,306	48,216	141,592	13,579,130	180,364	131,726	147,102	100,256	14,952,582
1922	762,556	45,858	147,060	13,814,214	216,384	117,948	131,368	116,284	15,278,484
1923	732,686	39,760	144,180	14,414,984	202,112	112,796	132,894	113,692	15,225,712
1924	803,366	34,752	231,894	15,731,188	201,794	119,312	126,004	162,100	16,189,506
1925	895,950	32,656	303,574	16,762,892	165,926	126,450	122,962	170,820	16,879,688
1926	965,242	32,610	377,282	17,616,332	145,378	140,974	136,984	225,956	17,814,618
1927	995,892	33,378	367,354	19,501,666	144,392	155,992	172,320	220,346	19,445,176
1928	1,116,378	37,624	394,052	19,615,898	138,282	171,762	204,132	226,122	19,668,830
1929	1,079,052	35,448	307,066	19,895,002	143,686	187,702	204,296	190,978	20,447,838
1930	1,037,454	32,760	297,644	19,501,030	145,646	197,290	210,232	218,642	20,537,036
1931	808,040	35,114	171,524	17,373,512	128,612	155,094	210,282	75,164	20,214,590
1932	711,730	33,812	104,440	16,070,632	104,090	129,836	204,504	65,588	19,186,424
1933	656,750	40,608	122,870	16,664,306	96,002	130,122	174,848	63,302	18,392,468
1934	641,658	55,536	166,388	16,963,394	93,232	133,280	219,970	84,330	18,541,218
1935	745,166	90,098	221,008	18,662,860	95,646	151,070	241,330	107,588	18,997,050
1936	649,026	84,484	268,636	20,067,442	102,138	174,508	291,440	130,646	19,890,686
1937	612,720	83,676	310,938	20,370,866	103,486	200,838	238,184	146,454	21,113,276
1938	589,366	77,768	330,252	21,638,084	104,474	236,348	235,008	166,160	21,659,470
1939	506,810	82,402	274,790	21,899,320	113,530	234,098	238,206	153,416	22,340,204
1940	465,274	79,726	287,170	22,239,886	112,154	225,280	279,396	158,460	22,533,536
1941	510,506	69,118	302,158	22,864,136	113,170	217,770	259,694	166,320	22,841,914
1942	527,224	65,158	210,166	23,880,298	108,404	215,118	246,682	161,594	23,876,762
1943	579,664	43,416	275,192	26,308,356	110,706	210,740	224,628	235,318	26,254,484
1944	643,548	43,746	257,466	27,178,352	122,784	225,058	227,014	327,682	27,102,380
1945	617,494	40,178	275,680	27,907,660	130,244	265,840	256,062	398,880	27,898,630
1946	609,516	52,612	269,498	28,815,114	170,056	337,036	266,964	399,800	28,515,114
1947	729,292	75,500	472,884	29,961,750	239,820	364,584	325,078	433,298	30,056,854
1948	866,296	73,212	484,726	35,420,620	319,768	423,726	371,814	416,588	36,124,784
1949	920,694	84,636	365,308	41,121,292	372,326	514,726	387,604	365,232	42,755,814
1950	962,718	87,024	497,368	51,621,922	567,668	691,578	416,724	482,166	51,574,406
1951	930,338	86,484	574,282	56,312,362	590,740	800,788	493,578	560,778	55,993,668
1952	938,872	90,516	693,924	67,910,314	814,642	985,716	659,870	770,574	69,093,536
1953	1,041,418	102,888	906,574	77,768,472	875,034	1,103,394	698,320	1,051,638	78,784,238
1954	1,297,172	124,996	1,100,360	86,291,680	1,082,780	1,225,148	784,642	1,073,498	86,497,038
1955	1,536,654	130,954	1,127,404	91,439,692	1,121,500	1,335,310	714,440	1,189,978	92,407,778
1956	1,666,016	157,616	1,732,848	99,224,812	1,236,862	1,501,602	758,348	1,251,376	102,886,474
1957	2,560,650	137,664	1,750,722	108,661,868	1,452,452	1,724,448	817,304	2,153,314	112,486,604
1958	3,414,356	148,784	1,796,722	114,107,954	1,528,722	1,762,846	825,404	2,298,062	116,354,614
1959	3,250,278	184,532	1,823,422	120,136,474	1,540,668	1,841,588	828,350	2,289,094	123,505,904
1960	3,414,548	216,316	1,846,070	128,775,824	1,653,638	2,062,290	922,800	2,334,604	131,587,452
1961	2,865,898	242,008	1,876,046	138,665,420	1,759,954	2,236,134	1,056,208	2,388,710	141,074,572
1962	3,266,582	387,768	2,172,422	149,851,570	1,860,714	2,507,582	1,161,678	2,696,424	151,779,596
1963	3,478,108	408,564	2,167,186	157,181,638	2,183,004	2,731,692	1,273,664	2,795,658	158,687,286
1964	3,683,114	413,020	2,355,638	167,888,470	2,352,746	3,216,450	1,453,322	3,046,196	170,680,830
1965	3,896,084	513,450	2,589,194	180,143,018	2,408,154	3,408,690	1,638,966	3,399,892	184,840,068

(a) From 1900, year ended 30th June.

(b) Includes expenditure under Special Acts.

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 Omnibuses	Electricity Supply	Harbours, Rivers, Light- houses, etc.	Water Supplies, Sewerage and Irrigation	Public Buildings	Other	Total	Gross Amount Outstand- ing	Sinking Fund
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1860	....	....	....	....	....	....	....	3,500	....
1870	....	....	....	....	....	....	....	....	....
1880	(e) 548,640	....	(d) 38,032	....	....	(e)	(d) 801,712	722,000	(e)
1890	2,994	....	6,022	1,520	(f) 75,674	(e)	31,812	2,734,890	170,214
1900	302,222	....	394,976	949,230	....	110,230	1,756,658	23,349,280	754,322
1901	665,453	....	429,660	1,745,600	....	149,866	2,990,584	25,418,860	862,956
1902	1,157,970	....	365,924	1,463,978	....	103,774	3,091,646	29,884,620	973,474
1903	2,118,836	....	276,844	826,870	....	109,252	3,331,802	31,254,596	1,310,138
1904	886,678	....	168,290	260,884	....	105,406	1,421,258	32,180,576	1,729,504
1905	696,654	....	192,592	938	....	418,522	1,308,706	33,285,546	2,147,688
1906	439,874	....	56,910	37,362	6,496	204,242	744,884	36,117,106	2,641,206
1907	659,054	....	192,100	183,416	224,196	543,162	1,801,928	38,445,276	3,200,086
1908	611,634	....	146,928	255,772	213,190	239,966	1,467,490	40,987,236	3,808,868
1909	1,095,278	....	162,370	229,080	194,342	343,346	2,024,416	43,903,506	4,466,770
1910	908,242	....	173,584	198,536	151,788	625,840	2,057,990	46,574,906	5,139,414
1911	(g) 1,817,936	....	(g) 66,550	(g) 307,184	(g) 105,818	(g) 816,336	(g) 3,113,824	47,407,906	5,089,624
1912	2,640,618	....	371,528	249,978	261,692	1,095,288	4,619,104	52,567,046	5,837,468
1913	3,987,802	....	300,998	790,230	140,264	1,599,142	6,818,436	60,552,872	6,618,690
1914	2,333,168	....	179,740	664,220	88,332	2,560,560	5,826,020	68,840,264	7,384,206
1915	1,386,236	....	330,720	496,284	162,008	2,667,968	5,043,216	74,045,244	8,137,776
1916	895,106	....	218,456	331,086	81,322	1,643,314	3,169,284	78,279,352	9,056,864
1917	674,944	....	243,716	152,970	46,700	592,036	1,710,366	81,929,652	10,071,922
1918	415,946	....	169,866	136,496	35,074	1,350,974	2,108,356	84,608,002	11,141,706
1919	374,690	....	139,896	93,274	43,140	1,448,472	2,099,472	87,274,152	12,278,016
1920	242,298	....	204,354	94,160	21,206	4,764,622	5,326,640	93,644,006	13,655,756
1921	397,852	....	236,666	427,216	49,926	4,061,148	5,172,808	98,079,334	15,283,128
1922	1,206,952	....	183,282	435,153	88,880	2,995,578	4,909,850	109,919,556	16,740,320
1923	1,358,750	....	240,280	401,712	37,360	4,740,496	6,778,598	116,971,708	17,562,102
1924	1,303,038	....	278,028	871,330	177,190	5,244,080	7,873,666	125,531,564	18,747,142
1925	1,242,670	....	362,024	1,300,590	182,280	5,110,478	8,198,042	128,980,522	19,970,062
1926	1,539,548	....	438,606	1,356,922	155,590	4,666,706	8,157,372	140,021,842	21,308,986
1927	1,558,842	....	329,374	883,690	234,966	4,900,530	7,960,402	141,212,350	17,513,872
1928	1,902,268	....	529,720	1,132,042	255,528	4,577,196	8,396,724	152,855,528	17,798,160
1929	1,824,962	....	527,694	1,091,678	182,158	4,255,012	7,881,504	(h) 138,710,898	(h) 1,982,552
1930	1,818,740	....	528,270	610,112	108,216	4,225,662	7,291,450	142,888,650	2,080,926
1931	878,030	....	257,198	419,928	Cr. 82	1,456,618	3,011,692	153,129,770	2,620,738
1932	262,896	....	154,980	1,151,806	....	1,054,802	2,624,484	159,415,906	2,617,812
1933	374,028	....	484,558	1,355,244	69,256	1,837,974	4,121,060	167,029,396	2,693,098
1934	698,880	....	492,136	1,606,402	196,018	2,343,566	5,297,002	171,695,604	742,824
1935	996,688	....	609,882	2,154,546	212,798	1,102,512	5,076,426	177,180,352	1,047,630
1936	945,558	....	601,910	2,486,812	168,844	700,290	4,903,414	180,688,110	1,138,368
1937	490,844	....	351,982	2,302,738	178,252	740,632	4,064,448	184,665,710	1,291,812
1938	949,722	....	201,080	1,843,100	183,356	1,143,702	4,320,960	187,423,882	614,422
1939	441,288	....	184,028	1,777,416	229,576	640,060	3,272,368	190,945,202	719,312
1940	200,410	....	103,516	1,614,586	732,034	973,612	3,624,158	192,460,798	607,952
1941	213,916	17,602	152,196	1,648,580	306,094	480,240	2,818,628	195,583,448	1,147,152
1942	110,500	25,156	111,336	605,994	70,086	437,268	1,359,440	194,718,490	534,852
1943	157,186	92,274	132,516	99,714	54,864	217,230	753,784	193,976,412	347,030
1944	48,680	30,714	Cr. 143,226	75,322	185,958	34,242	211,690	192,956,590	140,318
1945	339,970	10,762	61,058	149,672	240,790	491,572	1,093,804	191,789,770	254,186
1946	141,848	203,120	75,218	472,972	450,596	275,772	1,624,526	193,551,362	1,007,992
1947	535,480	332,108	172,872	1,453,482	772,202	821,110	4,087,254	198,004,602	1,090,568
1948	676,124	1,471,394	316,644	1,387,756	1,097,010	125,256	5,074,004	200,549,482	308,992
1949	912,954	2,130,686	448,998	1,626,454	1,099,144	942,352	7,160,588	207,377,486	125,644
1950	4,496,366	4,691,438	803,706	2,002,086	1,356,598	2,859,198	16,209,392	219,100,284	141,960
1951	3,722,648	6,591,424	1,164,426	4,090,624	2,003,390	3,080,676	20,653,188	246,373,632	16,692
1952	15,198,074	6,683,832	2,693,616	4,802,622	2,729,112	3,409,294	35,516,590	267,672,582	646,626
1953	13,538,440	1,79,152	2,421,956	4,858,372	5,432,326	8,787,414	35,212,674	306,144,340	1,861,354
1954	11,294,814	1,406,208	3,327,552	3,939,440	3,144,090	6,275,844	28,387,948	331,565,090	821,682
1955	9,751,628	1,410,000	1,920,022	5,660,642	3,993,232	6,726,416	29,461,940	355,762,698	442,116
1956	6,139,298	2,409,380	1,638,294	5,516,216	4,187,290	7,098,152	26,628,630	377,465,480	244,754
1957	5,518,758	4,200,000	950,114	7,118,878	5,599,004	9,169,268	32,556,022	410,290,086	111,836
1958	4,209,364	2,498,000	1,298,218	7,694,256	5,890,616	6,599,116	28,271,570	436,856,890	147,318
1959	5,711,230	2,200,000	1,427,580	8,394,726	7,409,940	7,198,774	32,342,250	464,237,158	172,874
1960	4,953,290	1,553,012	1,373,434	9,547,144	8,722,520	6,354,644	32,504,044	493,574,584	171,058
1961	4,221,448	400,000	1,966,122	10,313,932	10,478,874	8,037,236	35,417,612	523,070,038	93,802
1962	5,432,136	300,000	2,587,056	10,951,910	12,031,524	6,448,540	37,751,166	555,129,166	221,932
1963	6,203,802	500,000	2,437,780	10,769,538	13,419,958	5,562,658	38,893,736	587,336,182	485,284
1964	7,496,028	....	3,028,214	10,536,848	15,630,018	6,408,584	43,099,692	626,044,688	442,006
1965	6,799,648	794,444	2,821,946	10,957,460	19,948,432	5,456,876	46,778,806	665,610,966	473,006

(a) From 1900, year ended 30th June. Sinking Fund at 31st March from 1900 to 1928. (b) From 1923 includes expenditure from Loan Suspense Account. (c) Total amount for the years 1877 to 1881. (d) Total amount for the years 1872 to 1881. (e) Not available. (f) Includes expenditure prior to 1890. (g) Including readjustments for previous years. (h) Reduction due to operation of Financial Agreement Act of 1928.

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)		895	27,164	(f)	(f)		
1880	(f)	(f)		1,299	45,448	(f)	(f)		
1890	1,904	2,809		3,014	69,232	(f)	(f)		
1900	8,781	5,514		33,646	2,598,288	6,916	439		
1901	8,874	6,123		39,318	3,236,718	7,632	475		
1902	9,581	6,448		45,108	3,778,164	8,673	522		
1903	9,584	7,301		48,008	3,977,248	9,850	528		
1904	9,468	7,710		54,873	4,159,526	10,689	533		
1905	10,196	8,221		59,764	4,414,592	11,113	706		
1906	11,102	9,228		63,573	4,632,322	11,252	731	(f)	(f)
1907	10,696	10,123		66,737	5,266,270	11,242	711		
1908	9,970	10,902		70,340	5,702,378	11,546	890		
1909	10,232	10,977		75,852	6,111,150	11,874	961		
1910	12,627	12,228		84,262	6,955,416	12,717	1,170		
1911	14,331	15,000		97,147	8,177,600	13,996	1,369		
1912	13,365	16,824	(f)	108,622	8,800,796	14,925	1,662		
1913	12,841	16,353		121,201	9,350,194	15,277	2,017		
1914	13,787	16,693		134,510	9,850,938	15,842	2,267		
1915	15,229	17,418		144,777	10,284,582	16,058	2,451		
1916	16,090	18,635		156,458	10,666,926	16,680	2,731		
1917	17,178	18,285		171,207	11,683,222	17,239	3,042	721,296	196,130
1918	19,374	19,170		182,140	12,580,056	18,103	3,456	782,760	303,346
1919	21,606	20,829		196,584	14,004,948	19,851	3,907	803,412	295,240
1920	24,742	21,594		211,415	14,515,680	21,640	4,089	1,079,888	368,134
1921	24,004	21,833		226,468	15,433,058	24,183	4,699	1,112,370	683,838
1922	24,519	21,531		237,505	15,518,634	25,586	5,189	1,195,350	657,734
1923	25,349	22,796		250,214	16,066,840	27,544	5,707	1,241,722	435,060
1924	26,245	23,313		264,842	16,436,294	29,310	6,360	1,528,304	543,130
1925	27,200	24,095		277,701	16,607,868	31,739	6,811	1,668,760	723,958
1926	28,887	25,745		292,353	17,939,648	33,970	7,317	1,832,012	900,778
1927	29,301	29,233		309,176	13,388,792	36,279	8,042	(g)830,658	(g)432,452
1928	31,025	30,592		330,284	21,290,746	38,926	8,750	2,111,248	1,200,388
1929	26,811	34,480		350,046	23,218,380	41,268	9,366	2,391,052	1,205,412
1930	25,524	41,773	3,414	367,665	23,457,234	41,656	9,003	2,452,202	1,163,214
1931	24,455	41,635	2,736	371,662	21,734,844	39,906	8,353	1,914,016	971,240
1932	28,563	39,292	2,892	206,997	20,435,478	39,181	8,585	1,692,996	654,890
1933	29,785	38,433	3,056	194,095	20,128,928	39,447	8,918	1,786,436	795,634
1934	32,853	38,742	3,244	192,915	20,797,944	40,631	9,394	1,745,912	800,892
1935	36,206	41,061	3,360	197,611	21,858,020	42,899	9,946	1,929,218	909,618
1936	38,731	43,232	3,894	208,990	23,034,440	45,608	10,688	2,175,558	1,014,670
1937	39,463	44,532	4,022	217,247	23,669,588	48,857	11,373	2,410,292	1,365,624
1938	41,230	45,141	4,184	225,118	24,074,972	51,653	11,944	2,640,628	1,525,738
1939	41,181	47,774	4,118	232,564	24,792,382	53,853	12,609	2,745,912	1,461,556
1940	42,219	47,529	4,586	233,649	23,720,302	54,708	13,086	2,883,900	1,459,938
1941	47,099	45,617	4,468	238,820	25,042,318	55,842	13,875	2,791,806	1,236,306
1942	51,918	43,638	4,796	250,153	27,642,276	55,881	15,311	2,805,554	1,244,606
1943	61,135	37,827	5,276	279,469	37,768,660	57,865	16,656	2,347,178	1,014,066
1944	71,529	33,462	5,548	301,225	51,581,428	61,380	17,962	2,368,886	896,390
1945	74,846	31,504	5,814	316,565	63,526,340	66,254	19,024	2,564,540	1,154,392
1946	(h) 66,652	(h) 33,726	7,274	340,737	76,578,174	77,608	21,036	2,889,892	1,222,866
1947	72,490	45,388	8,682	349,091	73,250,274	88,016	23,054	3,502,556	1,737,142
1948	82,032	48,754	11,088	358,709	72,365,182	98,891	25,139	4,187,558	2,089,056
1949	100,971	49,904	13,214	365,130	75,069,936	111,213	27,127	5,079,926	2,053,082
1950	116,458	55,301	17,658	378,670	79,224,722	126,332	29,503	6,912,958	2,440,358
1951	149,244	66,680	22,806	392,790	89,344,654	148,724	32,460	7,359,772	3,340,976
1952	170,923	83,353	22,932	403,678	94,341,670	171,007	35,257	9,357,912	5,260,942
1953	170,234	87,353	24,683	414,288	99,588,576	195,499	38,110	10,736,038	5,452,636
1954	181,863	106,429	27,384	422,480	105,228,758	221,568	40,240	11,426,658	5,275,838
1955	180,895	137,830	27,587	426,637	107,257,878	251,543	41,487	12,562,918	6,281,212
1956	174,070	142,156	29,076	446,419	115,867,580	282,139	42,114	13,545,716	7,125,792
1957	185,577	135,073	31,138	473,548	125,386,572	317,264	42,535	13,792,416	8,202,540
1958	186,478	141,197	30,326	497,690	131,896,702	352,360	43,003	15,601,082	7,807,312
1959	180,300	147,105	34,500	527,079	142,998,268	396,322	43,279	17,169,026	9,164,702
1960	192,076	142,064	44,923	550,966	157,244,538	459,740	44,325	19,951,108	10,670,538
1961	190,094	146,246	47,277	577,619	161,423,696	523,636	44,745	21,607,332	12,769,786
1962	209,276	139,204	51,813	625,070	181,054,976	597,892	46,754	22,913,606	12,254,666
1963	219,952	153,530	59,875	683,417	208,812,478	679,161	47,983	24,761,474	14,722,830
1964	242,264	164,872	68,548	736,009	239,766,280	774,550	50,595	26,284,710	15,629,046
1965	272,430	186,000	78,340	786,340	261,650,818	881,652	53,565	28,224,272	16,107,594

(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.

TRANSPORT AND COMMUNICATION

Year	State Government Railways (a)				Private Railways	Posts, Telegraphs and Telephones			Shipping (A)	
	Route Miles at end of Year (b)	Operating Revenue (c)	Operating Expenses (c)	Paying Goods and Livestock Carried (c)	Route Miles at end of Year (d)	Telegraph and Telephone Lines (e)	Revenue (f)(g)	Expenditure (f)(g)	Vessels—Cleared to Ports outside the State	
									Number	Net Tonnage
	\$	\$	tons		miles	\$'000	\$'000			
1870	.....	.....	.....	.....	.....	.....	8	14	131	67,780
1880	34	5,252	7,702	2,465	38	1,568	26	60	168	126,444
1890	188	90,226	103,280	60,692	385	2,961	53	73	267	420,327
1900	1,355	2,519,024	1,722,940	1,384,040	623	6,053	413	498	747	1,606,332
1901	1,355	2,707,408	2,089,840	1,719,720	629	6,173	438	503	901	1,872,027
1902	1,360	3,042,858	2,512,740	1,888,146	629	6,112	465	519	765	1,686,905
1903	1,516	3,106,970	2,495,746	1,795,019	627	6,079	443	514	703	1,662,741
1904	1,541	3,176,168	2,359,248	2,057,270	655	6,199	471	610	605	1,777,186
1905	1,605	3,220,258	2,512,006	2,154,275	694	6,389	527	604	656	1,828,256
1906	1,612	3,268,888	2,403,506	2,096,514	743	6,451	519	609	619	1,792,176
1907	1,764	3,074,666	2,271,814	2,091,376	765	6,686	521	638	597	1,760,338
1908	1,943	3,008,850	2,015,464	2,058,741	798	6,868	544	692	592	1,816,805
1909	2,045	3,016,672	1,947,742	1,997,100	842	6,719	553	672	650	2,054,189
1910	2,145	3,274,668	2,193,816	2,241,859	902	7,480	613	785	726	2,372,260
1911	2,376	3,688,838	2,432,954	2,488,844	948	7,580	629	904	781	2,566,090
1912	2,598	3,769,208	2,687,954	2,542,087	981	7,758	642	988	765	2,614,127
1913	2,854	4,075,706	3,013,200	2,866,241	952	8,513	673	1,265	873	3,022,958
1914	2,967	4,514,022	3,144,016	3,170,144	960	8,804	688	1,142	(5)27	(i)1,794,670
1915	3,332	4,116,488	2,995,652	2,523,859	976	9,761	692	1,088	655	2,384,122
1916	3,332	4,176,220	3,023,310	2,554,358	993	8,791	734	1,052	689	2,492,875
1917	3,425	3,754,764	2,896,902	2,400,246	1,010	8,342	761	973	731	2,557,986
1918	3,491	3,632,776	2,902,668	2,259,070	983	8,313	778	890	315	1,102,295
1919	3,539	3,745,794	3,135,182	2,379,403	898	8,328	903	962	636	2,111,894
1920	3,539	4,583,752	4,000,946	2,613,606	918	8,270	886	1,067	729	2,659,302
1921	3,539	5,440,064	4,844,008	2,604,068	895	8,318	1,084	1,236	789	2,825,586
1922	3,539	5,655,712	4,657,686	2,548,258	878	8,413	1,184	1,265	874	3,231,366
1923	3,555	5,831,970	4,420,696	2,624,320	865	8,706	1,215	1,725	709	3,087,946
1924	3,629	6,454,742	4,595,960	3,023,299	812	10,098	1,217	2,611	673	3,101,166
1925	3,733	6,719,002	4,710,174	3,284,915	854	11,031	1,270	1,943	805	3,657,529
1926	3,865	6,674,584	5,018,098	3,237,496	884	11,402	1,360	2,054	865	3,256,132
1927	3,918	7,215,978	5,371,386	3,438,587	872	11,858	1,480	1,875	799	3,796,564
1928	3,977	7,716,102	5,821,622	3,697,648	838	11,526	1,598	1,926	812	3,806,078
1929	4,079	7,599,528	6,110,892	3,670,147	842	11,691	1,691	1,831	808	3,674,298
1930	4,111	7,318,406	6,225,790	3,530,188	847	11,804	1,818	1,841	794	3,932,476
1931	4,181	6,397,826	5,221,678	3,153,525	826	11,812	1,672	1,626	742	3,686,229
1932	4,235	5,844,770	4,246,562	2,847,568	830	11,699	1,576	1,234	694	3,530,279
1933	4,338	5,864,280	4,223,176	2,840,077	845	11,723	1,639	1,266	691	3,563,679
1934	4,360	5,838,630	4,373,012	2,652,247	854	11,785	1,696	1,336	683	3,567,884
1935	4,359	6,623,678	4,765,488	2,903,481	869	11,505	1,845	1,467	730	3,775,162
1936	4,358	6,892,322	4,976,234	2,886,648	880	11,532	1,949	1,653	725	3,831,105
1937	4,357	6,924,074	5,240,186	2,798,448	873	12,090	2,078	1,779	761	3,753,586
1938	4,376	7,355,700	5,419,828	3,061,921	854	12,057	2,163	1,845	866	4,111,171
1939	4,378	7,198,286	5,823,140	2,859,141	844	12,071	2,217	1,934	930	4,326,529
1940	4,381	7,111,964	5,656,658	2,658,876	831	12,040	2,235	1,983	805	3,751,135
1941	4,381	7,143,656	5,515,782	2,603,857	815	12,080	2,300	1,990	556	3,087,389
1942	4,381	7,992,624	6,051,838	2,638,469	818	12,118	2,601	2,086	492	2,507,742
1943	4,381	8,835,814	6,895,024	2,504,682	849	12,164	3,084	2,258	312	1,467,495
1944	4,381	8,773,046	7,591,858	2,560,137	829	12,523	3,278	2,570	385	1,579,656
1945	4,381	8,552,500	7,528,580	2,904,431	798	12,435	3,364	2,603	382	1,528,336
1946	4,381	8,213,436	8,053,412	2,727,702	706	12,429	3,463	2,914	490	2,472,948
1947	4,348	8,091,870	8,847,602	2,576,936	759	12,423	3,690	3,326	572	2,646,285
1948	4,348	9,197,792	11,140,000	2,857,573	739	12,661	3,923	4,418	752	3,431,319
1949	4,321	10,429,688	13,404,580	2,736,720	734	12,874	4,132	5,792	950	4,677,867
1950	4,252	12,944,098	15,002,790	2,843,292	774	14,439	4,739	6,477	1,006	5,271,814
1951	4,228	14,392,428	17,237,726	3,033,213	752	14,120	5,511	8,303	1,060	5,552,156
1952	4,113	18,327,064	21,331,122	3,062,641	752	14,598	7,290	9,849	1,045	5,523,959
1953	4,108	15,944,520	24,174,666	2,618,806	724	14,904	7,792	10,924	1,025	5,406,663
1954	4,111	22,748,614	27,512,218	3,205,953	758	14,946	8,360	11,746	1,005	5,319,845
1955	4,111	25,060,820	27,870,658	3,406,634	748	15,149	9,088	11,854	1,136	6,144,377
1956	4,119	26,548,332	29,986,108	3,792,856	726	15,284	9,828	13,844	1,268	6,776,135
1957	4,117	28,083,222	32,022,632	4,223,031	706	15,482	10,792	14,808	1,244	6,531,402
1958	4,117	25,950,352	29,685,324	3,588,914	575	15,579	11,685	16,222	1,219	6,499,081
1959	4,117	27,399,606	29,865,066	3,913,187	575	15,690	12,219	17,144	1,282	6,606,591
1960	4,120	30,076,528	30,816,408	4,532,614	517	15,839	14,404	18,148	1,403	7,233,753
1961	4,123	33,075,696	31,102,594	4,833,228	469	16,082	15,817	18,566	1,598	8,546,731
1962	(k)3,851	35,607,618	31,526,512	5,342,311	(l) 558	16,153	16,284	19,608	1,687	8,962,424
1963	(k)3,797	33,429,028	31,149,512	4,792,753	552	16,569	17,929	21,736	1,528	8,251,694
1964	(k)3,677	35,180,660	32,250,488	5,187,468	413	16,843	19,997	24,060	1,580	8,627,216
1965	3,733	36,686,332	32,920,100	5,229,230	(m) 21	17,336	23,062	27,795	1,560	8,592,925

(a) From 1900, year ended 30th June. (b) Open for general and passenger traffic. (c) From 1942 includes operations of Railway Road Services, which began in November, 1941. (d) From 1900 to 1964 includes 277 miles of line open for general and passenger traffic. (e) At end of year; from 1916, at 30th June. From 1935, figures represent pole route mileage. (f) From 1920, year ended 30th June. (g) Figures represent revenue actually collected, and actual payments made, as recorded for Treasury purposes. (h) From 1915, year ended 30th June. (i) Six months ended 30th June. (j) Complete records not available. (k) Decrease due to proclamations of closure issued by authority of the Railways (Cue-Big Bell and other Railways) Discontinuance Act, 1960. (l) Increase due to the transfer of all government-operated timber railways to private control. (m) Decrease due to transfer of Midland Railway Company to Western Australian Government Railways, and to closure of timber and mining railways.

MOTOR VEHICLE REGISTRATIONS ; EXPORTS OF WOOL

Year	Motor Vehicles—Effective Registrations (a)				Wool Exports (b)			
	Motor Cars (c)	Utilities, Vans and Trucks (d)	Omnibuses	Motor Cycles (e)	Greasy (f)		Scoured	
					Quantity	Value	Quantity	Value
					lb.	\$	lb.	\$
1840					50,000	5,000		
1850					309,640	30,964		
1860					656,815	98,522	(g)	(g)
1870					1,787,812	178,780		
1880					4,342,606	542,824		
1890					6,969,380	822,704		
1900					8,658,343	505,070	436,400	36,366
1901					12,867,770	697,004	711,193	59,266
1902					12,484,361	858,800	447,910	57,856
1903					12,501,804	833,452	405,261	54,034
1904					11,914,085	798,996	299,550	39,794
1905	n.a.				17,033,579	1,143,264	349,509	46,480
1906					14,678,076	1,156,728	363,528	49,432
1907					19,914,451	1,582,970	295,782	41,206
1908					20,302,076	1,239,430	440,069	34,586
1909					26,430,526	1,950,574	714,053	74,706
1910		n.a.	n.a.	n.a.	25,777,153	1,893,952	420,056	39,788
1911					24,981,375	1,835,034	175,818	15,866
1912					27,901,770	2,052,082	225,330	19,250
1913					25,504,884	1,933,026	227,465	20,610
1914					(h) 4,845,635	(h) 360,842	(h) 35,436	(h) 3,236
1915					23,905,597	1,625,738	99,210	9,522
1916					28,868,646	2,517,154	234,808	29,212
1917					24,327,307	2,831,088	77,976	9,544
1918	2,538				10,519,055	1,056,384	112,967	15,254
1919	2,938				29,022,006	3,775,270	622,550	129,012
1920	3,404				56,284,119	7,217,698	3,316,416	656,514
1921	4,181				42,047,567	4,593,186	1,083,810	183,052
1922	4,403				54,511,990	5,673,220	4,180,513	731,070
1923	7,280				39,275,458	5,986,058	2,650,590	479,134
1924	11,162				42,358,624	8,028,028	1,516,384	446,276
1925	15,261				33,722,363	7,029,670	1,293,383	442,930
1926	20,011				48,023,588	6,702,810	1,665,500	352,920
1927	19,451	5,741	78		52,130,709	6,694,440	1,656,846	342,186
1928	24,205	7,971	133		60,401,951	9,733,510	838,905	191,604
1929	27,174	9,516	251		56,202,277	7,614,878	843,409	206,604
1930	31,130	11,096	262	7,707	61,777,499	5,422,032	1,024,994	136,194
1931	27,741	10,571	309	6,777	69,397,449	4,651,788	1,385,684	121,288
1932	28,608	11,802	292	6,700	64,591,198	4,539,652	1,965,598	151,488
1933	27,969	12,344	282	6,700	68,191,868	4,871,336	2,695,264	235,848
1934	28,761	13,642	295	6,284	69,997,609	9,130,816	2,728,112	490,776
1935	30,578	15,179	351	6,597	80,550,382	6,479,170	3,451,156	348,008
1936	32,329	17,028	334	6,861	78,487,989	8,892,032	3,081,405	451,440
1937	34,180	19,600	319	6,977	58,323,098	7,853,864	2,447,923	475,002
1938	36,886	22,278	323	7,079	53,451,966	5,877,142	2,705,782	445,938
1939	38,039	24,163	278	7,199	68,408,797	6,071,798	3,605,920	469,362
1940	38,907	24,745	281	6,789	65,279,119	7,602,532	3,648,086	661,218
1941	36,995	24,493	295	6,704	19,982,826	2,601,294	2,798,895	517,876
1942	29,022	21,341	284	4,057	75,738,857	9,836,412	4,927,597	1,029,670
1943	29,750	20,869	320	3,935	28,513,716	4,162,714	2,731,336	594,340
1944	30,295	22,188	276	4,324	68,663,427	10,841,990	4,618,630	917,184
1945	30,635	23,649	294	4,501	52,057,795	8,082,274	4,885,497	1,024,604
1946	31,408	28,590	314	6,799	108,180,425	17,135,746	11,746,396	2,778,314
1947	32,879	31,762	335	8,199	75,186,771	15,560,934	17,456,798	4,959,812
1948	35,596	34,822	463	8,877	80,204,830	27,801,098	16,072,580	5,442,870
1949	40,119	38,247	654	10,974	85,919,353	36,717,308	13,588,435	6,352,500
1950	48,632	42,370	836	12,897	83,405,237	40,070,932	17,490,562	10,852,232
1951	56,235	46,964	944	14,535	80,731,643	96,493,082	11,054,717	16,065,872
1952	64,277	51,645	982	16,047	91,455,408	57,290,656	11,352,904	10,388,932
1953	69,917	55,420	1,025	15,565	100,908,701	67,758,532	12,603,629	11,363,256
1954	78,312	59,257	1,105	15,243	100,701,099	71,345,656	11,918,274	10,914,280
1955	90,255	62,753	1,117	14,662	96,554,322	59,296,456	13,261,323	11,266,604
1956	99,206	62,809	1,295	12,959	113,289,040	57,894,434	16,744,513	12,419,426
1957	104,506	63,315	1,273	12,731	108,581,711	71,251,310	18,746,141	16,258,664
1958	111,825	63,598	1,631	12,631	96,452,609	57,224,416	15,557,014	15,461,942
1959	119,957	65,588	1,214	12,814	111,130,597	46,312,716	21,763,475	12,224,230
1960	130,476	68,792	1,276	12,876	111,103,757	58,136,888	27,429,926	19,820,262
1961	141,612	70,974	1,258	12,589	131,002,870	59,289,958	26,127,998	15,551,984
1962	155,447	74,224	1,290	12,390	136,894,452	68,176,822	25,330,685	15,688,394
1963	170,781	78,748	1,649	11,649	131,432,619	66,401,116	25,222,347	15,705,876
1964	189,251	78,239	1,049	10,449	159,262,029	97,138,126	22,901,022	17,100,602
1965	202,914	79,316	9,244	9,244	151,811,912	83,029,978	22,586,361	15,264,084

"n.a." denotes "not applicable" or "not available."

(a) From 1929, at 30th June; for earlier years, at various dates. For years before 1946, excludes Commonwealth-owned vehicles; from 1946, includes Commonwealth-owned vehicles other than those of defence services. From 1956, new series based on the results of the periodic Census of Motor Vehicles. (b) From 1915, year ended 30th June.

(c) From 1956 includes station wagons, previously included with utilities, vans and trucks. (d) See note (c). (e) Including motor scooters. (f) For 1890 and earlier years includes scoured wool for which figures are not available separately. (g) See note (f). (h) Six months ended 30th June.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Wheat		Meats, Frozen and Chilled					
	Quantity	Value	Beef and Veal		Mutton and Lamb		Pork	
			Quantity	Value	Quantity	Value	Quantity	Value
	bushels	\$	lb.	\$	lb.	\$	lb.	\$
1860	37	20	.....	.....	.....	.....	.....	.....
1870	.....	.....	.....	.....	.....	.....	.....	.....
1880	15,400	7,700	.....	.....	.....	.....	.....	.....
1890	.....	.....	.....	.....	.....	.....	.....	.....
1900	1,074	362	(b)	(b)	(b)	(b)	(b)	(b)
1901	105	42	(b)	(b)	(b)	(b)	(b)	(b)
1902	.....	.....	.....	.....	.....	.....	.....	.....
1903	.....	.....	.....	.....	.....	.....	.....	.....
1904	9,680	3,160	.....	.....	.....	.....	.....	.....
1905	46,733	15,946	(b)	(b)	(b)	(b)	(b)	(b)
1906	38	14	.....	.....	15,812	584	.....	.....
1907	490,350	193,350	.....	.....	369,958	11,172	.....	.....
1908	211,800	90,010	.....	.....	95,235	2,732	.....	.....
1909	624,660	258,050	.....	.....	.....	.....	722	46
1910	2,014,552	812,652	.....	.....	.....	.....	.....	.....
1911	2,231,393	773,844	.....	.....	.....	.....	.....	.....
1912	502,475	200,296	.....	.....	.....	.....	.....	.....
1913	4,105,900	1,527,596	.....	.....	.....	.....	48	.....
1914(c)	7,286,118	2,687,712	.....	.....	.....	.....	.....	.....
1915	20	.....	.....	.....	.....	.....	.....	.....
1916	3,930,900	2,046,724	4,311,087	175,662	40,912	1,604	.....	.....
1917	7,036,262	3,239,262	.....	.....	.....	.....	.....	.....
1918	1,693,937	875,418	1,187,915	35,858	114,820	3,938	323,641	14,814
1919	1,651,182	799,958	.....	6,494	138,224	4,246	132,662	6,474
1920	9,151,125	5,083,396	661,965	32,862	.....	.....	.....	.....
1921	6,576,405	5,860,358	5,762,126	247,956	117,816	7,304	44,807	4,772
1922	10,357,245	6,075,994	2,478,848	78,800	.....	.....	.....	.....
1923	5,362,817	2,942,200	9,954,698	304,698	865,510	54,864	1,413	164
1924	10,925,377	5,085,252	10,646,717	271,876	445,926	25,650	.....	.....
1925	14,985,953	10,316,040	7,106,375	198,104	.....	.....	.....	.....
1926	13,174,678	8,373,428	8,118,705	240,234	.....	.....	.....	.....
1927	16,329,668	9,334,190	6,696,652	198,040	.....	.....	.....	.....
1928	26,193,707	13,989,056	11,026,131	272,164	227,261	15,350	.....	.....
1929	26,091,098	13,384,092	9,313,392	225,530	.....	.....	.....	.....
1930	24,953,238	12,258,436	11,381,415	272,484	.....	.....	.....	.....
1931	42,440,195	10,576,504	11,315,154	244,286	854,608	34,596	208,960	7,092
1932	36,867,683	10,647,480	11,239,948	235,298	2,113,217	102,630	1,220,708	53,004
1933	30,694,720	9,322,552	14,406,036	276,282	383,855	14,542	948,667	36,662
1934	23,359,750	6,834,460	12,602,428	234,378	1,352,172	48,856	667,564	29,498
1935	24,935,638	7,843,794	12,072,230	232,654	4,978,521	236,456	1,193,912	54,690
1936	14,897,053	5,606,716	17,036,178	320,646	5,557,094	282,460	1,550,285	64,626
1937	13,780,400	7,254,704	11,226,986	249,134	4,554,709	246,970	1,305,864	67,098
1938	22,038,207	9,667,332	11,444,720	314,008	8,704,973	469,508	822,723	52,212
1939	22,613,525	6,055,406	16,501,339	496,642	11,774,994	637,854	1,278,045	79,766
1940	15,330,423	4,668,688	10,638,900	328,952	10,284,974	532,658	4,990,211	323,516
1941	14,855,703	5,857,752	12,308,601	407,162	9,691,373	496,462	13,260,644	851,436
1942	9,774,348	4,021,072	7,883,141	326,662	8,122,379	434,618	10,295,031	682,098
1943	5,137,852	2,110,846	408	58	8,785,353	457,720	2,320,707	154,752
1944	12,056,630	5,812,696	3,184,931	189,846	14,691,304	762,740	3,456,855	238,246
1945	23,589,598	14,954,304	2,651,186	168,292	8,824,161	409,688	3,740,724	254,406
1946	13,510,257	11,696,210	9,517,061	557,814	5,001,813	275,060	7,497,152	545,140
1947	6,802,465	8,963,546	14,016,881	690,802	8,997,059	408,868	2,879,603	247,530
1948	19,311,637	33,808,518	14,006,848	603,876	11,197,846	584,334	668,757	53,208
1949	18,401,445	28,099,620	17,760,205	840,428	10,156,809	608,248	1,374,622	179,108
1950	21,510,390	33,384,014	19,015,413	1,183,206	5,274,277	485,112	358,571	59,292
1951	30,510,360	51,687,902	16,973,192	1,221,200	2,070,449	217,206	616,359	112,848
1952	26,822,885	45,728,082	13,289,965	1,135,424	2,300,953	301,052	933,788	232,424
1953	23,318,935	40,346,812	11,058,475	1,437,382	14,527,244	1,463,072	1,019,862	303,472
1954	6,800,140	11,271,528	33,555,097	1,747,570	7,294,910	874,880	474,349	152,154
1955	19,334,742	27,477,924	14,939,112	2,037,664	7,108,748	1,328,096	2,313,361	532,258
1956	22,773,235	28,859,728	16,757,378	2,343,226	14,556,055	2,155,864	1,636,927	482,290
1957	46,796,467	61,291,276	(d) 9,099,452	(d) 1,221,114	12,761,112	1,741,224	1,614,923	587,770
1958	26,643,941	40,861,248	(d) 24,304,729	(d) 3,302,380	11,204,637	1,900,192	5,123,333	1,461,530
1959	23,503,275	33,112,530	23,226,399	4,342,088	21,923,136	3,176,884	4,371,464	1,178,288
1960	36,713,316	49,441,518	29,977,441	6,741,866	19,258,489	2,377,658	2,617,978	952,818
1961	52,480,005	71,279,916	27,365,093	6,141,324	25,059,136	3,901,336	4,175,737	1,500,722
1962	73,882,791	104,356,100	27,654,089	6,299,436	18,668,516	2,435,748	6,946,472	2,025,222
1963	50,720,419	72,196,928	38,069,090	9,382,462	16,375,824	2,400,704	4,543,363	1,403,626
1964	55,021,794	77,880,938	45,226,399	11,497,198	11,872,246	1,894,650	1,998,325	717,528
1965	40,507,154	56,955,076	42,681,699	11,729,564	11,110,938	1,981,148	1,258,730	516,108

(a) From 1915, year ended 30th June. (b) Separate particulars not available. Total exports of fresh meats were 184,379 lb. valued at \$9,164 in 1900; 244,009 lb. valued at \$12,308 in 1901; 8,775 lb. valued at \$396 in 1905. (c) Six months ended 30th June. (d) Figures for 1956-57 exclude, and those for 1957-58 include, shipments of 6,776,366 lb. valued at \$893,102 exported overseas during 1956-57 but not recorded until 1957-58.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Flour (b)		Butter (b)		Potatoes (b)		Fresh Fruit(c)(d)	Cattle	Sheep
	Quantity	Value	Quantity	Value	Quantity	Value	Value	Value	Value
1850	short tons (e)	\$	lb. (f)	\$	tons (f)	\$	\$	\$	\$
1850	12	440	36		70	192		48	236
1860						1,260			4,400
1870					26	344			480
1880	(f)	2,462							204
1890								966	1,662
1900	48	800			111	1,298	828	36	2,078
1901	44	826			74	1,282	1,364	20	3,908
1902					24	296	40	21,672	4,656
1903					2	40	30		130
1904	5	82	240	16	1	12	24		1,844
1905	114	1,754			9	160	242	200	2,626
1906	24	398			35	776	476	226	1,862
1907	4,087	69,130					1,850	1,200	84
1908	528	10,132	326	36	61	896	4,524	630	310
1909	1,088	21,150	547	64	126	1,882	4,314	234	872
1910	3,082	50,854	124	18	81	1,418	11,012	15,690	8,726
1911	7,270	109,130	11,844	1,000	64	1,688	32,206	66,566	16,882
1912	15,591	243,460	39,943	4,410	712	14,792	66,792	102,716	22,152
1913	29,851	479,680	48,505	5,092	242	4,324	64,548	145,900	30,860
1914 (g)	18,273	316,132	20,893	2,276	135	1,920	16,560	59,354	6,222
1915	2,986	54,372	25,533	3,226	301	5,612	92,834	74,936	11,352
1916	17,309	436,778	33,719	4,706	906	20,704	44,472	141,690	8,718
1917	37,972	848,724	53,061	7,840	399	7,696	164,028	45,066	4,032
1918	58,066	1,387,154	313,140	51,214	165	4,214	71,378	177,194	29,180
1919	105,453	2,588,964	199,415	35,532	555	14,054	114,042	18,032	43,896
1920	129,491	5,053,240	137,370	27,570	1,982	69,868	300,174	73,034	27,678
1921	53,452	2,150,164	86,745	20,792	712	17,166	242,670	43,814	23,020
1922	56,248	2,049,264	61,003	11,586	859	17,066	352,208	95,834	69,532
1923	59,875	1,341,818	27,176	5,088	2,097	46,150	475,880	118,130	44,948
1924	78,217	1,649,486	45,947	7,774	4,011	107,978	377,894	60,340	39,544
1925	75,407	1,937,002	33,334	5,530	919	13,094	493,070	4,510	7,952
1926	92,097	2,588,622	37,700	6,800	2,056	57,098	464,298	29,696	31,270
1927	94,329	2,322,648	29,876	5,666	2,004	59,056	668,544	32,398	49,844
1928	85,398	2,016,336	23,418	4,728	801	20,978	383,830	69,834	58,204
1929	79,865	1,784,646	99,505	18,202	1,641	41,876	1,066,708	37,918	51,506
1930	69,274	1,545,430	66,899	11,034	5,387	162,140	312,388	686	45,926
1931	85,966	1,271,036	41,944	4,164	5,301	53,850	604,170	2,870	25,180
1932	88,631	1,161,458	1,455,042	178,398	1,065	20,914	861,476	2,788	27,536
1933	86,434	1,109,038	2,297,431	279,834	850	9,760	664,546	1,360	35,148
1934	64,830	784,538	2,220,130	196,870	2,000	21,706	739,030	70	26,048
1935	86,160	1,129,890	2,316,638	150,222	2,694	56,182	896,116	932	43,926
1936	66,987	974,706	2,301,397	249,002	8,713	126,994	1,003,976	1,002	46,922
1937	86,291	1,665,720	1,652,308	186,460	7,301	125,482	724,040	1,334	55,968
1938	81,336	1,609,412	3,651,258	476,464	5,500	61,866	656,248	354	74,110
1939	89,245	1,168,794	4,165,717	467,084	15,297	296,854	1,297,970	682	73,176
1940	91,843	1,304,326	4,157,400	494,758	12,487	228,716	845,770	250	64,720
1941	118,710	2,187,964	3,883,233	464,316	19,000	392,546	374,664	2,114	112,326
1942	85,156	1,685,374	3,722,340	433,506	10,940	228,298	245,130	594	96,512
1943	77,802	1,585,556	477,150	65,540	7,081	162,036	271,340	946	436
1944	107,808	2,367,034	2,144,544	285,176	1,641	46,814	200,024	26,750	138
1945	104,444	2,569,316	2,214,548	385,644	18,377	604,162	238,388	1,890	696
1946	117,136	4,678,654	2,887,169	511,904	13,768	468,118	812,906	2,170	90,770
1947	129,842	7,637,454	2,089,858	393,538	13,404	501,806	1,587,242	27,244	362,004
1948	140,306	11,357,680	4,572,333	1,013,628	18,924	699,752	1,890,488	9,542	347,130
1949	131,614	10,543,144	4,682,378	1,071,204	14,529	462,576	1,765,886	11,084	373,946
1950	116,199	8,357,864	3,527,571	927,202	11,164	434,344	2,233,176	5,428	426,500
1951	160,228	11,800,092	1,285,022	368,112	12,306	569,660	2,809,396	8,746	616,032
1952	161,974	13,703,418	448,120	139,502	15,073	839,958	3,298,930	23,014	630,726
1953	176,630	15,132,114	421,937	157,750	13,568	810,760	4,981,160	22,816	501,498
1954	148,467	11,735,338	442,111	167,906	17,186	1,399,166	3,683,428	28,530	568,292
1955	120,711	7,246,062	441,157	169,392	9,667	563,296	4,290,084	67,824	612,402
1956	130,519	7,815,620	649,696	245,118	3,354	270,556	4,090,098	176,984	624,690
1957	127,712	7,491,024	445,590	180,824	8,598	857,204	4,999,600	242,740	923,138
1958	111,946	6,913,966	477,856	184,072	14,266	868,004	4,085,558	308,256	841,196
1959	104,754	6,343,216	417,259	178,686	9,172	411,300	3,990,238	395,884	764,250
1960	87,789	5,996,210	421,511	183,160	9,460	435,714	2,843,358	324,840	845,482
1961	135,875	7,838,398	668,777	247,484	7,697	437,074	5,080,898	317,744	880,650
1962	97,951	5,887,962	1,666,239	531,610	10,165	632,200	3,200,350	54,912	1,254,120
1963	74,397	4,640,674	543,976	223,412	17,747	810,068	5,295,700	160,200	1,495,482
1964	69,036	4,390,544	297,776	122,902	9,763	353,294	4,261,692	331,222	1,432,052
1965	92,362	5,921,490	366,480	158,908	12,731	840,728	5,505,690	427,336	1,376,006

(a) From 1915, year ended 30th June. (b) Includes ships' stores for 1958-59 and earlier; from 1959-60 ships' stores are excluded. (c) Includes ships' stores. (d) Includes tomatoes. (e) Short ton = 2,000 lb. (f) Not available. (g) Six months ended 30th June.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Skins and Hides		Timber (b)		Crayfish Tails, Frozen (c)		Pearl-shell		Petroleum Oils and Spirits (d)	
	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
	\$	'000 sup. ft.	\$	lb.	\$	lb.	cwt.	\$	gal.	\$
1850	658	126	2,096	....	....	....	....	....	....	....
1860	112	658	9,864	....	....	....	....	....	....	....
1870	390	2,566	35,142	....	....	....	1,480	18,862	....	....
1880	7,546	7,950	132,506	....	....	....	14,380	79,420	....	....
1890	48,806	14,066	164,104	....	....	....	24,745	172,586	....	....
1900	149,804	68,705	916,072	....	....	....	14,747	173,026	....	....
1901	173,118	85,807	1,144,094	....	....	....	16,350	211,460	....	....
1902	222,912	75,082	1,001,066	....	....	....	18,936	277,378	....	....
1903	257,250	95,794	1,277,734	....	....	....	19,071	348,644	....	....
1904	252,544	96,868	1,308,240	....	....	....	23,275	249,010	....	....
1905	336,560	104,514	1,378,022	....	....	....	29,654	293,664	....	....
1906	371,400	105,761	1,415,578	....	....	....	28,515	285,364	....	....
1907	373,356	76,826	1,009,970	....	....	....	27,881	359,630	....	....
1908	275,862	118,435	1,627,236	....	....	....	30,693	351,482	....	....
1909	395,310	129,868	1,733,516	....	....	....	28,412	349,020	....	....
1910	482,448	144,858	1,944,650	....	....	....	29,281	492,136	....	....
1911	346,680	149,390	1,972,374	....	....	....	27,471	481,528	....	....
1912	364,370	135,565	1,806,792	....	....	....	31,915	843,218	....	....
1913	512,834	163,438	2,178,972	....	....	....	30,419	549,448	....	....
1914 (e)	208,950	75,357	1,004,366	....	....	....	10,143	171,844	....	....
1915	299,862	119,622	1,616,784	....	....	....	22,806	322,778	....	....
1916	503,644	65,188	884,028	....	....	....	25,045	317,194	....	....
1917	445,012	46,888	621,786	....	....	....	24,000	393,954	....	....
1918	407,476	41,230	547,566	....	....	....	17,267	287,558	....	....
1919	543,902	49,629	665,168	....	....	....	13,253	235,632	....	....
1920	1,246,058	60,784	931,468	....	....	....	33,505	670,566	....	....
1921	759,348	117,795	2,274,446	....	....	....	23,056	469,872	....	....
1922	730,298	99,707	2,082,094	....	....	....	30,440	507,558	....	....
1923	1,091,954	94,935	1,994,942	....	....	....	25,477	429,068	....	....
1924	1,040,496	133,648	2,735,034	....	....	....	28,479	487,360	....	....
1925	954,374	142,132	2,955,994	....	....	....	23,264	468,698	....	....
1926	882,806	144,017	3,045,916	....	....	....	25,762	465,294	....	....
1927	752,008	157,355	3,315,952	....	....	....	24,502	424,674	....	....
1928	1,106,288	124,617	2,530,766	....	....	....	19,066	332,130	....	....
1929	1,100,548	91,623	1,920,870	....	....	....	21,515	344,752	....	....
1930	738,178	78,957	1,614,850	....	....	....	19,378	331,400	....	....
1931	539,318	49,534	1,014,764	....	....	....	20,313	334,436	....	....
1932	395,118	36,752	722,310	....	....	....	12,237	194,474	....	....
1933	479,856	26,826	522,954	....	....	....	20,653	294,050	....	....
1934	770,730	48,730	972,046	....	....	....	16,854	195,860	....	....
1935	639,598	63,913	1,270,444	....	....	....	19,435	188,672	....	....
1936	1,060,510	67,178	1,355,806	....	....	....	19,363	213,896	....	....
1937	1,143,068	68,087	1,396,522	....	....	....	18,261	246,776	....	....
1938	984,828	90,549	1,859,744	....	....	....	24,781	336,212	....	....
1939	735,878	68,451	1,436,020	....	....	....	22,621	211,760	....	....
1940	745,240	60,595	1,250,608	....	....	....	16,859	152,612	....	....
1941	579,724	73,094	1,545,918	....	....	....	13,704	152,866	....	....
1942	772,018	62,697	1,369,122	....	....	....	11,616	141,692	....	....
1943	347,662	42,272	1,188,934	....	....	....	120	1,420	....	....
1944	680,266	43,744	1,215,972	....	....	....	37	608	....	....
1945	537,398	34,218	1,131,474	....	....	....	....	....	....	....
1946	1,273,976	40,476	1,429,242	....	....	....	260	7,578	....	....
1947	2,131,204	41,505	1,719,272	....	....	....	2,491	120,096	....	....
1948	2,048,302	43,340	2,230,422	....	....	....	6,733	339,792	....	....
1949	2,134,034	38,379	1,986,304	(f)	(f)	....	8,169	366,878	....	....
1950	2,329,102	34,295	1,948,986	1,143,235	463,318	....	6,997	247,796	....	....
1951	5,293,780	28,110	1,783,044	3,165,055	1,517,412	....	6,797	274,380	....	....
1952	3,193,862	28,659	2,075,376	2,890,663	1,861,444	....	8,205	405,972	....	....
1953	3,941,642	47,585	4,147,186	2,930,255	2,084,592	....	10,538	611,984	....	....
1954	3,294,886	46,318	4,480,084	3,222,166	2,342,442	....	12,271	707,560	....	....
1955	2,920,562	41,748	3,847,236	3,376,571	2,489,976	....	13,785	819,654	64,638,372	6,064,160
1956	3,273,310	54,591	5,598,340	3,529,076	3,021,512	....	15,954	999,454	332,098,020	33,401,434
1957	(g)4,649,548	66,147	6,215,026	3,565,789	3,514,276	....	21,671	1,391,456	335,032,510	37,383,364
1958	(g)3,898,450	66,872	7,495,864	4,708,161	3,965,070	....	22,580	1,380,572	435,461,273	48,754,584
1959	3,488,616	77,561	8,414,964	6,116,632	5,281,300	....	15,521	772,062	396,537,335	43,194,332
1960	4,766,866	73,601	7,760,452	6,603,858	6,499,222	....	12,535	707,314	427,135,606	47,487,016
1961	3,828,480	66,412	7,175,480	5,105,607	5,880,696	....	11,283	502,346	557,264,317	54,918,844
1962	4,579,652	68,559	7,528,208	7,951,778	9,777,808	....	8,924	320,308	561,273,260	50,639,406
1963	4,338,826	65,811	7,240,816	7,694,085	8,910,276	....	7,647	289,194	556,418,498	49,679,280
1964	4,965,980	63,331	6,812,708	7,532,197	9,210,784	....	3,304	111,912	576,296,580	54,751,444
1965	4,176,520	56,511	6,279,342	5,891,149	10,591,532	....	3,186	133,364	452,257,089	43,615,322

(a) From 1915, year ended 30th June. (b) Excluding plywood and veneers and small quantities of timber for which no super. footage is recorded. For the years 1906 to 1921, figures are approximate. (c) Figures for the years 1949-50 to 1951-52 represent oversea exports only and exclude small consignments to other Australian States. Those for 1952-53 and later years include small consignments of cooked whole crayfish to other Australian States. (d) A major oil refinery began production in 1954-55. In some earlier years there were small consignments of re-exported products which were of little significance and are not shown. (e) Six months ended 30th June. (f) Precise information not available, but it is known that the value of exports was about \$500,000. (g) Figure for 1956-57 excludes, and that for 1957-58 includes, an amount of \$22,012 representing the value of cattle hides exported during 1956-57 but not recorded until 1957-58.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Gold Bullion (b)		Lead (inc. Silver- Lead- Zinc) Ores and Concentrates	Tin Ore and Concentrates	Asbestos (Crude and Fibre)	Manganese Ore and Concentrates	Iron Ore and Concentrates (d)			
	Quantity	Value (c)	Value	Value	Quantity	Value	Quantity	Value		
	fine oz.	\$	\$	\$	cwt.	\$	tons	\$	tons	\$
1850	110	....	....	....	....	....	....	....
1860	1,970	....	....	....	....	....	....	....
1870	29,028	....	....	....	....	....	....	....
1880	30,736	....	....	....	....	....	....	....
1890	22,806	173,328	4,270	10,800	....	....	....	....	....
1900	999,770	7,589,232	484	76,356	....	....	....	....	....
1901	1,023,864	7,883,594	....	78,990	....	....	....	....	....
1902	897,434	6,637,916	....	45,136	....	....	....	....	....
1903	1,106,436	8,123,534	....	45,712	4	20	....	....	....
1904	1,061,491	7,878,666	....	54,236	....	....	....	....	....
1905	777,844	6,585,614	....	153,556	....	....	....	....	....
1906	691,822	5,860,916	....	277,268	....	....	....	....	....
1907	538,269	4,544,792	3,732	302,828	....	....	....	....	....
1908	485,245	4,104,800	10,012	167,188	....	....	....	....	....
1909	511,620	4,328,374	4,336	125,978	....	....	200	....	280
1910	333,832	2,835,124	4,116	92,522	....	....	....	....	....
1911	308,720	2,612,544	30,778	110,440	....	....	....	....	....
1912	268,973	2,285,046	45,326	159,476	....	2	8	....	....
1913	198,421	1,682,768	119,448	144,284	....	....	....	....	....
1914 (e)	60,452	512,542	57,394	49,246	....	....	....	....	....
1915	100,064	827,120	94,782	51,330	....	....	....	....	....
1916	182,070	1,540,838	21,626	92,366	....	....	6	....	....
1917	7,434	113,038	....	....	....	....	....
1918	9,080	110,264	20	50	....	....	....
1919	7,588	111,700	60	194	....	....	....
1920	41,296	452,002	102,174	128,802	....	....	....	....	....
1921	66	742	66,770	41,180	2,592	13,332	1	20	....
1922	10,174	1,747	....	8,390	15	270	....
1923	46,958	18,160	....	....	12	240	....
1924	90,523	766,890	107,884	37,540	....	....	10	160	....
1925	36,117	305,218	186,360	29,270	....	....	20	320	....
1926	49,819	386,436	185,698	23,480	....	....	....	....	2
1927	91,080	710,852	109,266	27,974	....	....	82	1,006	....
1928	14,361	121,302	7,856	24,386	....	....	30	606	....
1929	10,353	80,566	10,630	29,778	....	....	....	1	....
1930	143	1,130	19,468	29,224	....	....	80	460	....
1931	2,366	10,346	....	....	....	....	....
1932	515,491	7,336,442	800	6,158	....	....	1	4	....
1933	624,910	9,376,148	64	6,814	....	....	....	....	....
1934	652,604	10,623,808	232	11,086	....	....	....	....	....
1935	588,917	10,258,020	50	16,908	....	....	....	....	....
1936	770,561	13,385,278	....	18,102	....	....	....	....	....
1937	908,818	15,818,846	....	15,692	....	....	....	....	....
1938	1,074,840	18,597,710	966	19,852	5,533	36,540	....	....	....
1939	1,169,151	21,240,442	1,086	11,046	5,352	25,732	....	....	....
1940	1,167,720	24,055,524	1,900	13,946	3,703	16,776	....	....	....
1941	1,202,348	25,095,520	1,896	11,780	2,911	14,808	....	....	....
1942	974,835	20,590,100	2,268	5,940	1,460	6,886	....	....	....
1943	756,349	15,744,454	934	5,102	1,748	8,034	....	....	....
1944	340,278	7,249,896	872	6,150	1,809	8,440	....	....	....
1945	1,484	5,038	7,588	36,442	....	....	....
1946	358	8,042	21,281	104,384	....	....	....
1947	5,428	12,120	12,542	65,448	....	....	....
1948	355,649	7,055,700	145,848	17,046	23,643	148,448	....	....	....
1949	234,724	30,956	23,200	179,214	1,649	21,726	....
1950	76	2,354	271,510	49,318	17,586	204,248	9,550	126,200	....
1951	263,214	61,514	30,859	378,126	11,488	154,138	....
1952	394,984	13,142,568	1,368,692	106,942	51,570	709,016	7,898	115,482	51,622
1953	759,291	24,798,492	1,681,246	153,310	59,165	989,906	14,330	256,054	543,725
1954	418,067	13,230,218	275,348	97,014	62,975	985,678	26,839	828,722	583,462
1955	618,495	19,337,770	117,362	146,378	74,645	788,120	34,085	803,884	579,526
1956	410,278	12,841,572	896,858	321,672	148,302	1,439,856	54,905	1,270,618	472,058
1957	770,061	24,119,194	978,114	292,654	211,169	2,139,778	58,495	1,551,344	328,588
1958	207,065	6,511,396	423,244	165,974	231,142	2,919,654	54,563	2,501,294	438,624
1959	131,634	4,117,888	251,042	304,016	211,365	2,165,848	56,073	1,627,748	589,369
1960	599,571	18,738,406	245,398	414,540	303,263	3,111,494	78,547	2,223,758	796,125
1961	2,532,438	79,271,476	96,834	325,412	212,120	2,363,884	46,978	1,267,330	1,508,784
1962	452,624	14,194,722	63,530	562,764	252,940	2,753,168	107,584	2,945,152	1,132,308
1963	416,681	13,048,064	33,122	531,982	248,212	2,798,880	52,112	1,389,600	1,497,227
1964	384,595	12,044,888	18,054	1,080,242	158,818	1,767,140	27,133	695,130	1,378,958
1965	512,561	16,127,202	539,664	1,229,338	219,113	2,209,800	76,109	1,747,460	1,557,304

(a) From 1915, year ended 30th June. (b) Gold sold abroad before consignment is not recorded as an export until actually shipped. (c) Australian currency value, including additional premiums on sales of industrial gold. (d) From 1959-60, includes pyritic cinders. (e) Six months ended June.

EXTERNAL TRADE

Year (a)	Imports			Exports (b)			Excess of—	
	Oversea	Interstate	Total	Oversea	Interstate	Total	Imports	Exports
	\$	\$	\$	\$	\$	\$	\$	\$
1850	(c)	(c)	124,702	(c)	(c)	44,270	80,432	....
1860	318,136	20,014	338,150	161,784	16,710	178,494	159,656	....
1870	259,896	166,622	426,518	354,434	47,536	401,970	24,548	....
1880	349,084	358,254	707,338	743,188	255,178	998,366	....	291,028
1890	1,025,216	723,878	1,748,894	969,246	374,380	1,343,626	405,268	....
1900	6,574,044	5,350,512	11,924,356	11,454,046	2,250,062	13,704,108	....	1,779,752
1901	7,790,302	5,118,040	12,908,342	15,882,002	1,149,244	17,031,246	....	4,122,904
1902	10,343,302	4,093,402	14,436,704	16,505,216	1,597,500	18,102,716	....	3,666,012
1903	8,457,108	5,082,736	13,539,844	18,916,250	1,733,214	20,649,464	....	7,109,620
1904	8,043,906	5,301,054	13,344,960	19,824,864	718,114	20,542,978	....	7,198,018
1905	7,538,790	5,424,958	12,963,748	18,118,324	1,623,714	19,742,038	....	6,778,290
1906	7,560,990	6,080,876	13,641,866	18,118,580	1,546,778	19,665,358	....	6,023,492
1907	7,175,096	5,870,900	13,045,996	17,310,558	2,499,162	19,809,720	....	6,763,724
1908	6,424,042	5,932,352	12,356,394	17,206,258	1,829,782	19,036,040	....	6,679,646
1909	6,644,780	6,169,140	12,813,920	13,599,914	4,121,074	17,720,988	....	4,907,068
1910	8,750,236	7,066,536	15,816,772	10,972,356	5,627,206	16,599,562	....	782,790
1911	8,970,738	8,321,138	17,291,876	18,615,788	2,597,938	21,213,726	....	3,921,850
1912	10,034,936	8,465,978	19,100,914	15,559,306	2,322,710	17,882,016	1,218,898	....
1913	10,815,428	8,969,982	19,785,410	10,512,320	7,744,894	18,257,214	1,528,196	....
1914 (d)	5,112,290	4,255,592	9,367,882	5,936,830	4,482,266	10,419,096	....	1,051,214
1915	7,972,396	8,630,164	16,602,560	6,510,092	4,194,188	10,704,280	5,898,280	....
1916	8,338,218	9,627,782	17,966,000	9,318,464	6,762,504	16,080,968	1,885,032	....
1917	8,772,774	9,997,246	18,770,020	9,844,522	19,521,532	29,366,054	....	10,596,034
1918	5,010,542	10,287,924	15,298,466	8,804,674	2,809,996	11,614,670	3,683,796	....
1919	6,281,028	9,766,952	16,047,980	19,504,214	2,341,136	21,845,350	....	5,797,370
1920	9,918,124	14,818,538	24,736,662	29,728,712	2,408,868	32,137,580	....	7,400,918
1921	14,439,076	15,239,406	29,678,482	21,774,198	2,743,080	24,517,278	5,161,204	....
1922	8,616,232	15,459,276	24,075,558	22,721,302	4,536,464	27,257,766	....	3,182,208
1923	13,000,672	14,554,686	27,555,358	19,947,090	2,263,350	22,210,440	5,344,918	....
1924	13,325,458	15,362,832	28,688,290	25,303,082	2,943,496	28,246,578	441,712	....
1925	16,052,904	16,095,166	32,148,070	26,688,594	2,640,502	29,329,096	2,818,974	....
1926	15,792,348	17,132,796	32,925,144	26,272,468	2,890,846	29,163,314	3,761,830	....
1927	18,894,070	17,858,056	36,752,126	27,473,216	2,830,702	30,303,918	6,448,208	....
1928	18,022,608	18,552,658	36,575,266	33,791,868	2,689,682	36,481,550	93,716	....
1929	18,906,354	21,201,190	40,107,544	31,940,086	2,431,822	34,371,908	5,735,636	....
1930	17,757,788	19,805,524	37,563,312	33,314,594	2,224,464	35,539,058	2,024,254	....
1931	9,164,518	13,639,186	22,803,704	34,313,138	1,637,866	35,951,004	....	13,147,300
1932	6,926,084	15,853,716	22,779,800	30,689,820	1,902,352	32,592,172	....	9,812,372
1933	9,541,618	16,740,226	26,281,844	29,083,670	1,991,154	31,074,824	....	4,792,980
1934	8,888,902	18,553,912	27,442,814	32,082,510	2,500,644	34,583,154	....	7,140,340
1935	10,203,128	20,290,308	30,493,436	31,060,158	2,698,178	33,758,336	....	3,264,900
1936	12,687,512	22,073,252	34,760,764	34,064,082	3,719,276	37,783,358	....	3,022,594
1937	14,143,906	24,741,594	38,885,500	35,533,644	6,448,622	41,982,266	....	3,006,766
1938	15,985,856	25,879,342	41,865,198	40,029,450	6,171,624	46,201,074	....	4,335,876
1939	12,274,858	25,329,056	37,603,914	35,133,264	10,879,556	46,012,820	....	8,408,906
1940	12,567,650	27,449,790	40,017,440	20,572,274	28,581,234	49,153,508	....	9,136,068
1941	9,710,416	27,519,044	37,229,460	18,846,996	30,831,962	49,678,958	....	12,449,498
1942	10,391,234	26,109,840	36,501,074	25,418,024	25,284,944	50,702,968	....	14,201,894
1943	7,382,684	24,803,476	32,186,160	12,551,768	20,172,238	32,724,006	....	537,846
1944	7,770,438	26,628,236	34,398,674	25,513,224	13,551,068	39,064,292	....	4,665,618
1945	9,215,242	26,863,472	36,078,714	27,138,728	11,667,338	38,806,066	....	2,727,352
1946	11,018,310	32,237,988	43,256,298	41,333,552	11,756,208	53,089,760	....	9,833,462
1947	18,928,786	42,253,408	61,182,194	47,879,168	11,560,862	59,440,030	1,742,164	....
1948	34,310,608	51,328,954	85,639,562	99,819,608	11,642,852	111,462,460	....	25,822,808
1949	44,075,202	61,182,490	105,257,692	101,638,536	9,549,144	111,187,680	....	5,929,988
1950	68,843,582	70,043,772	138,887,354	111,056,202	12,675,070	123,731,272	15,156,082	....
1951	80,516,828	95,828,014	176,344,842	204,392,846	19,322,916	223,715,762	....	47,370,920
1952	120,474,012	124,208,828	244,682,840	159,101,988	36,283,066	195,385,054	49,297,786	....
1953	59,748,390	137,212,672	196,961,062	175,703,082	50,562,526	226,265,608	....	29,304,546
1954	85,050,526	165,374,154	250,424,680	143,297,380	40,007,830	183,305,216	....	67,119,464
1955	101,295,426	182,109,656	283,405,082	144,078,444	48,109,744	192,188,188	....	91,216,894
1956	92,963,404	177,951,926	270,915,330	162,070,700	69,272,896	231,343,596	....	39,571,734
1957 (e)	80,423,132	158,079,828	238,502,960	228,655,832	82,389,882	311,045,714	....	41,942,754
1958 (e)	91,775,436	195,103,872	286,879,308	190,386,102	80,567,236	270,953,338	15,925,470	....
1959	99,871,928	202,429,968	292,401,896	183,601,862	69,383,994	252,985,856	39,416,040	....
1960	92,363,110	246,695,514	339,058,624	240,137,016	77,859,904	317,996,920	....	21,061,704
1961	110,531,058	245,473,812	356,004,870	319,076,964	90,461,276	409,538,240	....	53,533,370
1962	100,177,956	245,207,720	345,385,676	296,997,348	84,626,106	381,623,454	....	36,237,778
1963	112,639,730	313,711,720	426,351,450	254,726,462	91,636,462	346,362,924	79,988,526	....
1964	121,677,294	323,176,270	444,853,564	295,791,210	101,884,390	397,675,600	47,177,964	....
1965	153,540,482	343,938,986	497,479,468	251,291,536	120,749,686	372,041,222	125,398,246	....

(a) From 1915, year ended 30th June. (b) Includes ships' stores. (c) Not available. (d) Six months ended 30th June. (e) An amount of \$1,008,900, representing the value of goods exported overseas in 1956-57 but not recorded until 1957-58, is excluded from the 1956-57 and included in the 1957-58.

LAND TENURE ; LIVESTOCK ; WOOL PRODUCTION

Year	Land Alienated and Land in Process of Alienation (a)	Land held under Lease or Licence (a) (b)	Livestock (c)				Wool Production (d)	
			Horses	Cattle	Sheep	Pigs	Quantity	Gross Value (e)
	acres	acres					lb.	\$
1829	525,000	.....	57	204	1,469	109	(f)	
1830	833,345	.....	101	583	7,981	66	(f)	
1840	1,597,697	.....	506	2,318	30,961	1,533	(f)	
1850	1,329,821	(f)	2,635	13,074	128,111	3,190	(f)	
1860	1,615,700	5,563,023	9,555	32,476	260,136	10,991	657,000	(f)
1870	1,465,118	12,239,111	22,174	45,213	608,892	12,927	1,788,000	
1880	2,124,701	44,919,631	34,568	63,719	1,231,717	24,232	4,343,000	
1890	5,333,611	104,742,419	44,384	130,970	2,524,913	23,985	6,969,000	
1900	6,619,288	87,375,981	68,253	338,590	2,434,311	28,745	9,531,000	
1901	9,585,144	97,455,927	73,710	398,547	2,625,855	61,052	15,305,000	829,020
1902	9,856,592	112,137,932	80,158	437,136	2,704,880	52,883	14,633,000	1,006,018
1903	10,548,057	135,678,571	82,747	497,617	2,600,633	50,209	14,645,000	976,334
1904	11,558,308	139,854,318	90,225	561,490	2,853,424	70,299	13,964,000	936,752
1905	12,380,035	145,769,592	97,937	631,825	3,120,703	74,567	15,523,000	1,309,668
1906	12,575,902	152,527,740	104,922	690,011	3,340,745	56,203	17,438,000	1,374,696
1907	13,070,006	160,180,142	113,330	717,377	*3,684,974	53,399	22,014,000	1,750,114
1908	14,002,939	161,218,973	118,795	741,788	4,097,324	46,652	22,451,000	1,371,382
1909	16,252,397	166,857,911	125,315	793,217	4,731,737	47,062	30,048,000	2,218,544
1910	17,329,521	167,207,804	134,114	825,040	5,158,516	57,628	29,123,000	2,140,540
1911	19,045,932	169,937,588	140,277	843,638	5,411,542	55,635	29,644,000	2,183,774
1912	20,793,298	175,629,991	147,629	806,294	4,596,958	47,351	25,380,000	1,869,660
1913	21,362,546	188,547,364	156,636	834,265	4,421,375	47,966	25,026,000	1,901,976
1914	21,648,949	184,220,512	161,625	863,835	4,456,186	59,816	24,419,000	1,819,216
1915	22,087,323	189,742,326	163,016	821,048	4,805,550	58,231	29,713,000	2,607,320
1916	21,709,705	196,706,909	169,730	863,930	5,529,960	90,756	33,093,000	3,926,100
1917	21,560,805	192,437,243	178,151	927,086	6,384,191	111,844	40,334,743	4,835,298
1918	21,567,713	208,048,942	180,094	943,847	7,183,747	85,863	45,733,978	6,154,614
1919	21,843,426	245,404,541	174,919	880,644	6,697,951	58,155	41,594,124	5,369,390
1920	23,022,820	257,609,971	178,664	849,303	6,532,965	60,581	41,772,372	4,551,544
1921	24,232,047	258,503,929	180,334	893,108	6,506,177	63,001	43,081,960	4,481,572
1922	25,756,107	267,619,560	181,159	939,596	6,664,135	67,561	40,861,683	6,293,742
1923	27,064,666	262,146,805	181,944	953,764	6,595,867	81,478	45,285,052	8,665,256
1924	28,342,629	209,936,847	175,116	891,564	6,396,564	66,375	45,233,989	9,151,248
1925	28,901,792	232,991,598	170,563	835,911	6,861,795	74,316	48,288,461	6,799,712
1926	30,277,669	230,562,420	166,463	827,303	7,453,766	69,798	55,131,972	7,147,630
1927	31,740,177	234,160,075	165,021	846,735	8,447,480	59,810	62,702,013	10,169,740
1928	33,322,223	237,428,216	160,376	837,527	8,943,002	49,243	58,865,734	8,026,770
1929	35,398,760	243,723,857	159,528	836,646	9,556,823	64,522	67,150,720	5,952,288
1930	36,039,118	245,389,756	156,973	812,844	9,882,761	100,664	71,541,885	4,828,866
1931	36,208,840	216,626,973	156,489	826,532	10,098,104	120,521	71,614,145	5,006,560
1932	35,869,310	206,162,014	157,443	857,473	10,417,031	117,529	75,147,012	5,197,860
1933	35,546,902	198,325,118	159,646	885,669	10,322,350	91,213	78,424,200	9,403,532
1934	35,089,664	200,587,868	161,636	911,940	11,197,156	97,997	89,991,658	6,421,568
1935	34,117,635	203,601,662	160,181	882,761	11,082,972	98,026	85,706,700	8,886,236
1936	32,995,173	203,961,422	155,177	792,508	9,007,535	76,451	63,537,200	7,305,758
1937	33,002,308	205,059,057	151,067	740,241	8,732,076	64,598	64,739,400	5,831,716
1938	33,008,899	205,992,155	143,679	767,680	9,177,531	82,922	72,475,000	5,449,934
1939	32,767,548	205,705,440	139,207	799,175	9,574,433	149,604	75,400,000	7,580,872
1940	32,437,094	209,379,761	130,057	788,928	9,516,272	217,910	71,347,000	7,888,528
1941	32,109,627	209,958,332	124,402	839,731	9,772,780	163,196	77,627,000	8,323,300
1942	31,863,907	211,535,790	112,782	831,231	10,424,385	151,958	75,718,000	11,934,880
1943	31,657,609	212,038,518	106,743	870,939	11,012,936	163,876	102,759,000	12,741,440
1944	31,621,961	212,696,361	96,528	852,563	10,049,587	163,993	84,140,600	10,511,854
1945	31,719,182	212,330,824	88,180	833,567	9,765,983	137,872	82,067,200	10,422,586
1946	31,781,189	212,162,893	80,746	811,949	9,787,002	101,719	80,524,106	16,093,532
1947	32,082,825	213,884,634	74,537	815,610	10,443,798	93,180	89,527,502	29,276,888
1948	31,856,991	217,806,958	68,521	864,131	10,872,540	80,689	93,769,073	37,720,414
1949	32,279,956	223,691,026	59,166	864,936	10,923,167	79,126	92,750,214	47,237,344
1950	32,777,616	226,005,162	55,340	841,204	11,361,908	89,910	102,910,530	118,067,874
1951	33,981,017	(b) 203,939,527	53,347	851,534	12,187,752	86,224	116,142,000	64,027,052
1952	34,765,922	205,608,700	50,241	846,261	12,474,672	76,195	120,726,000	75,121,442
1953	35,860,312	206,437,332	48,770	829,694	13,087,108	100,912	128,964,000	82,566,674
1954	37,236,541	206,566,189	46,886	860,574	13,411,282	107,039	124,173,000	67,995,128
1955	37,825,582	208,040,147	45,491	896,897	14,128,168	99,097	149,704,000	69,641,894
1956	38,229,558	216,317,679	44,660	957,175	14,886,549	139,982	148,334,000	90,283,240
1957	38,564,232	216,810,793	43,930	997,173	15,723,963	150,783	151,026,000	75,228,170
1958	39,253,847	221,763,493	41,286	999,832	16,215,244	115,446	157,358,000	59,407,358
1959	39,717,801	227,600,085	40,740	1,030,469	16,411,589	130,933	160,892,000	75,301,582
1960	40,102,709	227,649,863	40,397	1,100,430	17,151,384	175,675	182,217,000	73,862,822
1961	40,616,527	231,805,694	39,635	1,218,432	18,313,879	174,182	183,334,000	79,282,584
1962	41,467,998	240,036,747	38,840	1,297,746	18,727,124	130,791	177,176,000	80,071,406
1963	42,606,707	248,246,408	39,285	1,298,874	20,164,868	128,140	209,555,000	116,330,970
1964	43,643,469	246,460,740	36,753	1,253,427	22,391,834	137,192	200,995,000	93,274,914
1965	44,588,854	246,141,417	35,447	1,371,226	24,426,808	144,022	238,356,000	115,182,940

(a) From 1906, at 30th June; for earlier years, at 31st December. (b) Comprises allocations by Lands Department and certain leases and licences issued by Mines and Forests Departments. Apparent decrease in 1951 due mainly to revisions in records of Lands Department. (c) At 31st December for 1941 and earlier years; from 1942, the figures shown relate to 31st March in the following year. (d) Comprises shorn, dead and fellmongered wool. Excludes wool exported on skins. For 1947 and earlier, year ended 31st December; figures shown for 1948 and later are for the year ended 31st March in the following year. (e) Figures for 1949 and 1951 to 1955 exclude distributions of profits under the 1939-1945 War-time Wool Disposals Plan aggregating \$13,869,934. Separate State figures are not available for distributions made from 1956 to 1958 when payments were virtually complete. (f) Not available. * Revised.

AGRICULTURE

Year (a)	Area and Production of Principal Grain Crops								
	Total Area under all Crops (b)	Wheat				Oats		Barley	
		Area	Production		Area	Production	Area	Production	
			Yield per Acre	Total					Gross Value
acres	acres	bushels	bushels	\$	acres	bushels	acres	bushels	
1840	2,921	1,670	20 00	33,400					
1850	7,419	4,416	(c)	(c)					
1860	24,705	13,584	15 34	208,322	(r)	507	11,925	2,412	43,465
1870	54,527	26,640	11 89	316,769		2,095	39,974	5,439	87,750
1880	63,902	27,686	12 00	257,174		1,319	21,104	6,363	89,082
1890	69,678	33,320	13 82	467,389		1,934	38,791	5,322	85,451
1900	201,338	74,308	10 42	774,653	309,862	4,790	86,433	2,536	29,189
1901	217,441	94,709	10 10	956,886	358,832	9,751	163,654	2,669	34,723
1902	229,992	92,398	10 67	985,559	344,946	10,334	167,882	3,783	46,255
1903	233,752	137,946	13 60	1,376,252	609,782	14,568	258,503	3,609	53,227
1904	327,391	182,080	11 06	2,013,237	687,856	13,864	226,318	3,251	37,332
1905	364,704	195,071	11 83	2,308,305	851,188	15,713	283,987	3,665	49,497
1906	460,825	250,283	11 02	2,758,567	1,086,186	28,363	457,155	3,590	48,827
1907	493,837	279,609	10 46	2,925,690	1,045,850	46,667	721,763	6,019	76,205
1908	535,339	285,011	8 63	2,460,823	2,432,736	59,461	739,303	7,308	74,433
1909	722,086	448,818	12 48	5,602,368	2,661,124	73,342	1,248,162	8,022	101,673
1910	855,024	581,862	10 14	5,897,540	2,162,432	61,918	776,233	3,369	33,566
1911	1,072,653	612,104	7 12	4,358,904	1,734,480	77,488	961,385	3,664	37,011
1912	1,199,991	793,096	11 56	9,168,594	3,209,008	127,645	2,015,812	5,626	93,418
1913	1,537,923	1,097,193	12 15	13,331,350	4,665,972	133,625	1,655,681	11,502	167,915
1914	1,867,547	1,376,012	1 91	2,624,190	1,880,670	96,085	464,943	6,986	24,090
1915	2,189,456	1,734,117	10 52	18,236,355	6,534,694	104,086	1,538,092	10,069	130,870
1916	2,004,944	1,566,608	10 28	16,103,218	6,105,802	122,220	1,689,352	11,105	134,055
1917	1,679,772	1,249,762	7 44	9,303,787	4,419,298	95,666	908,592	5,028	35,761
1918	1,605,088	1,146,103	7 72	8,845,387	4,422,694	141,459	1,499,689	7,982	81,451
1919	1,628,163	1,041,827	10 77	11,222,950	10,661,302	191,931	2,486,918	9,167	116,037
1920	1,804,986	1,275,675	9 60	12,248,080	11,023,272	193,486	2,022,031	10,686	111,406
1921	1,901,680	1,336,228	10 41	13,904,724	7,531,724	162,866	2,019,603	7,894	85,857
1922	2,274,998	1,552,868	8 92	13,857,432	6,986,456	214,269	2,261,863	9,243	107,804
1923	2,323,070	1,656,915	11 42	18,920,271	8,987,128	241,608	2,846,670	8,673	97,779
1924	2,710,856	1,867,614	12 79	23,887,397	14,531,500	318,982	4,241,074	11,606	177,537
1925	2,932,210	2,112,032	9 69	20,471,177	12,837,134	278,344	2,939,380	13,306	168,300
1926	3,324,523	2,571,187	11 68	31,068,600	17,217,182	234,826	2,716,436	13,826	128,136
1927	3,720,100	2,998,523	12 12	36,370,219	19,842,078	235,469	2,922,865	12,138	126,835
1928	4,259,269	3,343,530	10 10	33,790,040	16,472,644	325,827	3,554,609	14,429	189,560
1929	4,566,001	3,568,225	10 95	39,081,183	17,721,036	385,134	4,058,160	23,649	261,870
1930	4,792,017	3,955,763	13 53	53,504,149	12,201,176	274,874	3,292,560	17,236	185,301
1931	3,963,172	3,158,888	13 14	41,521,245	14,430,086	267,894	3,549,636	14,533	164,580
1932	4,262,884	3,389,352	12 33	41,791,866	13,554,380	285,850	3,603,447	13,772	135,243
1933	4,217,260	3,183,216	11 72	37,305,100	12,004,202	342,642	3,949,905	24,534	324,846
1934	3,840,530	2,764,373	9 76	26,985,000	10,123,000	408,810	4,244,322	26,589	237,765
1935	3,726,324	2,540,696	9 18	23,315,417	9,747,282	448,156	4,557,774	31,568	417,627
1936	3,851,876	2,575,283	8 37	21,549,000	11,901,872	463,129	3,445,167	40,092	449,235
1937	4,168,021	3,026,420	11 97	36,224,800	14,829,526	386,112	4,364,370	44,930	584,055
1938	4,683,333	3,412,818	10 79	36,843,600	8,984,006	426,110	4,668,036	74,928	946,287
1939	4,286,935	3,970,411	13 76	40,861,000	15,526,380	452,764	5,315,292	82,721	971,373
1940	3,988,308	2,925,401	8 02	21,060,000	8,647,906	429,177	3,250,314	65,623	725,352
1941	3,816,522	2,653,419	14 13	37,500,000	15,614,600	407,259	5,325,456	68,388	959,364
1942	2,784,034	1,753,178	11 75	20,800,000	10,079,940	342,309	3,611,991	49,502	533,433
1943	2,744,007	1,667,016	10 56	16,550,000	9,531,278	358,129	3,964,032	61,400	723,984
1944	2,750,022	1,515,762	10 51	15,929,000	8,318,574	401,958	3,844,965	76,164	884,433
1945	2,875,048	1,835,780	11 40	20,929,000	15,870,742	396,285	4,080,948	66,386	665,949
1946	3,532,445	2,540,786	9 81	23,800,000	22,048,030	425,032	3,660,792	65,886	519,252
1947	3,930,118	2,760,446	12 50	34,500,000	50,264,564	494,589	5,410,533	63,136	744,522
1948	4,162,348	2,967,517	12 64	36,250,000	42,122,014	531,638	6,998,295	64,205	981,426
1949	4,292,730	2,994,020	13 30	38,500,000	51,339,176	584,603	7,267,965	67,965	967,815
1950	4,532,756	3,185,389	15 66	49,900,000	65,328,246	585,701	7,913,973	59,114	924,741
1951	4,507,924	3,094,536	12 93	40,000,000	58,984,310	656,559	7,689,222	56,574	695,085
1952	4,636,654	2,999,475	11 82	35,458,000	55,193,930	832,170	10,439,880	106,991	1,742,376
1953	4,477,102	2,885,114	13 76	39,700,000	55,423,294	733,122	9,560,643	209,291	2,733,177
1954	5,042,866	2,979,151	11 51	34,300,000	43,654,626	873,588	9,584,559	259,688	2,804,706
1955	5,233,501	2,889,585	18 43	53,250,000	68,839,722	1,090,901	16,515,679	336,966	4,653,050
1956	5,139,098	2,764,486	11 61	32,100,000	44,054,624	1,051,486	10,441,534	343,590	3,750,511
1957	5,510,867	2,957,206	11 19	33,100,000	45,912,434	1,153,492	13,793,026	307,404	3,556,041
1958	6,015,387	3,291,858	17 51	57,650,000	77,039,226	1,329,742	22,588,050	321,493	5,410,217
1959	6,382,121	3,719,596	15 78	58,670,000	82,361,386	1,240,357	19,598,605	421,293	7,079,828
1960	6,756,637	4,021,225	15 89	63,900,000	92,290,238	1,329,804	21,809,348	540,646	8,495,909
1961	6,975,879	4,379,751	15 00	67,700,000	100,023,062	1,230,651	20,186,436	490,572	7,281,533
1962	7,326,848	4,803,797	15 09	72,500,000	107,023,498	1,177,491	18,571,578	390,282	6,056,426
1963	6,640,632	4,640,434	11 28	52,340,000	74,388,786	1,124,890	17,849,740	298,855	4,076,809
1964	7,289,406	5,151,267	12 24	63,071,000	88,556,922	1,151,969	14,011,068	302,633	3,761,015

(a) Figures shown for 1942 and earlier are for the year ended last day of February in the following year; those shown for 1943 and later are for the season ended 31st March in the following year. (b) Excludes meadow hay. (c) Not available.

PRIMARY PRODUCTION — MISCELLANEOUS

Year	Hay (all kinds)		Gold Production (a)		Coal Production		Average Values f.o.b.	
	Area	Production	Quantity	Value (b)	Quantity	Value	Wool (greasy) per lb. (c)	Wheat per bushel (d)
	acres	tons	fine oz.	\$	tons	\$	cents	cents
1860	6,286	8,099	....	....	....	....	....	53-96
1870	17,173	20,833	....	....	....	....	....	....
1880	19,563	19,563	....	....	....	....	....	50-00
1890	23,183	25,014	20,402	171,328	....	....	....	....
1900	104,254	103,813	1,414,311	12,015,222	118,410	109,870	....	15-00
1901	92,854	89,729	1,708,417	14,471,306	117,836	137,122	5-42	40-00
1902	105,791	94,007	1,871,037	15,895,322	140,884	172,376	6-88	(f) 51-67
1903	109,002	121,934	2,064,801	17,541,438	139,427	133,256	6-67	(f) 63-54
1904	105,247	113,794	1,983,230	16,848,452	138,550	134,348	6-71	32-50
1905	124,906	139,380	1,955,316	16,611,308	127,364	119,824	6-71	34-17
1906	149,830	158,112	1,794,547	15,245,498	142,873	115,096	7-95	36-87
1907	131,056	137,511	1,697,554	14,421,498	142,873	115,096	7-95	39-37
1908	201,874	170,008	1,647,911	13,999,764	175,242	151,388	6-10	42-50
1909	158,629	195,182	1,596,269	13,552,548	214,308	214,930	7-38	41-25
1910	175,432	178,891	1,470,632	12,493,696	262,166	227,398	7-35	40-42
1911	344,032	299,695	1,370,867	11,646,150	249,899	222,308	7-35	34-58
1912	231,690	255,751	1,282,658	10,896,770	295,079	271,714	7-35	30-79
1913	246,640	278,585	1,314,048	11,169,402	313,818	307,228	7-58	37-08
1914	326,037	159,932	1,232,977	10,474,706	319,210	297,368	(g) 7-45	36-87
1915	290,036	395,172	1,210,112	10,289,456	286,666	275,718	6-80	(f) 69-79
1916	240,726	236,989	1,061,398	9,017,064	301,526	295,646	8-72	48-54
1917	265,899	267,163	970,317	8,243,290	326,550	383,644	11-64	46-67
1918	249,796	250,014	876,511	7,446,366	337,039	408,638	10-04	50-21
1919	327,498	379,025	734,066	7,497,764	401,713	520,710	13-01	53-75
1920	266,824	264,244	617,842	6,950,784	462,021	700,692	12-82	71-67
1921	335,561	368,720	553,731	5,907,386	468,817	814,234	10-92	73-33
1922	431,633	457,371	538,246	5,051,622	438,443	763,110	10-41	55-00
1923	329,534	368,122	504,512	4,464,372	420,714	737,898	15-24	50-42
1924	397,591	448,525	485,035	4,511,854	421,864	726,510	18-95	47-50
1925	391,142	356,269	441,252	3,748,640	437,461	726,406	20-85	60-83
1926	358,487	423,839	437,343	3,715,432	474,819	788,800	13-96	62-71
1927	357,065	418,707	408,352	3,469,142	501,505	815,934	12-84	55-21
1928	414,866	421,504	393,408	3,342,186	523,420	840,290	16-11	54-58
1929	418,698	428,328	377,176	3,204,284	544,720	853,412	13-55	50-62
1930	398,411	491,595	417,518	3,728,884	501,423	769,516	8-78	45-42
1931	381,447	453,353	510,572	5,996,274	432,400	672,356	6-70	22-92
1932	417,435	485,368	605,561	8,807,284	415,720	541,260	7-03	31-25
1933	479,768	512,439	637,207	9,772,508	458,398	579,612	7-14	30-42
1934	413,138	462,947	651,338	11,117,746	500,343	557,408	13-04	29-37
1935	494,495	504,571	649,049	11,404,298	537,188	636,026	8-04	32-08
1936	478,099	412,982	846,208	14,747,078	565,075	663,130	11-33	39-79
1937	432,399	450,419	1,000,647	17,487,510	553,509	680,888	13-47	55-21
1938	408,276	437,809	1,167,791	20,726,046	604,792	750,166	11-00	41-04
1939	395,639	475,677	1,214,238	23,685,928	557,535	725,622	8-88	24-37
1940	418,486	375,143	1,191,481	25,393,006	539,427	729,000	11-65	30-45
1941	325,266	414,115	1,109,318	23,792,890	556,574	778,556	13-02	39-43
1942	253,150	277,957	848,181	17,730,990	581,176	922,990	12-99	41-14
1943	282,456	314,359	546,475	11,421,338	531,546	979,442	14-60	41-08
1944	323,729	338,912	466,265	9,799,994	558,322	1,166,152	15-79	48-21
1945	281,410	287,476	468,550	10,021,082	543,363	1,145,792	15-53	63-40
1946	277,489	280,252	616,964	13,280,138	642,287	1,460,208	15-84	86-57
1947	229,172	267,901	703,886	15,151,148	730,506	1,680,498	20-70	131-77
1948	226,779	277,329	664,986	14,313,818	732,938	1,760,472	34-66	175-07
1949	216,320	272,052	648,426	15,925,616	750,594	1,944,490	42-73	152-70
1950	176,990	226,703	610,333	18,932,540	814,352	2,575,498	48-04	155-20
1951	173,855	211,629	627,779	19,450,686	848,475	3,433,576	119-52	169-41
1952	227,082	290,296	729,975	23,695,834	830,461	4,914,592	62-64	170-48
1953	219,171	293,936	823,912	26,598,184	886,182	6,146,146	67-15	173-02
1954	289,329	305,052	850,540	26,627,236	1,018,343	7,177,638	70-85	165-75
1955	269,439	383,784	842,005	26,749,376	903,792	6,178,622	61-41	142-12
1956	242,217	288,479	812,380	26,404,800	830,007	5,447,962	51-10	126-73
1957	338,983	385,992	896,631	29,101,786	838,661	5,105,314	65-62	130-97
1958	332,613	455,160	867,188	28,356,656	870,882	4,561,298	59-33	153-36
1959	319,486	433,201	866,609	28,388,390	911,435	4,713,068	41-67	140-88
1960	284,038	381,010	855,759	28,139,806	922,393	4,878,390	52-33	134-67
1961	293,549	395,952	871,845	28,584,392	765,740	3,360,518	44-95	135-82
1962	339,833	452,951	859,368	28,114,606	919,112	3,961,556	49-80	141-25
1963	288,657	389,413	800,212	26,374,938	902,495	3,970,120	50-52	142-34
1964	304,610	390,305	712,847	23,383,260	987,420	4,673,934	60-99	141-55
1965	290,797	414,417	659,437	22,381,206	993,741	4,409,972	54-69	140-60

(a) Comprises gold refined at the mint and gold contained in gold-bearing materials exported. (b) Australian currency value including amounts, totalling \$2,760,082 for the years 1952 to 1965, 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 1954-1965, totalling \$12,860,976 in the years 1955 to 1965. (c) From 1915 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.

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 Bee Keeping	Pastoral and Trapping (e)	Mining and Quarrying	Forestry	Fishing	
1914	\$ 6,194,280	\$ 1,121,532	\$ 4,115,470	\$ 11,154,194	\$	\$	\$
1915	13,059,266	1,173,098	6,060,468	11,056,810			
1916	11,779,326	1,382,732	7,340,132	11,936,682			
1917	8,513,322	1,331,926	8,958,964	9,365,446			
1918	9,515,526	1,396,076	9,088,288	8,606,964			
1919	18,132,562	1,687,438	9,543,536	7,184,476			
1920	17,465,968	2,065,014	9,008,300	6,592,124	(e)	(e)	(e)
1921	13,853,064	2,264,514	8,032,090	5,845,328			
1922	12,991,896	2,349,702	10,584,470	5,738,508			
1923	15,075,928	2,482,844	13,027,162	5,445,648		641,960	
1924	22,367,454	2,725,828	13,419,324	5,340,172		764,320	
1925	19,149,912	2,506,928	11,537,048	5,010,340	4,126,348	970,500	30,140,170
1926	24,187,372	2,502,990	11,282,336	4,933,162	3,367,010	579,700	32,511,856
1927	26,068,050	2,687,346	14,687,154	4,697,826	2,906,042	516,310	36,228,234
1928	23,884,134	2,935,506	13,500,638	4,588,508	2,462,980	560,906	31,960,730
1929	24,503,804	3,442,776	10,800,074	4,495,884	2,158,530	544,388	26,745,656
1930	17,755,750	3,169,956	8,845,150	4,695,176	1,809,402	485,266	17,266,180
1931	20,985,402	3,310,524	8,023,062	6,910,892	1,311,846	426,992	23,822,198
1932	20,494,622	3,338,148	8,056,540	9,691,108	1,182,820	430,154	24,713,950
1933	19,022,192	3,314,636	13,368,832	10,606,342	1,647,882	405,940	29,975,894
1934	16,335,738	3,926,676	9,455,948	11,938,522	2,399,386	373,252	23,175,438
1935	17,044,856	3,896,772	12,638,854	12,402,024	2,653,430	371,940	32,351,842
1936	18,871,472	4,169,540	11,436,718	15,827,318	3,031,704	464,544	36,447,124
1937	21,071,480	4,493,882	10,139,490	18,845,376	2,957,272	592,260	38,820,648
1938	17,077,376	4,716,378	9,457,130	22,204,668	2,899,432	560,602	35,975,718
1939	23,197,582	4,855,160	11,601,978	25,034,854	2,659,646	561,828	46,299,676
1940	14,759,948	5,229,990	11,700,992	26,705,766	3,160,414	539,030	41,064,516
1941	22,219,206	5,959,930	6,233,534	24,842,596	2,950,496	478,796	46,458,706
1942	18,105,572	7,663,946	16,344,998	18,975,188	3,277,402	254,710	45,248,064
1943	18,505,340	7,970,798	18,380,722	12,801,352	3,149,858	346,552	42,495,030
1944	20,856,458	8,472,728	15,599,982	11,528,782	3,151,754	330,218	42,276,460
1945	26,310,360	8,709,226	16,228,316	11,796,736	3,357,526	438,136	47,842,414
1946	32,634,640	8,932,970	22,450,912	15,404,514	3,305,314	634,788	60,350,716
1947	64,699,078	9,789,592	37,430,212	17,727,596	3,648,600	1,135,498	107,206,214
1948	58,785,158	11,963,962	46,771,256	17,543,012	4,024,360	1,378,876	108,181,900
1949	69,686,032	12,975,478	59,079,178	19,707,330	4,501,356	1,431,744	131,727,640
1950	87,751,542	14,154,770	132,419,852	24,174,644	6,740,588	1,649,346	222,045,806
1951	86,791,146	18,777,964	80,443,070	26,975,424	8,516,810	2,505,090	171,002,416
1952	87,126,514	21,289,270	91,099,400	35,968,584	7,154,880	3,285,752	181,122,540
1953	86,533,386	22,327,934	102,175,590	40,996,316	7,678,124	3,807,504	194,207,560
1954	77,164,204	21,761,552	87,769,860	42,651,082	8,115,778	4,383,338	170,350,662
1955	109,709,296	22,432,778	89,653,772	41,198,874	10,473,964	4,914,786	200,427,644
1956	80,170,244	23,240,306	113,161,878	42,735,118	10,305,088	5,563,498	196,749,008
1957	87,292,918	23,500,146	94,293,334	44,382,124	11,046,012	6,529,692	183,076,516
1958	126,671,980	22,837,756	81,764,042	43,595,060	10,902,612	7,818,380	199,990,742
1959	131,051,556	24,695,680	100,543,494	46,487,400	10,919,058	8,621,252	223,894,946
1960	140,003,460	25,917,460	101,629,518	47,102,848	11,082,288	8,568,648	232,468,084
1961	148,765,296	26,400,118	105,820,848	48,535,042	11,103,576	10,688,892	247,867,472
1962	157,948,336	27,386,732	107,656,200	49,415,384	10,876,720	11,219,330	255,820,604
1963	123,342,292	28,722,788	149,333,112	47,467,932	11,461,854	10,187,368	266,670,030
1964	139,426,416	30,884,012	126,611,846	49,305,670	12,093,310	15,217,968	266,714,912

(a) Figures generally are for the season or financial period ending in the following year. (b) Represents the estimated value of recorded production based on wholesale prices realized at the principal market. (c) In addition, the following amounts were paid as interim distribution of profits under the 1939-1945 War-time Wool Disposals Plan: in 1949, \$3,629,478; in 1951, \$3,629,478; in 1952, \$2,325,324; in 1953, \$368,104; in 1954, \$2,120,460; and in 1955, \$1,797,090. Separate State figures are not available for distributions made from 1956 to 1958 when payments were virtually complete. (d) Net value of production is derived by deducting from the gross value all marketing costs and the cost of certain goods (seed, fertilizer, pickling, sprays, dips, fodder, fuel and oil, etc.) used in the processes of production. (e) Not available.

FACTORIES (a)

Year (b)	Fac- tories	Persons Em- ployed (c)	Salaries and Wages (d)	Output (e)	Net Pro- duction (f)	Certain Items of Factory Production										
						Bricks (g)	Cement	Timber from Local Logs (h)	Bacon and Ham	Butter (i)	Beer and Stout	Flour	Elec- tricity Dis- tributed			
														'000	tons	'000 sup. ft.	tons	tons	'000 gal.	short tons (j)	'000 kWh.
1897	487	9,689	(k)	—	—	36,564	—	—	85,053	—	—	121	2,818	7,314	—	—
1898	595	9,895	(k)	—	—	26,811	—	—	103,043	—	—	118	3,278	8,460	—	—
1899	603	10,206	2,496	—	—	18,565	—	—	118,052	—	—	132	3,374	10,042	—	—
1900	632	11,166	2,589	—	—	25,234	—	—	112,693	—	—	130	4,015	12,539	—	—
1901	662	12,198	2,910	—	—	30,160	—	—	122,414	—	—	150	4,225	10,278	—	—
1902	702	12,520	3,043	(k)	(k)	37,722	—	—	124,005	—	—	144	4,780	11,840	—	—
1903	693	12,458	2,960	—	—	45,576	—	—	126,730	—	—	157	4,943	13,711	(k)	—
1904	793	13,427	3,208	—	—	50,332	—	—	143,595	—	—	197	5,404	20,185	—	—
1905	777	13,481	3,109	—	—	44,045	—	—	137,250	—	—	189	5,144	26,420	—	—
1906	802	13,739	3,244	—	—	37,893	—	—	136,295	—	—	170	5,100	26,977	—	—
1907	791	13,545	2,959	—	—	28,666	—	—	110,394	(k)	—	195	4,652	28,353	—	—
1908	774	13,276	3,116	8,958	5,213	23,842	—	—	168,414	—	—	163	4,312	31,424	—	—
1909	773	13,606	3,180	8,810	4,964	17,833	—	—	171,825	—	—	185	4,600	24,878	—	—
1910	822	14,894	3,532	10,158	5,472	23,162	—	—	174,528	—	—	286	4,711	36,818	—	—
1911	880	16,754	4,171	11,863	6,567	28,687	—	—	198,977	—	—	222	5,113	40,642	23,227	—
1912	891	17,425	4,579	13,652	7,165	34,432	—	—	217,696	—	—	200	5,419	49,319	24,704	—
1913	954	18,372	4,675	14,597	7,524	35,085	—	—	218,908	—	—	231	5,360	61,997	25,716	—
1914	989	18,799	4,949	14,445	7,667	34,854	—	—	227,297	—	—	201	5,544	61,922	27,580	—
1915	983	15,882	3,871	14,125	6,468	21,667	—	—	123,494	—	—	320	5,349	32,396	28,131	—
1916	953	13,844	3,600	14,693	6,294	18,585	—	—	100,356	—	—	482	5,299	70,912	26,943	—
1917	944	13,350	3,486	15,324	6,199	17,488	—	—	85,218	—	—	608	5,018	102,300	30,252	—
1918	862	13,849	3,726	16,799	6,318	15,672	—	—	94,990	1,028	—	397	5,362	119,876	30,402	—
1919	922	16,358	4,636	20,573	7,645	21,092	—	—	131,477	1,000	—	445	5,775	141,516	28,083	—
1920	998	16,942	6,073	26,283	9,708	31,838	—	—	137,934	837	—	544	5,736	120,125	33,336	—
1921	1,099	18,151	7,136	25,689	10,479	23,548	(m)	—	183,693	772	—	684	5,532	82,148	36,086	—
1922	1,323	18,743	7,426	25,741	11,580	28,509	(m)	—	179,059	801	—	678	4,988	94,316	40,556	—
1923	1,307	19,805	7,731	27,409	12,257	34,864	(m)	—	192,547	969	—	766	4,893	107,990	47,973	—
1924	1,293	21,671	8,673	31,453	13,917	34,930	(m)	—	207,137	1,164	—	741	5,196	122,192	55,440	—
1925	1,170	20,667	13,175	42,890	19,222	53,336	15,636	—	328,935	1,875	—	836	7,598	190,369	99,853	—
1927	1,216	19,403	8,303	31,343	13,814	45,204	17,050	—	229,195	1,123	—	1,100	5,615	133,919	78,139	—
1928	1,398	20,435	9,003	33,996	15,380	52,992	19,645	—	227,631	1,157	—	1,111	6,011	127,246	84,450	—
1929	1,469	20,913	9,351	34,909	15,937	60,568	20,769	—	174,324	1,089	—	1,617	5,934	119,550	92,460	—
1930	1,466	19,643	8,310	33,783	14,976	47,720	23,276	—	159,643	1,161	—	2,109	6,008	120,595	102,411	—
1931	1,455	14,619	5,774	24,707	10,562	13,630	15,565	—	112,484	1,300	—	3,171	5,028	132,090	98,100	—
1932	1,490	13,392	4,671	22,375	9,212	15,101	16,853	—	57,690	1,297	—	3,727	4,366	131,165	119,833	—
1933	1,499	14,810	5,083	24,655	10,124	25,673	24,357	—	59,254	1,542	—	4,224	4,689	127,574	138,094	—
1934	1,606	16,154	5,505	25,755	10,889	31,717	27,746	—	96,428	1,901	—	4,886	5,450	122,000	152,028	—
1935	1,658	17,769	6,222	29,283	12,570	37,552	40,403	—	130,497	2,035	—	4,992	5,976	124,130	163,561	—
1936	1,946	20,972	7,408	35,057	15,008	50,498	48,539	—	154,989	2,373	—	4,896	7,260	118,340	194,603	—
1937	2,032	22,712	8,315	36,626	15,893	53,270	48,804	—	176,321	1,941	—	4,751	6,676	122,723	223,699	—
1938	2,066	23,133	8,803	39,288	17,125	57,598	59,694	—	176,718	1,945	—	6,117	6,792	125,472	250,368	—
1939	2,129	23,211	9,147	39,097	17,551	53,062	56,520	—	161,315	1,881	—	6,542	7,269	137,553	277,517	—
1940	2,129	22,967	9,150	40,615	18,055	43,786	57,775	—	152,453	2,073	—	6,251	8,009	140,849	305,999	—
1941	2,056	22,734	9,441	43,650	18,034	45,505	48,704	—	146,847	2,288	—	6,352	8,162	149,925	320,296	—
1942	1,938	23,980	10,999	47,904	20,201	34,247	43,367	—	146,013	2,729	—	6,991	8,384	135,338	313,625	—
1943	1,799	25,813	12,956	53,475	22,906	8,926	32,750	—	138,878	4,106	—	6,446	9,063	126,274	283,215	—
1944	1,807	28,101	14,835	58,417	25,023	6,296	29,783	—	121,600	4,322	—	6,155	9,671	159,799	279,359	—
1945	1,931	29,146	15,228	63,481	25,920	10,003	29,090	—	116,330	4,971	—	5,676	9,178	161,690	291,585	—
1946	2,280	30,256	15,768	68,046	27,653	24,150	25,195	—	117,995	4,573	—	5,804	10,552	166,791	302,025	—
1947	2,615	33,806	18,210	76,540	31,497	37,758	43,575	—	139,842	4,603	—	5,956	11,802	176,726	338,820	—
1948	2,788	35,967	21,471	91,252	36,768	44,986	56,450	—	148,695	3,955	—	6,974	11,999	195,497	358,221	—
1949	2,925	38,354	25,856	106,835	42,948	50,378	59,130	—	142,285	3,553	—	6,966	13,207	181,466	353,875	—
1950	3,023	40,733	30,586	127,956	52,088	58,943	60,000	—	153,813	3,542	—	6,769	15,250	159,495	368,371	—
1951	3,111	43,761	39,316	168,862	63,441	67,312	72,075	—	176,207	3,558	—	6,797	16,479	217,345	401,556	—
1952	3,267	45,097	50,789	213,143	85,491	76,884	74,680	—	199,447	3,680	—	6,705	17,433	221,846	428,056	—
1953	3,424	45,188	56,687	238,620	98,383	86,043	97,418	—	223,325	3,693	—	6,480	17,784	224,330	469,209	—
1954	3,523	47,459	63,181	269,174	110,294	101,240	125,466	—	241,011	3,448	—	6,142	17,844	187,958	520,301	—
1955	3,727	49,314	69,476	299,169	121,912	115,412	—	—	251,493	3,316	—	7,145	17,411	165,767	582,688	—
1956	3,871	50,108	74,413	350,293	139,466	102,359	—	—	245,138	3,231	—	7,404	17,936	162,928	626,928	—
1957	3,935	48,748	73,833	375,272	146,884	101,209	—	—	228,427	3,054	—	7,462	16,935	169,535	652,438	—
1958	3,941	48,402	75,870	392,525	150,625	111,082	—	—	233,173	2,952	—	6,807	14,818	168,990	688,990	—
1959	4,125	48,417	77,464	392,405	157,524	101,521	—	—	237,779	2,955	—	6,166	139,702	173,546	781,546	—
1960	4,279	49,651	83,285	431,165	172,747	110,359	(m)	—	225,461	3,177	—	7,376	(m)	150,774	785,147	—
1961	4,334	50,666	90,255	481,140	193,262	119,998	—	—	210,316	3,163	—	7,661	168,237	870,075	—	—
1962	4,418	51,033	92,840	486,988	196,083	119,868	—	—	213,948	3,500	—	7,483	141,103	929,841	—	—
1963	4,402	53,435	99,880	517,899	216,422	131,176	—	—	205,835	3,837	—	6,963	135,911	1,019,568	—	—
1964	4,609	55,705	108,515	555,058	230,511	155,792	—	—	*218,911	3,780	—	6,915	143,296	1,111,948	—	—
1965	4,734	58,097	119,978	616,422	260,637	140,057	—	—	233,254	3,983	—	7,762	134,378	1,240,725	—	—

(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; from 1927, year ended 30th June. See also note (l). (c) Average over the full twelve months and includes working proprietors and, up to and including 1925-26, fallers and haulers employed by sawmills. (d) Figures for 1929-30 and later years exclude amounts drawn by working proprietors. (e) Selling value "At Factory Door." (f) Value added in course of manufacture, representing sum available for payment of wages, rent, interest, depreciation, advertising, insurance, etc., and profit. (g) For years prior to 1964-65, figures include all types of standard size bricks. Prior to 1925-26, they also include firebricks and blocks. For 1964-65, figures represent clay bricks only (all sizes). (h) Includes plywood veneers in terms of super. feet and hewn timber produced by agencies other than "Factories." (i) For 1917 and earlier years, includes butter made on farms. (j) Short ton = 2,000 lb. (k) Not available.

(l) Eighteen months ended 30th June. (m) Not available for publication. * Revised.

CONSUMER PRICE INDEX (a)

(Base of each Index Series : Year 1952-53 = 100)

Year (b)	Group Index Numbers— Perth (Metropolitan Area)					Combined Index (All Groups)— Capital Cities						
	Food	Clothing and Drapery	Housing	Household Supplies and Equipment	Miscellaneous	Perth	Sydney	Melbourne	Brisbane	Adelaide	Hobart	Six Capital Cities (c)
1949	55.0	59.6	62.7	66.5	67.7	60.6	60.5	61.0	62.1	61.6	60.7	60.9
1950	61.0	68.8	66.4	71.1	69.5	66.2	65.6	66.2	67.1	66.2	64.7	66.0
1951	70.0	78.6	74.5	78.1	75.1	74.4	74.5	74.6	75.1	74.7	73.3	74.6
1952	87.2	95.3	87.2	92.7	90.7	90.4	91.9	91.0	91.8	91.4	90.4	91.4
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	106.2	100.0	107.8	102.0	99.5	103.0	101.6	102.0	102.0	102.3	105.0	102.0
1955	109.3	100.1	119.2	102.0	99.5	105.2	102.3	102.0	102.9	103.5	104.9	102.6
1956	111.1	101.4	123.8	102.0	105.5	107.9	105.7	108.1	106.3	106.9	110.2	106.9
1957	116.0	103.1	123.6	104.5	117.0	112.9	112.9	114.0	112.0	111.1	116.9	113.1
1958	114.4	105.7	126.0	105.7	118.3	113.6	114.5	114.4	114.4	111.9	117.0	114.2
1959	115.2	107.2	130.3	105.9	118.7	114.7	115.3	116.6	118.2	114.5	118.7	116.0
1960	118.4	108.2	133.5	107.1	120.9	116.9	117.8	120.0	121.2	118.0	120.8	118.9
1961	124.4	110.8	141.7	107.3	125.2	121.2	122.1	125.9	125.4	122.9	127.5	123.8
1962	128.5	111.7	146.4	107.3	125.3	121.6	122.6	126.3	127.3	122.5	128.1	124.3
1963	123.9	112.0	150.9	107.0	125.5	122.2	123.2	126.2	127.7	122.1	128.0	124.5
1964	125.4	112.8	155.9	105.2	128.5	123.8	124.5	127.1	129.0	123.5	129.4	125.7
1965	130.5	114.1	160.0	106.4	134.2	127.6	128.8	132.2	133.9	128.6	133.6	130.4

(a) The index numbers shown are so designed as to measure periodically the movement in retail prices of the specified groups of items in each city individually. They do not provide a measure of differences in absolute price level as between cities, nor of comparative costs of the groups of items. (b) Year ended June. (c) Weighted average.

CIVILIAN EMPLOYMENT

NEW BUILDINGS COMPLETED

Year (a)	Wage and Salary Earners in Civilian Employment (b) (Excluding Employees in Rural In- dustry and Private Domestic Ser- vice, and Defence Forces)			New Buildings Completed				
	Males	Females	Persons	Houses		Flats (d)		All Buildings
				Number	Value (e)	Number	Value (e)	Value (e) (e)
1946	'000	'000	'000	860	\$'000 1,452	2	\$'000 4	\$'000 1,948
1947				1,792	3,516			4,232
1948				2,771	5,784			6,656
1949				3,244	7,592			*9,414
1950	(f)	(f)	(f)	3,509	8,974	101	194	10,704
1951				5,160	15,032	305	606	17,896
1952				6,577	24,466	215	300	28,852
1953				7,965	37,988	100	334	45,836
1954	141.2	43.2	184.4	7,627	39,768	212	834	51,570
1955	144.5	45.1	189.6	8,792	48,422	316	1,176	68,192
1956	144.7	46.3	191.0	7,760	45,084	584	2,564	67,356
1957	143.8	46.1	189.4	5,030	29,054	365	1,502	46,848
1958	143.1	47.3	190.4	6,196	36,526	171	712	54,524
1959	144.9	48.4	193.3	5,846	34,410	212	840	60,524
1960	147.5	50.4	197.9	5,997	35,454	263	986	60,240
1961	148.5	51.2	199.7	5,973	38,102	440	1,580	72,050
1962	154.7	53.4	208.1	6,082	39,470	265	1,342	68,072
1963	150.4	55.5	214.9	6,593	45,780	642	2,984	86,428
1964	164.3	58.5	222.9	7,276	51,774	1,295	5,596	92,868
1965	171.5	62.7	234.2	7,445	57,238	1,841	9,046	107,100

(a) Employment estimates relate to the month of June; statistics of New Buildings Completed are for the year ended 30th June. (b) Estimated. Figures for years prior to 1954 as published in issues of the Statistical Summary for 1961-62 and earlier, are not comparable with this series. The figures shown for Persons are not in all cases equal to the sum of the numbers of Males and Females. Any such discrepancies are due to rounding to thousands. (c) Excludes the value of land. (d) Individual living units. (e) Includes value of houses and flats shown in preceding columns. (f) Not available on basis comparable with that for 1954 and later—see note (b). *Revised.

STATE AND COMMONWEALTH BASIC WAGE RATES

At 31st December	State Basic Wage		Commonwealth Basic Wage—Male Rates (a)						Weighted Average Six Capital Cities
	Perth (b)		Perth	Sydney	Mel- bourne	Brisbane	Adelaide	Hobart	
	Male	Female							
1923	\$ (c)	\$ (c)	\$ 7.80	\$ 8.90	\$ 9.15	\$ 7.60	\$ 8.55	\$ 8.90	\$ 8.75
1924	(c)	(c)	7.90	8.45	8.45	7.50	8.40	8.80	8.30
1925	(c)	(c)	8.10	8.80	8.75	7.70	8.60	8.55	8.60
1926	8.50	4.59	8.15	9.15	8.90	8.25	8.55	8.85	8.85
1927	8.50	4.59	7.95	9.05	9.00	7.95	8.80	8.50	8.80
1928	8.50	4.59	8.50	9.05	8.60	7.90	8.50	8.25	8.70
1929	8.70	4.70	8.55	9.50	9.00	8.05	8.85	8.60	9.05
1930	8.60	4.64	7.90	8.80	8.30	7.05	7.80	8.20	8.30
1931	7.35	3.97	6.21	7.07	6.34	5.85	5.81	6.43	6.52
1932	7.05	3.81	5.94	6.75	6.17	5.67	5.72	6.43	6.30
1933	6.92	3.74	6.02	6.69	6.28	5.93	5.96	6.39	6.33
1934	7.10	3.83	6.80	6.80	6.40	6.20	6.30	6.60	6.60
1935	7.05	3.81	6.80	7.00	6.60	6.40	6.70	6.90	6.80
1936	7.38	3.98	7.10	7.00	6.90	6.60	6.90	6.90	6.80
1937	7.49	4.04	7.50	7.80	7.70	7.40	7.40	7.50	7.60
1938	8.11	4.38	7.60	8.10	7.90	7.50	7.60	7.60	7.80
1939	8.22	4.43	7.70	8.20	8.00	7.60	7.70	7.70	7.90
1940	8.53	4.61	8.00	8.50	8.40	7.90	8.00	8.10	8.30
1941	9.04	4.88	8.50	8.90	8.80	8.40	8.40	8.50	8.70
1942	9.78	5.28	9.10	9.70	9.70	9.10	9.10	9.20	9.50
1943	10.11	5.46	9.40	9.90	9.80	9.30	9.40	9.50	9.70
1944	9.99	5.39	9.40	9.90	9.80	9.30	9.30	9.40	9.60
1945	10.01	5.41	9.40	9.90	9.80	9.30	9.30	9.40	9.60
1946	10.21	5.51	10.20	10.80	10.60	10.10	10.20	10.30	10.50
1947	11.08	5.98	10.60	11.20	10.90	10.50	10.60	10.70	10.90
1948	12.16	6.57	11.60	12.20	12.00	11.50	11.60	11.80	11.90
1949	13.59	7.34	12.90	13.20	13.00	12.50	12.60	12.80	12.90
1950	16.65	9.41	16.00	16.50	16.20	15.40	15.80	16.00	16.20
1951	20.57	13.37	19.70	20.70	19.90	18.50	19.50	19.90	20.00
1952	23.85	15.50	22.80	23.70	22.80	21.60	22.90	23.00	23.10
1953	24.65	16.02	23.60	24.30	23.50	21.80	23.10	24.20	23.60
1954	24.65	16.02	23.60	24.30	23.50	21.80	23.10	24.20	23.60
1955	25.24	16.41	23.60	24.30	23.50	21.80	23.10	24.20	23.60
1956	26.52	17.23	24.60	25.30	24.50	22.80	24.10	25.20	24.60
1957	27.28	17.72	25.60	26.30	25.50	23.80	25.10	26.20	25.60
1958	27.34	17.78	26.10	26.80	26.00	24.30	25.60	26.70	26.10
1959	28.15	18.30	27.60	28.30	27.50	25.80	27.10	28.20	27.60
1960	29.46	22.09	27.60	28.30	27.50	25.80	27.10	28.20	27.60
1961	29.88	22.41	28.80	29.50	28.70	27.00	28.30	29.40	28.80
1962	29.88	22.41	28.80	29.50	28.70	27.00	28.30	29.40	28.80
1963	30.15	22.61	28.80	29.50	28.70	27.00	28.30	29.40	28.80
1964	31.12	23.34	30.80	31.50	30.70	29.00	30.30	31.40	30.80
1965	31.96	23.97	30.80	31.50	30.70	29.00	30.30	31.40	30.80
1966	33.50	25.13	32.80	33.50	32.70	31.00	32.30	33.40	32.80

(a) From December, 1950, the female basic wage has been fixed at 75 per cent. of the male rate; previously it had ranged from 54 per cent. up to 75 per cent. of the male rate. (b) The rates shown for 1964 and later apply uniformly throughout the State. (c) The first State basic wage operated from 1st July, 1926.

APPENDIX

CHAPTER IV—POPULATION AND VITAL STATISTICS

PART 1—POPULATION

pages 121 to 132

Population Census—30th June, 1966

The tables in this section contain some early results of the Population Census taken on the 30th June, 1966. The figures were compiled during the taking of the Census by field personnel and are subject to amendment.

Estimates of population for dates and periods subsequent to the Census of the 30th June, 1961 have been revised in accordance with these preliminary results and will be further revised when the *final* results become available.

Particulars of full-blood aborigines are excluded throughout the tables.

EXPLANATORY NOTES

For the purpose of presenting statistics obtained at the Census of 30th June, 1966, new methods have been used in the delimitation of metropolitan areas and certain other urban centres. Briefly, these are as follows :

- (i) Around each capital city and each town with a population of 75,000 or more *two* boundaries have been drawn.

The *outer* boundary, which is fixed, circumscribes the area in close economic and social contact with the main city or town. These areas are designated Statistical Divisions (for State capital cities) or Statistical Districts (for Canberra and some other cities).

The *inner* boundary indicates the area within which, at the time of the Census, there was a density of at least 500 persons per square mile. This density is determined for each Census collector's district (the smallest geographical area available). From Census to Census as urbanization proceeds this *inner* boundary will move outwards to encompass peripheral development. Some specified areas of lower density (*e.g.*, industrial areas) are classified as urban on other grounds.

- (ii) The principal urban centre within each Capital City Statistical Division has been designated the "Metropolitan Area."
- (iii) Population clusters of 1,000 or more persons having a minimum density of 500 persons per square mile have been designated "Urban Centres."

In determining the outer boundary of each Capital City Statistical Division the aim has been to delimit, for at least two or three decades, the region expected to be in close contact with the inner urban area, after making allowances for further urban development, including satellite towns, improvements in transport, and other factors. The Perth Statistical Division comprises the area formed by amalgamation of the former Metropolitan and Swan Statistical Divisions.

A detailed statement on the concepts and criteria adopted in the delimitation of metropolitan areas and other urban centres is contained in *Field Count Statement No. 4—Population: Principal Urban Centres of Australia* published November, 1966 by the Commonwealth Statistician, Canberra.

As the processing of the Census schedules progresses, the Commonwealth Statistician, Canberra issues a large number of publications dealing with a wide range of characteristics of population and dwellings in each State and Territory and in each local government area within States. In addition, an analysis of similar characteristics for each Census collector's district is prepared. These tabulations are available for reference in each State capital city and extracts can be provided at a nominal charge.

For the 1966 Census operations, Western Australia was divided into 1,394 collectors' districts, of which 727 were in the Perth Statistical Division. Outline maps, generally at a scale of 1 : 25000, showing the boundaries of local government areas and component collectors' districts in the Division are available from this Office. Maps showing the boundaries of collectors' districts throughout the State are also available for reference.

Estimates of Population

In the tables on page 459, the figures shown for the period from September, 1961 to March, 1966 form part of a new series of population estimates of the States and Territories of Australia. The new population estimates replace for those dates any estimates previously published.

The method used in preparing this new series of population estimates will be used in preparing future population estimates at quarterly dates subsequent to the Census of 30th June, 1966. In this method the population in each State or Territory is estimated by adding to the population ascertained at the Census the natural increase and the allocation of the net gain to Australia by oversea migration for that State or Territory; gains and corresponding losses that result from movements between States and Territories are also taken into account, in so far as they are recorded as transfers of residence under child endowment procedures or Commonwealth electoral procedures, supplemented by results of any special count or sample survey. Holiday, business or other similar short-term movements between States and Territories, subsequent to the 1961 Census, are omitted.

This method represents a change from the former method of estimating State populations. The former method was based on the addition to Census population figures of natural increase and all net recorded movement from overseas according to State of embarkation/disembarkation, as well as all net recorded movement by air, rail, sea and bus between States. The 1966 Census has confirmed that, despite very considerable efforts made to improve recording of interstate movements, it is not possible to measure such movements with the desired accuracy. The method now adopted, tested over the 1961-1966 intercensal period, appears to provide a more accurate result. It has therefore been adopted for intercensal revision of the population and will be used from now on until the Census of 1971.

Changes in Local Government Areas : 1st July, 1961 to 30th June, 1966

A number of boundary changes, many of them minor, occurred between the Censuses of 1961 and 1966. In some cases, however, a boundary change resulted in a change in the population of the local government area. In order to eliminate population changes due to boundary changes and to provide a comparison with the 1966 population figures, the 1961 local government area populations shown in the tables on pages 460-64 have been adjusted to the boundaries used in 1966.

In addition to boundary changes, some new Shires were constituted, some municipalities were amalgamated, and there were some changes of name. These are listed below.

The Town of North Fremantle was annexed to the City of Fremantle with effect from the 1st November, 1961.

Mosman Park, formerly a Shire, was declared to be a Town with effect from the 26th January, 1962.

The Shire of Coorow was constituted, with effect from the 1st July, 1962, by severance of territory from the Shires of Carnamah, Dalwallinu and Perenjori.

Melville, formerly a Shire, was declared to be a Town with effect from the 28th September, 1962.

The Shire of Exmouth was constituted, with effect from the 1st January, 1964, by severance of territory from the Shire of Gascoyne-Minilya.

The Town of Carnarvon was amalgamated with the Shire of Gascoyne-Minilya to form the Shire of Carnarvon, with effect from 1st March, 1965.

The Town of York was amalgamated with the Shire of York, with effect from the 15th March, 1965, to form one local government area named the Shire of York.

The name of the Shire of Geraldton-Greenough was changed to the Shire of Greenough, with effect from the 19th March, 1965.

The name of the Shire of Trayning-Kununoppin-Yelbeni was changed to the Shire of Trayning, with effect from the 10th September, 1965.

POPULATION—STATES AND TERRITORIES OF AUSTRALIA

State or Territory	Census, 30th June, 1961			Census, 30th June, 1966 (a)			Proportion of Total	
	Males	Females	Persons	Males	Females	Persons	1961	1966 (a)
New South Wales	1,972,909	1,944,104	3,917,013	2,122,559	2,108,544	4,231,103	per cent.	per cent.
Victoria	1,474,395	1,455,718	2,930,113	1,613,286	1,604,546	3,217,832	37.28	36.66
Queensland	774,579	744,249	1,518,828	842,201	819,039	1,661,240	14.45	14.40
South Australia	490,225	479,115	969,340	547,802	542,921	1,090,723	9.23	9.45
Western Australia	375,452	361,177	736,629	425,872	409,698	835,570	7.01	7.24
Tasmania	177,628	172,712	350,340	187,267	183,950	371,217	3.33	3.22
Northern Territory	16,206	10,889	27,095	21,319	15,847	37,166	0.26	0.32
Australian Capital Territory	30,858	27,970	58,828	49,910	46,003	95,913	0.56	0.83
AUSTRALIA	5,312,252	5,195,934	10,508,186	5,810,216	5,730,548	11,540,764	100.00	100.00

(a) Preliminary figures based on field count.

POPULATION—INTERCENSAL INCREASES (a): STATES AND TERRITORIES
30TH JUNE, 1961 TO 30TH JUNE, 1966

State or Territory	Intercensal Increase				
	Number			Per cent.	Average Annual Rate (per cent.)
	Males	Females	Persons		
New South Wales	149,650	164,440	314,090	8.02	1.55
Victoria	138,891	148,828	287,719	9.82	1.89
Queensland	67,622	74,790	142,412	9.38	1.81
South Australia	57,577	63,806	121,383	12.52	2.39
Western Australia	50,420	48,521	98,941	13.43	2.55
Tasmania	9,639	11,238	20,877	5.96	1.16
Northern Territory	5,113	4,958	10,071	37.17	6.53
Australian Capital Territory	19,052	18,033	37,085	63.04	10.27
AUSTRALIA	497,964	534,614	1,032,578	9.83	1.89

(a) Subject to revision on the basis of final figures from the 1966 Census.

POPULATION OF CAPITAL CITIES (a)

Capital City (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase (b)	
		Males	Females	Persons	Number	Per cent.
Sydney (c)	2,303,464	1,255,568	1,284,059	2,539,627	236,163	10.25
Melbourne (c)	1,984,582	1,107,124	1,121,387	2,228,511	243,929	12.29
Brisbane (c)	692,634	383,207	394,728	777,935	85,301	12.32
Adelaide (c)	659,146	379,908	390,720	770,628	111,482	16.91
Perth (c) (d)	475,398	274,525	283,772	558,297	82,899	17.44
Hobart (c)	130,236	69,612	71,626	141,238	11,002	8.45
Darwin (e)	14,408	11,191	9,070	20,261	5,853	40.62
Canberra (f)	67,151	55,524	51,471	106,995	39,844	59.33

(a) See *Explanatory Notes* on page 456. (b) Subject to revision on the basis of final figures from the 1966 Census. (c) Statistical Division. (d) Population of the area formed by amalgamation of the former Metropolitan and Swan Statistical Divisions; see *Explanatory Notes* on page 456. (e) Urban Centre. (f) Statistical District.

POPULATION—ANNUAL ESTIMATES (a) : WESTERN AUSTRALIA

Year	Population at end of Year			Increase during Year	Mean for Year
	Males	Females	Persons		
CALENDAR YEARS					
1961	379,332	365,513	744,845	13,812	(b) 737,568
1962	390,176	376,209	766,385	21,540	(b) 755,583
1963	401,023	386,531	787,554	21,169	777,361
1964	410,738	395,562	806,300	18,746	796,717
1965	420,772	405,173	825,945	19,645	814,409
FINANCIAL YEARS					
1960-61	(c) 375,452	(c) 361,177	(c) 736,629	14,549	729,770
1961-62	384,584	370,760	755,344	18,715	745,400
1962-63	395,888	381,361	777,249	21,905	766,546
1963-64	405,956	390,894	796,850	19,601	787,485
1964-65	414,588	398,859	813,447	16,597	805,327
1965-66	(c) 425,872	(c) 409,698	(c) 835,570	22,123	824,984

(a) Figures for dates and periods subsequent to 30th June, 1961 are subject to revision on the basis of final figures from the 1966 Census. (b) There is a break in continuity between 1961 and 1962. The mean population for 1962 and later years is calculated from population estimates prepared by the new method and that for 1961 (and earlier years) on the basis of the method previously used; see note *Estimates of Population* on page 456. (c) Census figure.

POPULATION—QUARTERLY ESTIMATES (a) : WESTERN AUSTRALIA

Quarter	Population at end of Quarter			Quarter	Population at end of Quarter		
	Males	Females	Persons		Males	Females	Persons
1961—				1964—			
June (b)	375,452	361,177	736,629	March	403,924	388,979	792,903
September	377,107	362,982	740,089	June	405,956	390,894	796,850
December	379,332	365,513	744,845	September	407,810	392,549	800,359
1962—				December	410,738	395,562	806,300
March	382,266	368,430	750,696	1965—			
June	384,584	370,760	755,344	March	412,601	397,207	809,898
September	387,263	373,311	760,574	June	414,588	398,859	813,447
December	390,176	376,209	766,385	September	417,170	401,374	818,544
1963—				December	420,772	405,173	825,945
March	393,527	379,197	772,724	1966—			
June	395,888	381,361	777,249	March	423,647	407,535	831,182
September	398,463	383,788	782,251	June (b)	425,872	409,698	835,570
December	401,023	386,531	787,554				

(a) Subject to revision on the basis of final figures from the 1966 Census.

(b) Census figures.

POPULATION—LOCAL GOVERNMENT AREAS : WESTERN AUSTRALIA, 1961 AND 1966

Local Government Area (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase or Decrease (b)	
		Males	Females	Persons	Numerical	Percentage
ALBANY	10,526	5,595	5,822	11,417	891	8.46
Albany	2,749	1,716	1,535	3,251	502	18.26
Armadale-Kelmscott	6,469	3,920	3,900	7,820	1,351	20.88
Ashburton	569	483	232	715	146	25.66
Augusta-Margaret River	3,590	1,690	1,542	3,232	— 358	— 9.97
Balingup	1,243	628	566	1,194	— 49	— 3.94
Bassendean	8,310	4,868	4,886	9,754	1,444	17.38
Bayswater	19,296	12,922	13,196	26,118	6,822	35.35
Belmont	20,393	13,358	13,620	26,978	6,585	32.29
Beverley	1,899	882	827	1,709	— 190	— 10.01
Boddington	967	390	375	765	— 202	— 20.89
BOULDER	5,773	2,682	2,548	5,230	— 543	— 9.41
Bridgetown	2,971	1,452	1,344	2,796	— 175	— 5.89
Brookton	1,319	672	560	1,232	— 87	— 6.60
Broome	1,462	1,307	754	2,061	599	40.97
Broomehill	783	391	354	745	— 38	— 4.85
Bruce Rock	2,291	1,145	996	2,141	— 150	— 6.55
BUNBURY	13,186	7,788	7,665	15,453	2,267	17.19
Busselton	6,120	3,425	3,407	6,832	712	11.63
Canning	17,701	11,809	11,797	23,606	5,905	33.36
Capel	1,877	1,113	1,018	2,131	254	13.53
Carnamah (c)	959	542	433	975	16	1.67
Carnarvon (c)	3,212	2,582	2,089	4,671	1,459	45.42
Chapman Valley (c)	1,006	439	361	800	— 206	— 20.48
Chittering	1,004	599	475	1,074	70	6.97
CLAREMONT	8,601	4,218	4,709	8,927	326	3.79
Cockburn	7,007	7,040	6,803	13,843	6,836	97.56
Collie	8,486	4,334	4,196	8,530	44	0.52
Coolgardie	1,043	411	323	734	— 309	— 29.63
Coorow (c)	782	445	361	806	24	3.07
Corrigin	2,123	1,155	943	2,098	— 25	— 1.18
COTTESLOE	7,827	3,766	4,394	8,160	333	4.25
Cranbrook	1,360	816	597	1,413	53	3.90
Cuballing	833	406	317	723	— 110	— 13.21
Cue	466	253	182	435	— 31	— 6.65
Cunderdin	2,014	1,163	958	2,121	107	5.31
Dalwallinu (c)	2,197	1,379	1,042	2,421	224	10.20
Dandaragan	456	371	233	604	148	32.46
Dardanup	1,606	845	821	1,666	60	3.74
Denmark	1,864	925	849	1,774	— 90	— 4.83
Donnybrook	2,258	1,111	1,026	2,137	— 121	— 5.36
Dowerin	1,392	726	572	1,298	— 94	— 6.75
Dumbleyung	1,444	800	658	1,458	14	0.97
Dundas	2,937	1,538	1,226	2,764	— 173	— 5.89
EAST FREMANTLE	6,542	3,460	3,441	6,901	359	5.49
Esperance	2,285	2,679	2,188	4,867	2,582	113.00
Exmouth (c)	41	1,840	408	2,248	2,207	5,382.93
FREMANTLE (c)	24,343	13,012	12,221	25,233	890	3.66
GERALDTON	10,894	6,261	5,857	12,118	1,224	11.24
Gingin	769	549	481	1,030	261	33.94
Gnowangerup	3,190	2,089	1,745	3,834	644	20.19
Goomalling	1,567	830	738	1,568	1	0.06
Gosnells	9,504	5,717	5,638	11,355	1,851	19.48
Greenbushes	666	365	314	679	13	1.95
Greenough (c)	1,784	858	723	1,581	— 203	— 11.38
Halls Creek	436	383	191	574	138	31.65
Harvey	6,834	3,588	3,185	6,773	— 61	— 0.89
Irwin	657	419	384	803	146	22.22
Kalamunda	7,524	4,857	4,935	9,792	2,268	30.14
KALGOORLIE	9,696	4,825	4,338	9,163	— 533	— 5.50
Kalgoorlie	7,294	3,550	3,092	6,642	— 652	— 8.94
Katanning	4,293	2,275	2,211	4,486	193	4.50
Kellerberrin	2,420	1,232	1,149	2,381	— 39	— 1.61
Kojonup	2,667	1,462	1,256	2,718	51	1.91
Kondinin	1,278	695	556	1,251	— 27	— 2.11
Koorda	935	642	438	1,080	145	15.51
Kulin	1,261	811	572	1,383	122	9.67
Kwinana	4,663	2,956	2,824	5,780	1,117	23.95
Lake Grace	1,843	1,125	863	1,988	145	7.87
Laverton	216	120	89	209	— 7	— 3.24
Leonora	1,241	373	243	616	— 625	— 50.36
Mandurah	2,236	1,470	1,538	3,008	772	34.53
Manjimup	10,195	4,797	4,370	9,167	— 1,028	— 10.08
Marble Bar	404	361	197	558	154	38.12
Meekatharra	1,071	554	425	979	— 92	— 8.59
MELVILLE	39,207	23,392	24,197	47,589	8,382	21.38
Menzies	512	274	130	404	— 108	— 21.09
Merredin	4,563	2,988	2,404	5,392	829	18.17
MIDLAND	9,256	4,776	4,574	9,350	94	1.02
Mingenew	985	558	408	966	— 19	— 1.93

For footnotes, see end of table.

POPULATION—LOCAL GOVERNMENT AREAS: WESTERN AUSTRALIA,
1961 AND 1966—continued

Local Government Area (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase or Decrease (b)	
		Males	Females	Persons	Numerical	Percentage
Moora	3,082	1,642	1,330	2,972	— 110	— 3.57
Morawa	1,317	967	752	1,719	402	30.52
MOSMAN PARK	5,862	2,652	3,140	5,792	— 70	— 1.19
Mount Magnet (c)	1,119	573	426	999	— 120	— 10.72
Mount Marshall	1,091	752	549	1,301	210	19.25
Mukinbudin	707	492	368	860	153	21.64
Mullewa	1,627	1,078	746	1,824	197	12.11
Mundaring	8,104	4,492	4,394	8,886	782	9.65
Murchison	320	180	107	287	— 33	— 10.31
Murray	3,592	1,714	1,630	3,344	— 248	— 6.90
Nannup	1,636	726	546	1,272	— 364	— 22.25
Narembeen	1,558	867	723	1,590	32	2.05
NARROGIN	4,620	2,397	2,467	4,864	244	5.28
Narrogin	972	582	408	990	18	1.85
NEDLANDS	23,218	11,331	11,960	23,291	73	0.31
NORTHAM	7,200	3,820	3,572	7,392	192	2.67
Northam (c)	2,863	1,487	1,209	2,696	— 167	— 5.83
Northampton	1,821	1,089	924	2,013	192	10.54
Nullagine	171	123	32	155	— 16	— 9.36
Nungarin	608	294	245	539	— 69	— 11.35
Nyabing-Pingrup	834	623	442	1,065	231	27.70
Peppermint Grove	1,502	616	980	1,596	94	6.26
Perenjori	1,277	754	546	1,300	23	1.80
PERTH	94,508	46,685	49,532	96,217	1,709	1.81
Perth	84,045	56,046	58,290	114,345	30,300	36.05
Pingelly	1,639	781	758	1,539	— 100	— 6.10
Plantagenet	4,502	2,474	2,186	4,660	158	3.51
Port Hedland	1,120	2,127	839	2,966	1,846	164.82
Quairading	1,789	902	805	1,707	— 82	— 4.58
Ravensthorpe	587	474	306	780	193	32.88
Rockingham	2,583	2,210	2,160	4,370	1,787	69.18
Roebourne	568	1,375	324	1,699	1,131	199.12
Sandstone	163	81	52	133	— 30	— 18.40
Serpentine-Jarrahdale	1,830	992	737	1,729	— 101	— 5.52
Shark Bay	387	306	168	474	87	22.48
SOUTH PERTH	29,941	15,414	16,623	32,037	2,096	7.00
SUBIACO	16,033	7,444	9,161	16,605	572	3.57
Swan-Guildford	9,397	5,328	4,443	9,771	374	3.98
Tableland	980	1,419	389	1,808	828	84.49
Tambellup	940	506	450	956	16	1.70
Tammin	847	439	388	827	— 20	— 2.36
Three Springs	972	549	491	1,040	68	7.00
Toodyay	1,369	719	669	1,388	19	1.39
Trayning	935	533	446	979	44	4.71
Upper Blackwood	2,381	1,206	1,017	2,223	— 158	— 6.64
Upper Gascoyne	354	243	107	350	— 4	— 1.13
Victoria Plains	2,030	902	781	1,683	— 347	— 17.09
Wagin	2,627	1,458	1,317	2,775	148	5.63
Wandering	661	263	223	486	— 175	— 26.48
Wanneroo	1,732	1,244	1,208	2,452	720	41.57
Waroona	1,793	937	891	1,828	35	1.95
West Arthur	1,398	780	643	1,423	25	1.79
West Kimberley	2,249	1,672	1,011	2,683	434	19.30
Westonia	435	369	241	610	175	40.23
Wickepin	1,276	770	605	1,375	99	7.76
Williams	1,330	659	570	1,229	— 101	— 7.59
Wiluna	316	115	105	220	— 96	— 30.38
Wongan-Ballidu	2,145	1,319	1,009	2,328	183	8.53
Woodanilling	603	316	262	578	— 25	— 4.15
Wyalkatchem	1,383	657	592	1,249	— 134	— 9.69
Wyndham-East Kimberley	1,521	1,667	819	2,486	965	63.45
Yalgoo (c)	525	252	156	408	— 117	— 22.29
Ylgarn	2,558	1,421	997	2,418	— 140	— 5.47
York (c)	2,416	1,198	1,086	2,284	— 132	— 5.46
Total	733,612	423,746	409,197	832,943	99,331	13.54
Migratory (d)	3,017	2,126	501	2,627	— 390	— 12.93
TOTAL, WESTERN AUSTRALIA	736,629	425,872	409,698	835,570	98,941	13.43

NOTE—Minus sign (—) indicates decrease in population.

(a) The names of Cities and Towns are shown in capital letters; all other local government areas are Shires. (b) Subject to revision on the basis of final figures from the 1966 Census. (c) Indicates those local government areas where a boundary change between the 1961 and 1966 Censuses resulted in a change in the population of the local government area; see also page 457. In order to eliminate population changes due to boundary changes and to provide a comparison with the 1966 population figures, the 1961 local government area populations shown in the table have been adjusted to the boundaries used in 1966. (d) Refers to persons not elsewhere included who, at midnight on Census night, were on ships in Western Australian waters or were travelling on long-distance trains, motor coaches or aircraft.

POPULATION—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS :
WESTERN AUSTRALIA, 1961 AND 1966

Local Government Area (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase or Decrease (b)	
		Males	Females	Persons	Numerical	Percentage
PERTH STATISTICAL DIVISION						
Armadale-Kelmscott	6,469	3,920	3,900	7,820	1,351	20.88
Bassendean	8,310	4,868	4,886	9,754	1,444	17.38
Bayswater	19,296	12,922	13,196	26,118	6,822	35.35
Belmont	20,393	13,358	13,620	26,978	6,585	32.29
Canning	17,701	11,809	11,797	23,606	5,905	33.36
CLAREMONT	8,601	4,218	4,709	8,927	326	3.79
Cockburn	7,007	7,040	6,803	13,843	6,836	97.56
COTTESLOE	7,827	3,766	4,394	8,160	333	4.25
EAST FREMANTLE	6,542	3,400	3,441	6,901	359	5.49
FREMANTLE (c)	24,343	13,012	12,221	25,233	890	3.66
Gosnells	9,504	5,717	5,638	11,355	1,851	19.48
Kalamunda	7,524	4,857	4,935	9,792	2,268	30.14
Kwinana	4,663	2,956	2,824	5,730	1,117	23.95
MELVILLE	39,207	23,392	24,197	47,589	8,382	21.38
MIDLAND	9,256	4,776	4,574	9,350	94	1.02
MOSMAN PARK	5,862	2,952	3,140	5,792	70	1.19
Mundaring	8,104	4,492	4,394	8,886	782	9.65
NEDLANDS	28,218	11,331	11,960	23,291	73	0.31
Peppermint Grove	1,502	616	980	1,596	94	6.26
PERTH	94,508	46,685	49,532	96,217	1,709	1.81
Perth	84,045	56,046	58,299	114,345	30,300	36.05
Rockingham	2,583	2,210	2,160	4,370	1,787	69.18
Serpentine-Jarrahdale	1,830	992	737	1,729	101	5.52
SOUTH PERTH	29,941	15,414	16,623	32,037	2,096	7.00
SUBIACO	16,033	7,444	9,161	16,605	572	3.57
Swan-Guildford	9,397	5,323	4,443	9,771	374	3.98
Wanneroo	1,732	1,244	1,208	2,452	720	41.57
TOTAL	475,398	274,525	283,772	558,297	82,899	17.44
SOUTH-WEST STATISTICAL DIVISION						
Augusta-Margaret River	3,590	1,690	1,542	3,232	— 358	— 9.97
Balingup	1,243	628	566	1,194	— 49	— 3.94
Boddington	967	390	375	765	— 202	— 20.89
Bridgetown	2,971	1,452	1,344	2,796	— 175	— 5.89
BUNBURY	13,186	7,788	7,665	15,453	2,267	17.19
Busselton	6,120	3,425	3,407	6,832	712	11.63
Capel	1,877	1,113	1,018	2,131	254	13.53
Collie	8,486	4,334	4,196	8,530	44	0.52
Dardanaup	1,606	845	821	1,666	60	3.74
Donnybrook	2,258	1,111	1,026	2,137	— 121	— 5.36
Greenbushes	666	365	314	679	13	1.95
Harvey	6,834	3,588	3,185	6,773	— 61	— 0.89
Mandurah	2,236	1,470	1,538	3,008	772	34.53
Manjimup	10,195	4,797	4,370	9,167	— 1,028	— 10.08
Murray	3,592	1,714	1,630	3,344	— 248	— 6.90
Nannup	1,636	726	546	1,272	— 364	— 22.25
Upper Blackwood	2,381	1,206	1,017	2,223	— 158	— 6.64
Waroona	1,793	937	891	1,828	35	1.95
TOTAL	71,637	37,579	35,451	73,030	1,393	1.94
SOUTHERN AGRICULTURAL STATISTICAL DIVISION						
ALBANY	10,526	5,595	5,822	11,417	891	8.46
Albany	2,749	1,716	1,535	3,251	502	18.26
Broomehill	783	391	354	745	— 38	— 4.85
Cranbrook	1,360	816	597	1,413	53	3.90
Denmark	1,864	925	849	1,774	— 90	— 4.83
Dumbleyung	1,444	800	658	1,458	14	0.97
Gnowangerup	3,190	2,089	1,745	3,834	644	20.19
Katanning	4,293	2,275	2,211	4,486	193	4.50
Kojonup	2,667	1,462	1,256	2,718	51	1.91
Lake Grace	1,843	1,125	863	1,988	145	7.87
Nyabing-Pingrup	834	623	442	1,065	231	27.70
Plantagenet	4,502	2,474	2,186	4,660	158	3.51
Tambellup	940	506	450	956	16	1.70
Wagin	2,627	1,458	1,317	2,775	148	5.63
West Arthur	1,398	780	643	1,423	25	1.79
Woodanilling	603	316	262	578	— 25	— 4.15
TOTAL	41,623	23,351	21,190	44,541	2,918	7.01

For footnotes, see end of table.

POPULATION—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS :
WESTERN AUSTRALIA, 1961 AND 1966—*continued*

Local Government Area (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase or Decrease (b)	
		Males	Females	Persons	Numerical	Percentage
CENTRAL AGRICULTURAL STATISTICAL DIVISION						
Beverley	1,899	882	827	1,709	— 190	— 10.01
Brookton	1,319	672	560	1,232	— 87	— 6.60
Bruce Rock	2,291	1,145	996	2,141	— 150	— 6.55
Corrigin	2,123	1,155	943	2,098	— 25	— 1.18
Cuballing	833	406	317	723	— 110	— 13.21
Cunderdin	2,014	1,163	958	2,121	107	5.31
Dowerin	1,392	726	572	1,298	— 94	— 6.75
Goomalling	1,567	830	738	1,568	1	0.06
Kellerberrin	2,420	1,232	1,149	2,381	— 39	— 1.61
Kondinin	1,278	695	556	1,251	— 27	— 2.11
Koorda	935	642	438	1,080	145	15.51
Kulin	1,261	811	572	1,383	122	9.67
Merredin	4,563	2,988	2,404	5,392	829	18.17
Mount Marshall	1,091	752	549	1,301	210	19.25
Mukinbudin	707	492	368	860	153	21.64
Narembeen	1,558	867	723	1,590	32	2.05
NARROGIN	4,620	2,397	2,467	4,864	244	5.28
Narrogin	972	582	408	990	18	1.85
NORTHAM	7,200	3,820	3,572	7,392	192	2.67
Northam (c)	2,863	1,487	1,209	2,696	— 167	— 5.83
Nungarin	608	294	245	539	— 69	— 11.35
Pingelly	1,639	781	758	1,539	— 100	— 6.10
Quairading	1,789	902	805	1,707	— 82	— 4.58
Tammin	847	439	388	827	— 20	— 2.36
Toodyay	1,369	719	669	1,388	19	1.39
Trayning	935	533	446	979	44	4.71
Wandering	661	263	223	486	— 175	— 26.48
Westonia	435	369	241	610	175	40.23
Wickepin	1,276	770	605	1,375	99	7.76
Williams	1,330	659	570	1,299	— 101	— 7.59
Wyalkatchem	1,383	657	592	1,249	— 134	— 9.69
York (c)	2,416	1,198	1,086	2,284	— 132	— 5.46
TOTAL	57,594	31,328	26,954	58,282	688	1.19
NORTHERN AGRICULTURAL STATISTICAL DIVISION						
Carnamah (c)	959	542	433	975	16	1.67
Chapman Valley (c)	1,006	439	361	800	— 206	— 20.48
Chittering	1,004	599	475	1,074	70	6.97
Coorow (c)	782	445	361	806	24	3.07
Dalwallinu (c)	2,197	1,379	1,042	2,421	224	10.20
Dandaragan	456	371	233	604	148	32.46
GERALDTON	10,894	6,261	5,857	12,118	1,224	11.24
Gingin	769	549	481	1,030	261	33.94
Greenough (c)	1,784	858	723	1,581	— 203	— 11.38
Irwin	657	419	384	803	146	22.22
Mingenew	985	558	408	966	— 19	— 1.93
Moora	3,082	1,642	1,330	2,972	— 110	— 3.57
Morawa	1,317	967	752	1,719	402	30.52
Mullewa	1,627	1,078	746	1,824	197	12.11
Northampton	1,821	1,089	924	2,013	192	10.54
Perenjori	1,277	754	546	1,300	23	1.80
Three Springs	972	549	491	1,040	68	7.00
Victoria Plains	2,030	902	781	1,683	— 347	— 17.09
Wongan-Ballidu	2,145	1,319	1,009	2,328	183	8.53
TOTAL	35,764	20,720	17,337	38,057	2,293	6.41
EASTERN GOLDFIELDS STATISTICAL DIVISION						
BOULDER	5,773	2,882	2,548	5,230	— 543	— 9.41
Coolgardie	1,043	411	323	734	— 309	— 29.63
Dundas	2,937	1,538	1,226	2,764	— 173	— 5.89
Esperance	2,285	2,679	2,188	4,867	2,582	113.00
KALGOORLIE	9,696	4,825	4,338	9,163	— 533	— 5.50
Kalgoorlie	7,294	3,550	3,092	6,642	— 652	— 8.94
Laverton	216	120	89	209	— 7	— 3.24
Leonora	1,241	373	243	616	— 625	— 50.36
Menzies	512	274	130	404	— 108	— 21.09
Ravensthorpe	587	474	306	780	193	32.88
Yilgarn	2,558	1,421	997	2,418	— 140	— 5.47
TOTAL	34,142	18,347	15,480	33,827	— 315	— 0.92

For footnotes, see end of table.

POPULATION—LOCAL GOVERNMENT AREAS AND STATISTICAL DIVISIONS:
WESTERN AUSTRALIA, 1961 AND 1966—*continued*

Local Government Area (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase or Decrease (b)	
		Males	Females	Persons	Numerical	Percentage
CENTRAL STATISTICAL DIVISION						
Cue	466	253	182	435	— 31	— 6.65
Meekatharra	1,071	554	425	979	— 92	— 8.59
Mount Magnet (c)	1,119	573	426	999	— 120	— 10.72
Murchison	320	180	107	287	— 33	— 10.31
Sandstone	163	81	52	133	— 30	— 18.40
Wiluna	316	115	105	220	— 96	— 30.38
Yalgoo (c)	525	252	156	408	— 117	— 22.29
TOTAL	3,980	2,008	1,453	3,461	— 519	— 13.04
NORTH-WEST STATISTICAL DIVISION						
Ashburton	569	483	232	715	146	25.66
Carnarvon (c)	3,212	2,582	2,089	4,671	1,459	45.42
Exmouth (c)	41	1,840	408	2,248	2,207	5,382.93
Shark Bay	387	306	168	474	87	22.48
Upper Gascoyne	354	243	107	350	— 4	— 1.13
TOTAL	4,563	5,454	3,004	8,458	3,895	85.36
PILBARA STATISTICAL DIVISION						
Marble Bar	404	361	197	558	154	38.12
Nullagine	171	123	32	155	— 16	— 9.36
Port Hedland	1,120	2,127	839	2,966	1,846	164.82
Roebourne	568	1,375	324	1,899	1,331	199.12
Tableland	980	1,419	389	1,808	828	84.49
TOTAL	3,243	5,405	1,781	7,186	3,943	121.58
KIMBERLEY STATISTICAL DIVISION						
Broome	1,462	1,307	754	2,061	599	40.97
Halls Creek	456	383	191	574	138	31.65
West Kimberley	2,249	1,672	1,011	2,683	434	19.30
Wyndham-East Kimberley	1,521	1,667	819	2,486	965	63.45
TOTAL	5,668	5,029	2,775	7,804	2,136	37.69
MIGRATORY (d)						
Migratory (d)	3,017	2,126	501	2,627	— 390	— 12.93
STATE SUMMARY						
Statistical Division—						
Perth (e)	475,398	274,525	283,772	558,297	82,899	17.44
South-West	71,637	37,579	35,451	73,030	1,393	1.94
Southern Agricultural	41,623	23,351	21,190	44,541	2,918	7.01
Central Agricultural	57,594	31,328	26,954	58,282	688	1.19
Northern Agricultural	35,764	20,720	17,337	38,057	2,293	6.41
Eastern Goldfields	34,142	18,347	15,480	33,827	— 315	— 0.92
Central	3,980	2,008	1,453	3,461	— 519	— 13.04
North-West	4,563	5,454	3,004	8,458	3,895	85.36
Pilbara	3,243	5,405	1,781	7,186	3,943	121.58
Kimberley	5,668	5,029	2,775	7,804	2,136	37.69
Migratory (d)	3,017	2,126	501	2,627	— 390	— 12.93
TOTAL, WESTERN AUSTRALIA	736,629	425,872	400,698	835,570	98,941	13.43

NOTE—Minus sign (—) indicates decrease in population.

(a) The names of Cities and Towns are shown in capital letters; all other local government areas are Shires. (b) Subject to revision on the basis of final figures from the 1966 Census. (c) Indicates those local government areas where a boundary change between the 1961 and 1966 Censuses resulted in a change in the population of the local government area; see also page 457. In order to eliminate population changes due to boundary changes and to provide a comparison with the 1966 population figures, the 1961 local government area populations shown in the table have been adjusted to the boundaries used in 1966. (d) Refers to persons not elsewhere included who, at midnight on Census night, were on ships in Western Australian waters, or were travelling on long-distance trains, motor coaches or aircraft. (e) Comprises the area formed by amalgamation of the former Metropolitan and Swan Statistical Divisions; see *Explanatory Notes* on page 456.

POPULATION—URBAN CENTRES : WESTERN AUSTRALIA, 1961 AND 1966
(Only those centres which were urban in 1966 are included in this table.)

NOTE—For Metropolitan and other urban centres, which are delineated by moving boundaries (see *Explanatory Notes* on page 456), boundaries for 1961 have been redrawn according to the new criteria. The urban populations (partly estimated) within these boundaries are shown in this table for comparison with 1966 population. The intercensal increase or decrease between 1961 and 1966 may therefore reflect (i) population changes within the original 1961 boundaries, (ii) urban growth beyond the original boundaries, and (iii) the merging of other urban areas, one with another, or with the Metropolitan Area.

Urban Centre (a)	Census, 30th June, 1961	Census, 30th June, 1966 (b)			Intercensal Increase or Decrease (b)	
		Males	Females	Persons	Numerical	Percentage
Perth Metropolitan Area (a)	423,930	244,447	255,047	499,494	75,564	17.82
Kalgoorlie-Boulder	21,247	10,343	9,549	19,892	-1,355	-6.38
Bunbury	13,186	7,788	7,665	15,453	2,267	17.19
Geraldton	10,894	6,261	5,857	12,118	1,224	11.24
Albany	10,526	5,595	5,822	11,417	891	8.46
Collie	7,547	3,838	3,778	7,616	69	0.91
Northam	7,200	3,820	3,572	7,392	192	2.67
Narrogin	4,620	2,397	2,467	4,864	244	5.28
Busseton	3,495	2,089	2,186	4,275	780	22.32
Medina-Calista	3,289	2,088	2,053	4,141	872	26.67
Rockingham-Safety Bay	1,726	1,903	1,856	3,759	2,033	117.79
Merredin	3,029	1,941	1,678	3,619	590	19.48
Katanning	3,360	1,780	1,725	3,505	145	4.32
Armadale	2,565	1,688	1,768	3,456	891	34.74
Manjimup	2,914	1,576	1,610	3,186	272	9.33
Kalamunda-Gooseberry Hill	2,488	1,527	1,542	3,069	581	23.35
Carnarvon	1,809	1,573	1,384	2,957	1,148	63.46
Mandurah	2,121	1,332	1,400	2,732	611	28.81
Esperance	1,111	1,421	1,270	2,691	1,580	142.21
Harvey	2,046	1,055	1,019	2,074	28	1.37
Norseman	1,980	991	858	1,849	-131	-6.62
Port Hedland	(e) 965	1,098	687	1,785	n.a.	n.a.
Wagin	1,608	901	847	1,748	140	8.71
Broome	1,222	1,083	618	1,701	479	39.20
Mount Barker	1,532	807	781	1,588	56	3.66
Bridgetown	1,565	793	774	1,567	2	0.13
Derby	(e) 894	771	668	1,439	n.a.	n.a.
York	1,524	742	693	1,435	-89	-5.84
Kellerberrin	1,323	668	693	1,361	38	2.87
Kwinana Industrial (d)	1,104	679	592	1,271	167	15.13
Wyndham	(e) 958	788	418	1,206	n.a.	n.a.
Moora	1,145	622	553	1,175	-30	-2.62
Wundowie	1,102	555	485	1,040	-62	-5.63
Dampier	(e)	953	71	1,024	n.a.	n.a.
Waroona	1,005	511	502	1,013	8	0.80
Gnowangerup	(e) 740	507	496	1,003	n.a.	n.a.

NOTE—Minus sign (—) indicates decrease in population. n.a. denotes "not applicable."

(a) See *Explanatory Notes* on page 456. (b) Subject to revision on the basis of final figures from the 1966 Census.
(c) Non-urban in 1961. (d) Excludes Medina-Calista. (e) Non-urban in 1961. Population not available.

CHAPTER V—SOCIAL CONDITION

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

pages 186 to 195

Commonwealth Benefits

The following table and letterpress relate to the more important variations in social service and repatriation benefits during 1966.

RATES OF BENEFIT—INCREASES DURING 1966

Benefit	Rate per week at 31st December, 1965	Increase during 1966	Total	Date of Operation
Pensions—	\$	\$	\$	
Age—				
Single pensioner (a)	12.00	1.00	13.00	13th October
Married Pensioner (b)	11.00	0.75	11.75	" "
Invalid—				
Single pensioner (a)	12.00	1.00	13.00	" "
Married pensioner (b)	11.00	0.75	11.75	" "
Widows—				
Class "A" pensioner (c)	12.00	1.00	13.00	4th October
Class "B" pensioner (d)	10.75	1.00	11.75	" "
Class "C" pensioner (e)	10.75	1.00	11.75	" "
War—				
Incapacitated ex-serviceman—				
Special Rate	28.50	2.00	30.50	6th October
Intermediate Rate	20.25	1.00	21.25	" "
Widow	12.00	1.00	13.00	" "
Service—				
Single pensioner (a)	12.00	1.00	13.00	" "
Married pensioner (b)	11.00	0.75	11.75	" "
Tuberculosis Allowance—				
Sufferer without dependants	15.25	1.00	16.25	13th October
Sufferer with dependent wife	25.25	1.50	26.75	" "

(a) Rates apply also to a married pensioner where the spouse is not receiving an age or invalid pension, an unemployment, sickness or special benefit, a tuberculosis allowance, or a service pension as a former member of the forces. (b) The rates shown apply to pensioners where the spouse receives an age or invalid pension, an unemployment, sickness or special benefit, a tuberculosis allowance, or a service pension as a former member of the forces. (c) Widow having custody, care and control of one or more children aged less than 16 years, or of a student child or children. (d) Widow aged 50 years or over with no dependent children. (e) Widow, other than Class "A" or "B", in necessitous circumstances following death of husband.

Hospital and Nursing Home Benefits—Commonwealth payment to public hospitals for pensioners who are enrolled in the Pensioner Medical Service and who are classified by the hospital as public ward patients was increased from \$3.60 to \$5 per day from the 1st January, 1967.

From the 1st January, 1967, the assured rate of hospital fund benefit payable to contributors who would otherwise have been excluded from fund benefits on account of organizations' rules covering pre-existing ailments, chronic illnesses and maximum fund benefit was increased from \$1.60 to \$3 per day.

CHAPTER VI—FINANCE

PART 2—PRIVATE FINANCE

page 225

Decimal Currency Conversion Tables

Conversion tables issued by the Decimal Currency Board are reproduced hereunder.

The conversions shown in these tables should not be taken as an official direction on the manner in which prices should be fixed or charges made. The Decimal Currency Board has no authority to fix prices or other charges.

EXACT EQUIVALENTS TABLE
CONVERSION OF AMOUNTS OF £ s. d. TO EXACT DOLLAR-CENT VALUES

Pence	Cents (a)	Shillings	Cents	£ s. d.	\$
1	$\frac{5}{8}$ or .83333	1	10	10 0	1.00
2	$\frac{1}{4}$ 1.66667	2	20	11 0	1.10
3	$\frac{2}{3}$ 2.5	3	30	12 0	1.20
4	$\frac{3}{4}$ 3.33333	4	40	13 0	1.30
5	$\frac{4}{5}$ 4.16667	5	50	14 0	1.40
6	$\frac{5}{6}$ 5	6	60	15 0	1.50
7	$\frac{5}{6}$ 5.83333	7	70	16 0	1.60
8	$\frac{6}{7}$ 6.66667	8	80	17 0	1.70
9	$\frac{7}{8}$ 7.5	9	90	18 0	1.80
10	$\frac{8}{9}$ 8.33333	10	100	19 0	1.90
11	$\frac{9}{10}$ 9.16667	.....	.....	1 0 0	2.00
12	10 10	.....	.....	.....	.....

(a) Taken to nearest fifth decimal place.

The Exact Equivalents Table shows the relationships between pounds, shillings and pence and dollars and cents as prescribed in the Currency Act 1965, namely:

1 pound = 2 dollars 1 shilling = 10 cents 1 penny = $\frac{1}{4}$ ths of a cent

This table should be used where it is necessary to obtain *exact* equivalents in decimal currency of amounts expressed in £ s. d. For example, where rates or unit prices are expressed in £ s. d. in agreements between contracting parties, this table may be used to convert them to their exact equivalents in dollars and cents.

BANKING AND ACCOUNTING TABLE
CONVERSION OF AMOUNTS OF £ s. d. TO DOLLARS AND WHOLE CENTS

Pence	Cents	Shillings	Cents	£ s. d.	\$
1	1	1	10	10 0	1.00
2	2	2	20	11 0	1.10
3	2	3	30	12 0	1.20
4	3	4	40	13 0	1.30
5	4	5	50	14 0	1.40
6	5	6	60	15 0	1.50
7	6	7	70	16 0	1.60
8	7	8	80	17 0	1.70
9	8	9	90	18 0	1.80
10	8	10	100	19 0	1.90
11	9	.....	.....	1 0 0	2.00
12	10	.....	.....	.....	.....

The Banking and Accounting Table converts £ s. d. amounts expressed in whole pence to decimal currency amounts expressed in whole cents.

CHAPTER X—EMPLOYMENT, WAGES AND PRICES**PART 2—WAGES**

pages 410-420

National Wage Case, 1967

On the 5th June, 1967 the Commonwealth Conciliation and Arbitration Commission gave its decision on three matters before the Commission. These were claims by the unions for an increase in the basic wage and an increase in margins, and an application by the employers seeking the aggregation of existing basic wage rates and marginal rates into total wage rates.

In a unanimous judgment, the Commission announced "the elimination of basic wages and margins and the introduction of total wages." An increase of \$1 per week was awarded to all adult employees and the judgment stated that "total wages will be arrived at by adding an amount of \$1 per week to the weekly award wages of all adult males and females . . ." and further, that the Commission had "on this occasion deliberately awarded the same increase to adult females and adult males." The increase was declared to become operative from the beginning of the first pay-period commencing on or after the 1st July, 1967.

NOTE ON STATISTICAL DIVISIONS

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 activities in particular local government areas but is often more detailed than is required for a broader geographical assessment. For this reason, the municipal districts are combined into Statistical Divisions which provide significant areas for the publication of statistics in a convenient and readily appreciable summary form.

The partition of the Australian States into Statistical Divisions originated from a resolution of a conference of 1928 between the Federal Health Council of Australia and the Statisticians of the Commonwealth and the States concerning the need for the delineation of areas appropriate for the purposes of statistical tabulation. They first became operative in 1929 after consultation between the Commonwealth Statistician, the Statisticians of the States in collaboration with the State health authorities, and the Commonwealth Department of Health. Although Statistical Divisions were devised initially for use in the compilation and presentation of vital statistics, the advantages of extending the system to other fields of statistical investigation were recognized at once and it soon came to have general application in cases where consideration of geographic areas was relevant.

The Statistical Divisions of Western Australia and their component local government districts as at the 31st December, 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 four most recent Population Censuses is shown in the following table. The areas of the Divisions at the 30th June, 1966 are also given.

STATISTICAL DIVISIONS—POPULATION (†) AND AREA

Statistical Division	Population at Census of 30th June—				Area at 30th June, 1966
	1947	1954	1961	1966 (a)	
	persons	persons	persons	persons	square miles
Metropolitan	272,528	348,647	420,133	558,297 (b)	2,072
Swan	30,440	46,402	55,265		(b)
South-West	51,973	68,553	71,637	73,030	11,030
Southern Agricultural	24,948	36,125	41,623	44,541	22,025
Central Agricultural	43,790	55,924	57,594	58,282	30,270
Northern Agricultural	24,665	32,068	35,785	38,057	33,921
Eastern Goldfields	37,722	34,578	34,142	33,827	249,035
Central	6,370	4,794	3,959	3,461	218,011
North-West	2,638	4,220	4,563	8,458	75,731
Pilbara	1,651	2,650	3,243	7,186	171,462
Kimberley	2,774	3,543	5,668	7,804	162,363
WHOLE STATE	(c) 502,480	(c) 639,771	(c) 736,629	(c) 835,570	975,920

(†) Excluding full-blood aborigines. (a) Preliminary figures based on field count. (b) Perth Statistical Division. Comprises the area formed by amalgamation of the former Metropolitan and Swan Statistical Divisions; see *Explanatory Notes* on page 456. (c) Includes "migratory" population. Migratory population comprises persons (both passengers and crew) not enumerated elsewhere who, at midnight on Census night, were on board ships or were travelling on long-distance trains or aircraft.

LIST OF STATISTICAL DIVISIONS

with component Local Government Districts at 31st December, 1964

METROPOLITAN	SOUTHERN AGRICULTURAL	NORTHERN AGRICULTURAL
Cities	Town	Town
FREMANTLE NEDLANDS PERTH SOUTH PERTH SUBIACO	ALBANY	GERALDTON
Towns	Shires	Shires
CLAREMONT COTTESLOE EAST FREMANTLE MELVILLE MIDLAND MOSMAN PARK	Albany Broomehill Cranbrook Denmark Dumbleyung Gnowangerup Katanning Kojonup Lake Grace Nyabing-Pingrup Plantagenet Tambellup Wagin West Arthur Woodanilling	Carnamah Chapman Valley Chittering Coorow Dalwallinu Dandaragan Geraldton-Greenough Gingin Irwin Mingenew Moora Morawa Mullewa Northampton Perenjori Three Springs Victoria Plains Wongan-Ballidu
Shires		EASTERN GOLDFIELDS
Bassendean Bayswater Belmont Canning Peppermint Grove Perth Swan-Guildford (Guildford Ward and South Ward)		Towns
		BOULDER KALGOORLIE
		Shires
		Coolgardie Dundas Esperance Kalgoorlie Laverton Leonora Menzies Ravensthorpe Yilgarn
SWAN	CENTRAL AGRICULTURAL	CENTRAL
Shires	Towns	Shires
Armadale-Kelmscott Cockburn Gosnells Kalamunda Kwinana Mundaring Rockingham Serpentine-Jarrahdale Swan-Guildford (except Guildford Ward and South Ward) Wanneroo	NARROGIN NORTHAM YORK	Cue Meekatharra Mount Magnet Murchison Sandstone Wiluna Yalgoo
	Shires	NORTH-WEST
	Beverley Brookton Bruce Rock Corrigin Cuballing Cunderdin Dowerin Goomalling Kellerberrin Kondinin Koorda Kullin Merredin Mount Marshall Mukinbudin Narembeen Narrogin Northam Nungarin Pingelly Quairading Tammn Toodyay Trayning-Kununoppin-Yelbeni Wandering Westonia Wickepin Williams Wyalkatchem York	Town
SOUTH-WEST		CARNARVON
Town		Shires
BUNBURY		Ashburton Exmouth Gascoyne-Minilya Shark Bay Upper Gascoyne
Shires		PILBARA
Augusta-Margaret River Balingup Boddington Bridgetown Busselton Capel Collie Dardannp Donnybrook Greenbushes Harvey Mandurah Manjimup Murray Nannup Upper Blackwood Waroona		Shires
		Marble Bar Nullagine Port Hedland Roeboorne Tableland
		KIMBERLEY
		Shires
		Broome Halls Creek West Kimberley Wyndham-East Kimberley

LIST OF LOCAL GOVERNMENT DISTRICTS

at 31st December, 1964

Local Government District	City (C) Town (T) Shire (S)	Statistical Division in which Situated	Local Government District	City (C) Town (T) Shire (S)	Statistical Division in which Situated
ALBANY	S. Southern Agricultural	Marble Bar	.....	S. Pilbara
Albany	S. Southern Agricultural	Meekatharra	.....	S. Central
Armada-Kelmscott	S. Swan	MELVILLE	.....	T. Metropolitan
Ashburton	S. North-West	Menzies	.....	S. Eastern Goldfields
Augusta-Margaret River	S. South-West	Merredin	.....	S. Central Agricultural
Balingup	S. South-West	MIDLAND	.....	T. Metropolitan
Bassendean	S. Metropolitan	Mingenew	.....	S. Northern Agricultural
Bayswater	S. Metropolitan	Moora	.....	S. Northern Agricultural
Belmont	S. Metropolitan	Morawa	.....	S. Northern Agricultural
Beverley	S. Central Agricultural	MOSMAN PARK	.....	T. Metropolitan
Boddington	S. South-West	Mount Magnet	.....	S. Central
BOULDER	T. Eastern Goldfields	Mount Marshall	.....	S. Central Agricultural
Bridgetown	S. South-West	Mukinbudin	.....	S. Central Agricultural
Brookton	S. Central Agricultural	Mullewa	.....	S. Northern Agricultural
Broome	S. Kimberley	Mundaring	.....	S. Swan
Broomhill	S. Southern Agricultural	Murchison	.....	S. Central
Bruce Rock	S. Central Agricultural	Murray	.....	S. South-West
BUNBURY	T. South-West	Nannup	.....	S. South-West
Busselton	S. South-West	Narembeen	.....	S. Central Agricultural
Canning	S. Metropolitan	NARROGIN	.....	T. Central Agricultural
Capel	S. South-West	Narrogin	.....	S. Central Agricultural
Caranmah	S. Northern Agricultural	NEDLANDS	.....	C. Metropolitan
CARNARVON	T. North-West	NORTHAM	.....	T. Central Agricultural
Chapman Valley	S. Northern Agricultural	Northam	.....	S. Central Agricultural
Chittering	S. Northern Agricultural	Northampton	.....	S. Northern Agricultural
CLAREMONT	T. Metropolitan	Nullagine	.....	S. Pilbara
Cockburn	S. Swan	Nungarin	.....	S. Central Agricultural
Collie	S. South-West	Nyabing-Pingrup	.....	S. Southern Agricultural
Coogardie	S. Eastern Goldfields	Peppermint Grove	.....	S. Metropolitan
Coorow	S. Northern Agricultural	Perenjori	.....	S. Northern Agricultural
Corrigin	S. Central Agricultural	PERTH	.....	C. Metropolitan
COTESLOE	T. Metropolitan	Perth	.....	S. Metropolitan
Cranbrook	S. Southern Agricultural	Pingelly	.....	S. Central Agricultural
Cuballing	S. Central Agricultural	Plantagenet	.....	S. Southern Agricultural
Cue	S. Central	Port Hedland	.....	S. Pilbara
Cunderdin	S. Central Agricultural	Quairading	.....	S. Central Agricultural
Dalwallinu	S. Northern Agricultural	Ravensthorpe	.....	S. Eastern Goldfields
Dandaragan	S. Northern Agricultural	Rockingham	.....	S. Swan
Dardanup	S. South-West	Roebourne	.....	S. Pilbara
Denmark	S. Southern Agricultural	Sandstone	.....	S. Central
Donnybrook	S. South-West	Serpentine-Jarrahdale	.....	S. Swan
Dowerin	S. Central Agricultural	Shark Bay	.....	S. North-West
Dumbleyung	S. Southern Agricultural	SOUTH PERTH	.....	C. Metropolitan
Dundas	S. Eastern Goldfields	SUBIACO	.....	C. Metropolitan
EAST FREMANTLE	T. Metropolitan	Swan-Guildford	.....	S. (a)
Esperance	S. Eastern Goldfields	Tableland	.....	S. Pilbara
Exmouth	S. North-West	Tambellup	.....	S. Southern Agricultural
FREMANTLE	C. Metropolitan	Tammin	.....	S. Central Agricultural
Gascoyne-Minilya	S. North-West	Three Springs	.....	S. Northern Agricultural
GERALDTON	T. Northern Agricultural	Toodyay	.....	S. Central Agricultural
Geraldton-Greenough	S. Northern Agricultural	Traying-Kununoppin-Yelbeni	.....	S. Central Agricultural
Gingin	S. Northern Agricultural	Upper Blackwood	.....	S. South-West
Gnowangerup	S. Southern Agricultural	Upper Gascoyne	.....	S. North-West
Goonallup	S. Central Agricultural	Victoria Plains	.....	S. Northern Agricultural
Gosnells	S. Swan	Wagin	.....	S. Southern Agricultural
Greenbushes	S. South-West	Wandering	.....	S. Central Agricultural
Halls Creek	S. Kimberley	Wanneroo	.....	S. Swan
Harvey	S. South-West	Waroona	.....	S. South-West
Irwin	S. Northern Agricultural	West Arthur	.....	S. Southern Agricultural
Kalamunda	S. Swan	West Kimberley	.....	S. Kimberley
KALGOORLIE	T. Eastern Goldfields	Westonia	.....	S. Central Agricultural
Kalgoorlie	S. Eastern Goldfields	Wickepin	.....	S. Central Agricultural
Katanning	S. Southern Agricultural	Williams	.....	S. Central Agricultural
Kellerberrin	S. Central Agricultural	Wiluna	.....	S. Central
Kojonup	S. Southern Agricultural	Wongan-Ballidu	.....	S. Northern Agricultural
Kondinin	S. Central Agricultural	Woodanilling	.....	S. Southern Agricultural
Koorda	S. Central Agricultural	Wyalkatchem	.....	S. Central Agricultural
Kulin	S. Central Agricultural	Wyndham-East Kimberley	.....	S. Kimberley
Kwinana	S. Swan	Yalgoo	.....	S. Central
Lake Grace	S. Southern Agricultural	Yilgarn	.....	S. Eastern Goldfields
Laverton	S. Eastern Goldfields	YORK	.....	T. Central Agricultural
Leonora	S. Eastern Goldfields	York	.....	S. Central Agricultural
Mandurah	S. South-West			
Manjimup	S. South-West			

(a) Guildford Ward and South Ward in Metropolitan Statistical Division, remainder in Swan Statistical Division.

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Information on the same subject appearing on succeeding pages, whether in letterpress, tabular or diagrammatic form, has generally been indexed only to the first of such pages.

Several references to a particular subject may be found at intervals throughout the section *Chronological Notes from 1829*, pages 2-33 of Chapter I. Generally, in these cases, only the first reference appearing there has been indexed.

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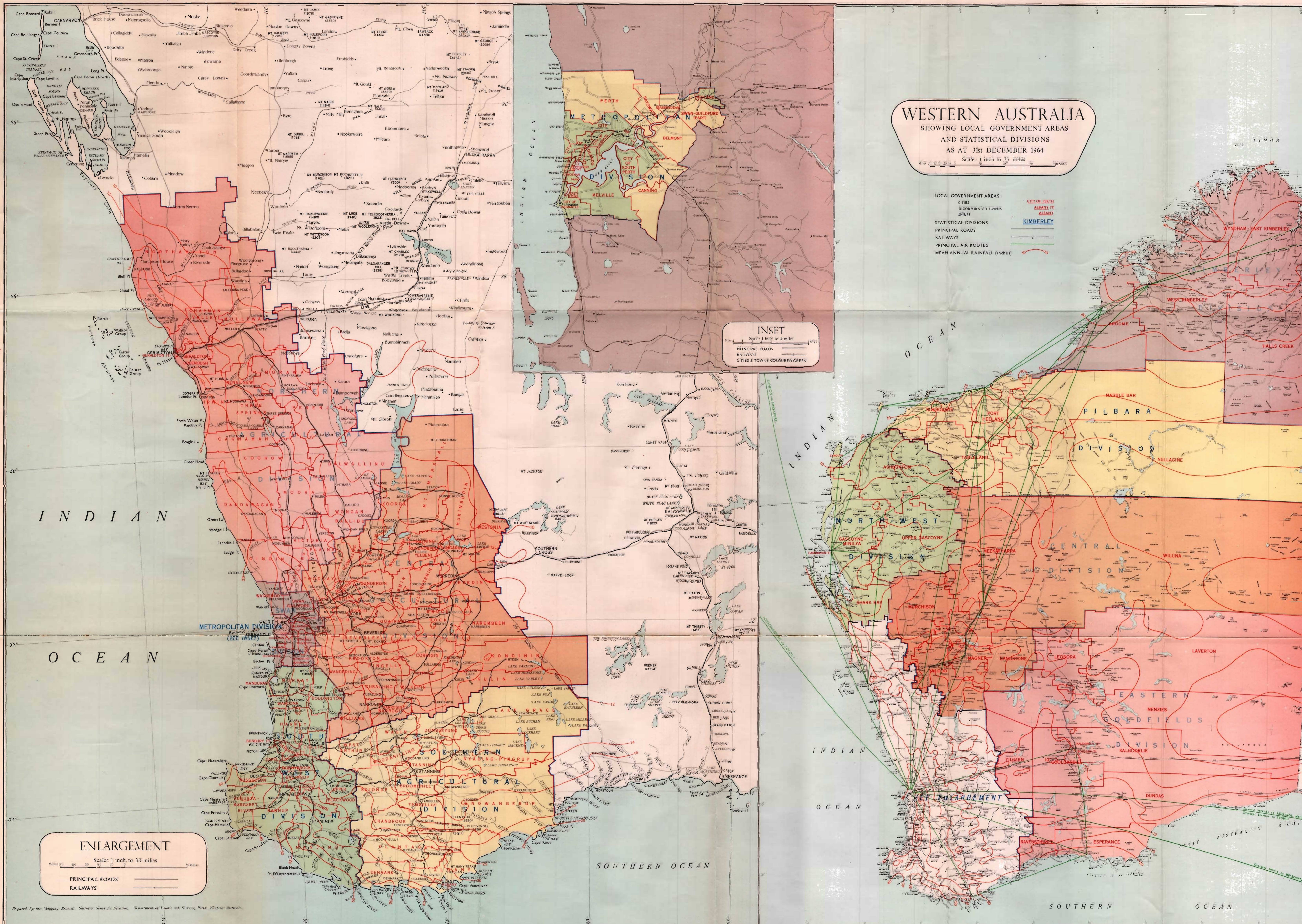
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WESTERN AUSTRALIA
 SHOWING LOCAL GOVERNMENT AREAS
 AND STATISTICAL DIVISIONS
 AS AT 31st DECEMBER 1964
 Scale: 1 inch to 75 miles

LOCAL GOVERNMENT AREAS:
 CITIES
 INCORPORATED TOWNS
 SHIRES

CITY OF PERTH
 ALBANY (T)
 ALBANY
 KIMBERLEY

STATISTICAL DIVISIONS
 PRINCIPAL ROADS
 RAILWAYS
 PRINCIPAL AIR ROUTES
 MEAN ANNUAL RAINFALL (inches)

INSET
 Scale: 1 inch to 4 miles
 PRINCIPAL ROADS
 RAILWAYS
 CITIES & TOWNS COLOURED GREEN

ENLARGEMENT
 Scale: 1 inch to 30 miles
 PRINCIPAL ROADS
 RAILWAYS

Prepared by the Mapping Branch, Surveyor General's Division, Department of Lands and Survey, Perth, Western Australia.